

PROPOSALS TO AMEND THE CODE

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Report of the Nomenclature Committee for Fungi: 17

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Summary Recommendations by the Nomenclature Committee for Fungi regarding proposals to amend the *Code* pertaining to fungi are reported. A 60% or greater majority *recommends acceptance* of proposals on: (1) the governance of fungi in the *Code*: Gen. Prop. A–B, Div. III Prop. F (016–018); (2) exclusion of microsporidian and other “zoological” fungi: Pre. Prop. A, Art. 13 Prop. A, Art. 45 Prop. A–B, Art. 54 Prop. A [(048–051), (190)]; (3) typification and orthography of sanctioned names: Art. 7 Prop. I, Art. 9 Prop. J–M, Rec. 9C (new) Prop. A–C, Art. 10 Prop. C, Art. 15 Prop. A, [(185), (224–228, 231–232)]; (4) compulsory deposition of fungal names in a recognized repository: Art. 7 Prop. L, Art. 33 Prop. B, Rec. 37bisA (new) Prop. B, Art. 37bis (new) Prop. A, Rec. 37bisA (new) Prop. A [(117–119), (183–184)]; (5) designation of type cultures: Rec. 8B Prop. A (138); (6) teleotypification: Art. 9 Prop. V–W, (294–295); (7) electronic publication of names: Art. 29 Prop. A–C, Rec. 29A Prop. A–B, Art. 30 Prop. A–B, Rec. 30A Prop. A–B, Art. 31 Prop. A–B (203–213); (8) permission to use either a Latin or English diagnosis: Art. 36 Prop. C–E, Rec. 36A Prop. C (186–189); and (9) anamorphic names: Art. 14 Prop. C, Ch. VI Prop. A, Art. 59 Prop. C–I, K–L [(296–302, 304–306) (307)]. A 50%–57% majority *recommends acceptance* of proposals on: (1) typification of sanctioned names: Art. 15 Prop. B–C (229–230); and (2) anamorphic names: Art. 59 Prop. J (303). A 60% or greater majority *recommends rejection* of proposals on: (1) deletion of Art. 7.8: Art. 7 Prop. H (223); (2) redefining “protologue” and “original material” for sanctioned names: Art. 7 Prop. J, Art. 9 Prop. I (220–221); and (3) anamorphic names: Art. 59 Prop. A (172). A 50%–57% majority *recommends rejection* of proposals on: (1) anamorphic names: Art. 59 Prop. B, M–P, Prop. B and Rec. 59A Prop. A–C [(173–174) (308–313)]; and (2) governance of fungal nomenclature: Div. III Prop. G–H (019–020).

The previous report of the Nomenclature Committee for Fungi (Report 16) appeared in *Taxon* 60: 223–226. 2011. The current report constitutes Committee recommendations on proposals to amend the ICBN as determined from votes received by the Secretary from November 15, 2010 to February 14, 2011. Those voting on ballots 2010-2, 2011-1, and 2011-2 were J.L. Crane (Urbana-Champaign, Illinois), V. Demoulin (Liege), D.L. Hawksworth (Madrid/London), T. Iturriaga (Caracas), P.M. Kirk (Egham), P.-G. Liu (Kunming), T. May (Melbourne), J. Melot (Reykjavík), L.L. Norvell (Portland, Oregon), S.R. Pennycook (Auckland), C. Printzen (Frankfurt), S.A. Redhead (Ottawa), S. Ryman (Uppsala), and D. Triebel (Munich).

As a 60% majority is required for the Committee (NC for Fungi) to recommend acceptance or rejection of a proposal for conservation, the percentages are noted below and the results grouped accordingly in the Summary. Proposals below are grouped according to originally published numbers; voting results, which label the proposals as in the “Synopsis of Proposals” (McNeill & Turland in *Taxon* 60: 243–286. 2011) and in the preliminary ballot paper due to be returned by May 31, 2011, are reported as Yes:No: Abstention. Percentages are based on our membership total.

Recommendations on recognition and governance of fungal nomenclature

(016–020) Make clear that the *Code* covers fungal nomenclature and to modify its governance with respect to names of organisms treated as fungi. Proposed by Hawksworth & al. in *Taxon* 58: 658–659. 2009.

Ballot results: Gen. Prop. A (016): 11 : 2 : 1 (78% Yes); Gen. Prop. B (017): 10 : 3 : 1 (71% Yes); Div. III Prop. F (018): 10 : 4 : 0 (71% Yes); Div. III Prop. G–H (019–020): 6 : 8 : 0 (57% No).

Proposals (16–20) seek to clarify that *Fungi*, often regarded as belonging to same superkingdom as *Animalia*, are still covered by the ICBN. The NC for Fungi recommends acceptance of the first three: Gen. Prop. A (changing the title to *International Code of Botanical and Mycological Nomenclature*), Gen. Prop. B (replacing “plant/s” by “plant/s or fungus/i” throughout the *Code*), and Div. III Prop. F (providing for election of the NC for Fungi by an International Mycological Congress). A majority recommends rejection of Div. III Prop. G (permitting decisions on proposals relating solely to fungi to be taken at an International Mycological Congress) and Div. III Prop. H (making such decisions binding on the subsequent IBC Nomenclature Section).

Those not wishing to turn complete governance of mycological nomenclature over to an IMC noted the omission of the lack of provision made for many voting formalities now well established for IBCs (e.g., institutional votes) and cited what they regarded as a lack of nomenclatural interest or training by mycologists. Supporters cited delays caused by the 6-year IBC schedule (compared to the 4-year IMC schedule), the benefits to be gained by a greater number of mycologists participating actively in nomenclatural decisions, and the extent to which the relatively high attendance at the three Nomenclature Sessions at the 2010 Edinburgh IMC underscores mycologists’ interest in nomenclature.

Recommendations on exclusion of microsporidians and other “zoological” fungi

(048–051) Exclude the phylum *Microsporidia* from the *Code*. Proposed by Redhead & al. in *Taxon* 58: 669. 2009.

Ballot results: Pre. Prop. A, Art. 13 Prop. A, Art. 45 Prop. A, and Art. 54 Prop. A: 12 : 1 : 1 (86% Yes).

Molecular phylogenies supporting placement of the phylum *Microsporidia* within *Fungi* were recognized nomenclaturally five years ago in the *Vienna Code* (2006), with most recent papers treating the microsporidians as fungi. Carrying phylogenies into the nomenclatural realm for this group, however, can cause undesirable consequences, because microsporidian workers who are unfamiliar with the botanical *Code* may publish invalid names under ICBN rules. Recognizing their long protozoan historical association and backed by the stated preference of microsporidian experts, the NC for Fungi recommends returning microsporidian names to their “pre-2005” status by excluding them from governance by the *Code*.

(190) Amend Art. 45. Proposed by Demoulin in Taxon 59: 1628. 2010.

Ballot results: Art. 45 Prop. B: 10 : 1 : 3 (71% Yes)

Prop. (190) would limit Art. 45.4 to the first sentence (which deals with organisms other than algae or fungi) and introduce new section Art. 45.5 to accommodate other organisms not covered by Props. (48–51) but also trapped in a phylogenetic backwater similar to the microsporidians.

Recommendations on deposition of nomenclatural information for valid publication

(117–119) Make the pre-publication deposit of key nomenclatural information in a recognized repository a requirement for valid publication of organisms treated as fungi under the *Code*. Proposed by Hawksworth & al. in Taxon 59: 1297. 2010.

Ballot results: Art. 33 Prop. B, Art. 37bis (new) Prop. A, and Rec. 37bisA (new) Prop. A: 11 : 3 : 0 (79% Yes).

The NC for Fungi recommends acceptance of all three proposals requiring deposit of key nomenclatural information for valid publication: (117), requiring deposition of names and other information in a recognized repository (e.g., MycoBank); (118), recommending deposit of minimal information elements, accession identifiers, and bibliographical details; and (119), requiring a repository identifier. Concern that (117) cites only one repository was allayed by noting that MycoBank is cited only as an example of a fungal nomenclatural depository that has worked well since its inception in 2006.

(183–184) Require deposition of information concerning typification of names of fungal taxa, with an associated Recommendation. Proposed by Gams in Taxon 59: 1626–1627. 2010.

Ballot results: Art. 7 Prop. L and Rec. 37bisA (new) Prop. B: 10 : 3 : 1 (71% Yes).

Anticipating probable acceptance of (117–119), which requires deposition of nomenclatural information for valid publication of fungal names effective January 1, 2013, Gams proposes to add (183) a clause requiring deposition in a recognized repository for effective typification from 2013 onwards and (184) a new recommendation to encourage deposit of name, orthography, and gender in a recognized repository to be cited with the record number in the place of effective publication. Both proposals were accepted without comment.

Recommendation on designation of type cultures

(138) Add a new recommendation on the designation of cultures of fungi and algae as types. Proposed by Nakada in Taxon 59: 983. 2010.

Ballot results: Rec. 8B Prop. A: 11 : 2 : 1 (79% Yes).

The above proposal, which would add a new recommendation to indicate the status of a culture when designating it as type, including the phrase “permanently preserved in a metabolically inactive state” or equivalent, passed without comment.

Recommendations on sanctioned names

(185) Amend Art. 15. Proposed by Demoulin in Taxon 59: 1627–1628. 2010.

Ballot results: Art. 15 Prop. A: 12 : 2 : 0 (86% Yes).

A strong majority approved (185) amending Art. 15.1 to explain that the spelling of a sanctioned name by the sanctioning author should be treated as conserved, subject to correction or standardization under Art. 60. One supporter, who was “at a loss to understand how the treatment of sanctioned names, subject to the requirements of Art. 60, differs in any way from the treatment of names published in other works or by other authors”, felt that (185) was nonetheless needed to put an “end to the notion that the orthographies used in the sanctioning works are ‘sacrosanct’ and must be accepted exactly as published, effectively exempting them from the requirements of Art. 60”.

(220–221) Add notes referring to original material and descriptions of sanctioned names (from Prop. 215–221 on original material). Proposed by Perry in Taxon 59: 1909. 2010.

Ballot results: Art. 7 Prop. J (221): 3 : 11 : 0 (79% No); Art. 9 Prop. I (220): 3 : 10 : 1 (71% No).

A strong majority opposes adding (221) a new Note after Art. 7.8 to indicate that for sanctioned names, all references to “protologue” refer to everything associated with the name in the sanctioning work and (220) a new Note in Art. 9 to indicate that for names falling under Art. 7.8, the original material comprises only specimens and illustrations with the name in the sanctioning work and can be an element not associated with the protologue.

As mycologists deal almost daily with sanctioned names, they are probably more aware of the problems surrounding them. Both proposals are, in fact, superseded by a more nuanced set (224–232) of proposals dealing with lectotypification of sanctioned names already been under consideration by the Committee (see below).

(223–232) Amend articles regulating the typification of names in sanctioning works. Proposed by Redhead & al. in Taxon 59: 1911–1913. 2010.

Ballot results: Art. 7 Prop. H (223): 1 : 10 : 3 (71% No); Art. 7 Prop. I (224): 10 : 3 : 1 (71% Yes); Art. 15 Prop. B–C (229–230): 8 : 3 : 3 (57% Yes); Art. 9 Prop. J–M, Rec. 9C (new) Prop. A, and Art. 10 Prop. C (225, 228, 232, 226, 231, 227): 9 : 2 : 3 (64% Yes).

Fungi are the only organisms covered by the ICBN that have not only a starting point date and publication but also sanctioning publications that once served as starting point publications in earlier versions of the *Code*. The concepts of sanctioning works and sanctioned names first appeared in the 1983 *Sydney Code* with the addition of Art. 7.17. However, the wording of this article was variously interpreted in that typification of names “adopted in one of the [sanctioned] works and thereby sanctioned” could be interpreted *either* allowing for typification with materials cited in the sanctioning work that were not available when the protologue was published *or* requiring all materials to be expressly cited in the original protologue as well as in the sanctioning work. Although the wording was changed in the 1988 *Berlin Code*, enough confusion persists that some authors still feel

that an effectively lectotypified name must also be conserved with the same “lectotype” due to a conflict with Art. 9.2 and 10.2. To avoid the dilemma where “lectotypification” of a sanctioned name by an element not included in the original protologue corrupts the definition of “lectotype”, the proposal authors introduce a new category of type (“sanctiotype”) to modify Art. 7.8, allowing for “sanctiotypification” of sanctioned names by elements not necessarily present in the original protologue.

The NC for Fungi does not recommend the deletion of Art. 7.8 (223). A 71% majority recommends instead amending Art. 7.8 (224) to read: “Typification, termed sanctiotypification, of names lacking a holotype adopted in one of the works specified in Art. 13.1(d), and thereby sanctioned (Art. 15), may be effected based on any element associated with the name in that work.” A 57%–64% majority also supports (225–232) adding articles or recommendations needed by the adoption of (224).

Regarding whether to spell the new term “sanctiotype” rather than “sanctiotype” (a concern raised by one guest commentator), we prefer to have the Editorial Committee determine the more appropriate orthography.

Recommendation on the acceptance of English (as an alternative to Latin) diagnoses

(186–189) Amend Art. 36 to permit the use of either a Latin or English diagnosis. Proposed by Demoulin in Taxon 59: 1627–1628. 2010.

Ballot results: Art. 36 Prop. C–E and Rec. 36A Prop. C: 11 : 3 : 0 (79% Yes).

These proposals to permit the use of a Latin or English diagnosis (as now permitted for fossil nomenclature under the *Vienna Code*) were prompted by the recent IMC 2010 poll in which 65% felt Latin should *not* be required, 97% voted against allowing diagnoses to be written in *any* language, and 61% supported allowing *either* Latin or English.

Recommendation on effective publication in electronic media

(203–213) Permit electronic publications to be effectively published under specified conditions. Proposed by the Special Committee on Electronic Publication in Taxon 59: 1907–1908. 2010.

Ballot results: Art. 29 Prop. A–C, Rec. 29A Prop. A–B, Art. 30 Prop. A–B, Rec. 30A Prop. A–B and Art. 31 Prop. A–B: 11 : 2 : 1 (79% Yes).

The Special Committee has thoughtfully constructed amendments needed to facilitate valid (and reliable) electronic publication of nomenclatural novelties. As noted in Norvell & al. (Taxon 59: 1867–1868. 2010), IMC9 attendees voted 84% against unrestricted electronic-only publication (which the above proposals also would not permit) and 76% for valid electronic-only publication, provided that key nomenclatural information is first deposited in a recognized nomenclatural repository.

A strong majority of the NC for Fungi recommends both rewording Art. 29.1 to effect publication by electronic distribution of material in Portable Document Format (PDF) in an online serial publication with an International Standard Serial Number (ISSN) (203) and amending or adding articles and recommendations needed to effect this (204–213).

Recommendations on Art. 59

Article 59, governing the nomenclature of fungi with a pleomorphic life cycle, has long been a source of dissension within the mycological community. As noted recently by NCF member Tom May, “For no other biota do we have different code-governed names for different morphs. In other biota the morphological differences can be great—whether between male and female or among different stages such as caterpillar and butterfly or biphasic marine organisms with pelagic larvae and demersal adults. When it was not possible to link different stages of the life cycle of fungi as characterised by morphology (or place fungi known only by the anamorph [asexual stage]), it was quite OK to have different names, but now that molecular techniques are widely available and inexpensive it is possible to place all fungi within a phylogenetic classification. Our nomenclature should reflect such a classification, not introduce obstacles to prevent it.” In the resurgent move toward “one name: one fungus”, many would delete the article entirely, letting the nomenclatural chips fall where they may. To attempt to modify Art. 59 is akin, one such proponent noted, to rearranging the deck chairs on the Titanic. Rather than delete the troublesome article entirely, however, most mycologists would prefer a step-wise modification of Art. 59, as witness the 73% support shown by respondents to the IMC9 statement, “A system of progressively establishing one name for each fungus should be enacted via modification of existing Articles (e.g., Art. 59) (Norvell & al. in IMA Fungus 1: 143–147. 2010).

The problem, of course, is *which* name should be used for the one fungus. Identification of a great many economically important pathogens and medically beneficial fungi is firmly seated on the morphological back of the anamorph and most identifiers care little about phylogenetic relationships or the existence of a possibly nonexistent teleomorph (sexual stage). They might accept the move toward “one-name-one-fungus”, provided the anamorph name is assured priority. Alas, the trinity of anamorph-teleomorph-holomorph introduced by Art. 59 has provoked an unfortunate schism among mycologists, and the fact that the Special Committee devoted to the modification of Art. 59 did not reach consensus after five years of deliberation underscores the difficulty inherent in slicing this particular Gordian knot. Nonetheless, the Special Committee and the NC for Fungi have both since responded favourably to many proposals summarized below.

(172–174) Amend Article 59 of the *Code* concerning teleotypification of fungal names. Proposed by Gams & al. in Taxon 59: 1297. 2010.

Ballot results: Art. 59 Prop. A (172): 0 : 10 : 4 (71% No); Art. 59 Prop. B and Rec. 59A Prop. A (173–174): 5 : 7 : 2 (50% No).

All three proposals seek to clarify the effect of teleotypification. A strong majority opposes Art. 59 Prop. A (172) to delete Art. 59.7 introduced in Vienna to permit epitypification of anamorph names so that they might be applied to a teleomorph. A weaker majority opposes Prop. B (173), to modify Art. 59.7 to exclude taxa with teleomorph-typified names from otherwise entirely anamorphic genera, and its companion Rec. 59A Prop. A (174), which would recommend that newly discovered anamorphs only be classified under teleomorph-typified generic names when no suitable anamorph-typified generic names are available and requiring epitypification of a newly discovered teleomorph by a specimen exhibiting the teleomorph stage.

(294–306) Define the new term “teletype”, rename Chapter VI, modify Article 59 to limit dual nomenclature, and remove conflicting examples and recommendations. Proposed by Redhead in Taxon 59: 1927–1929. 2010.

Ballot results: Art. 9 Prop. V–W and Art. 59 Prop. H, K (294, 295, 301, 304): 11:1:2 (79% Yes); Art. 14 Prop. C (305): 12:1:1 (86% Yes); Art. 59 Prop. C (296): 11:0:3 (79% Yes); Art. 59 Prop. D, I and Chapter VI Prop. A (297, 302, 306): 9:3:2 (64% Yes); Art. 59 Prop. E–G (298–300): 9:2:3 (64% Yes); Art. 59 Prop. J (303): 8:4:2 (57% Yes).

Discussions within the Special Committee on the Nomenclature of Fungi with a Pleomorphic Life Cycle (Redhead in Taxon 59: 1843–1852. 2010) indicated moderate support for modifying Art. 59.7 by (294) formally recognizing the commonly used term “teleotype” for “a specimen or illustration representing the teleomorph of a fungus and designated to serve as both an interpretive and a nomenclatural supplementary type for a name typified by an anamorphic type”. McNeill & Turland’s observation (in Taxon 60: 253. 2011) that (294) and its corollary (295) are somewhat independent of the controversies surrounding Art. 59 is underscored by the strong support of Art. 9 Prop. V–W shown by our Committee.

Strong (64%–86%) majorities support the remaining proposals designed to limit dual nomenclature, including (296), to amend Art. 59.7 to designate an epitype (henceforth to be called a “teleotype” [via 296]) exhibiting the teleomorph stage for a “fungus previously known only as an anamorph or for which there is no existing legitimate name for the holomorph, an epitype exhibiting the teleomorph stage may be designated for the hitherto anamorphic name even when there is no hint of the teleomorph in the protologue of that name”; (297) to add text to address instances where simultaneous publication of synonymous anamorph and teleomorph names permit selection of a teleotype so that an anamorph can be used as the name of a holomorph or as a replaced name for a nomen novum and (298–301) to amend other Art. 59 sections as needed to conform to passage of (297); (302) to add a new Note explaining the history of naming anamorphs in previous editions of the *Code*; (304) to empower a Committee to

settle ambiguities; (305) to permit a type of a name to be conserved as either anamorphic or teleomorphic; and (306) to retitling Chapter 6 as “Names of **Anamorphic Fungi** or Fungi with a Pleomorphic Life Cycle”. A smaller majority (57%) supports (303) amending 59.1 to introduce new terminology, use standard phylum names, and eliminate the recognition of parthenogenic ‘carpophores’ as anamorphs for organisms named prior to 1 January 2013.

(307–313) Modify Article 59 in order to harmonize it with present practice. Proposed by Gams & al. in Taxon 59: 1929–1930. 2010.

Ballot results: Art. 59 Prop. L (307): 9:3:2 (64% Yes); Prop. M–N (308–309): 4:8:2 (57% No); Prop. O–P and Rec. 59A Prop. B–C (310–313): 5:7:2 (50% No).

This series of proposals is designed to modify Art. 59 to avoid usage of redundant dual names. There is strong (64%) Committee support for Art. 59 Prop. L (307), which would remove the reference to “form-taxon” from Art. 59.3. It should be noted here that (307) would be subsumed (and thus superfluous) if (300) is adopted.

However, a weak majority opposes the remaining Art. 59 proposals: Prop. M (308), to qualify that priority status applies regarding epi/teleotypification with reference to a modified 59.5; Prop. N (309), to remove further references to “form-taxa” and grant flexibility in choosing anamorphic names; Prop. O (310), to add examples on *Cryptococcus neoformans* and *Neosartorya* to guide interpretation of changes to 59.5 if Prop. N is passed; and Prop. P (311), to add text and examples after 59.7 asking that anamorphic species not be transferred to teleomorphic genera based solely on phylogenetic studies when a suitable anamorphic genus is available. A 50% majority also opposes Rec. 59A Prop. B–C (312–313), which would recommend reserving teleomorph-typified genera (as far as possible) for teleomorph-typified species and vice versa for anamorphs.