Report of the Special Subcommittee on Governance of the Code with Respect to Fungi

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Abstract The Special Subcommittee on Governance of the Code with Respect to Fungi was established at the XVIII International Botanical Congress (IBC) in Melbourne in 2011, with the mandate to consider what specialized procedures and by-laws may be desirable for dealing with changes to fungal nomenclature, and to report to the XIX IBC in Shenzhen in 2017. The Subcommittee conducted extensive discussions, summarized in this report. A majority view (80%) within the Subcommittee and a majority of mycologists polled at the International Mycological Congress (IMC) in Bangkok in 2014 support changes to governance of the Code encapsulated in two proposals published in this issue. These proposals cover election of the Nomenclature Committee for Fungi by an IMC and establishment of Fungal Nomenclature Sessions at IMCs to deal with proposals that relate solely to fungi, with procedures replicating those of the Nomenclature Sections of IBCs, excluding institutional votes. This report provides the supporting documentation for the two proposals. The report and the proposals should be read alongside each other.

Keywords Code; Division III; Fungal Nomenclature Session; International Mycological Congress; Nomenclature

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Introduction

The 12-member Special Subcommittee on Governance of the Code with Respect to Fungi (“Subcommittee”) was established by the XVIII International Botanical Congress (IBC) in Melbourne in 2011 (Wilson, 2012). The Subcommittee sat under the Special Committee on By-laws for the Nomenclature Section (“By-laws Committee”), established at the same time, which has published a Proposal (Prop. 286 – Knapp & al., 2016a) that involves an extensive re-write of the Provisions for governance of the Code – the existing Division III of the International Code of Nomenclature for algae, fungi, and plants or Melbourne Code (McNeill & al., 2012). The Proposal was supported unanimously by that Committee as reported by Knapp & al. (2016b).

Membership of the Special Subcommittee was: Tom W. May (Australia, Convener/Secretary), Pedro W. Crous (The Netherlands), Z. Wilhelm de Beer (South Africa), Vincent Demoulin (Spain/U.K.), James C. Lendemer (U.S.A.), Xingzhong Liu (China), Lorelei L. Norvell (U.S.A.), Shaun R. Pennycook (New Zealand), Scott A. Redhead (Canada), and two ex-officio, non-voting members from the By-laws Committee, Sandra Knapp (U.K.; Secretary, By-laws Committee) and Nicholas J. Turland (Germany; Convener, By-laws Committee).

The mandate of the Subcommittee was “to consider what specialized procedures and by-laws may be desirable for dealing with changes to fungal nomenclature” (Wilson, 2012). Three proposals to amend the Code were specifically referred to the Subcommittee by the Melbourne Congress (McNeill & al., 2011): Div. III Prop. F [018], G [019] and H [020] (Hawksworth & al., 2009).

An online discussion platform was established in June 2014 that facilitated discussion among the Subcommittee. Due to the parallel deliberations of the By-laws Committee, dealing with a number of complex issues, the proposed “new” Division III as unanimously approved by that Committee was not available in final form until April 2016. At this time, draft proposals on “fungi governance” were prepared that utilized the proposed new Division III, and the proposals were put to the Subcommittee for a final vote. This report was also circulated to all Subcommittee members prior to submission.

Background to this Subcommittee

Until now, all proposals to amend the Code have been dealt with formally at the Nomenclature Section of an IBC, although informal Nomenclature Sessions have been held at a number of International Mycological Congresses. Prior to the XVIII IBC, Hawksworth & al. (2009) introduced five proposals to amend the Code, firstly to make clear that it covers fungi (D [016] and E [017]), and secondly to modify its governance with respect to names of organisms treated as fungi (F [018], G [019], and H [020]) – numbers are as in the original proposal and letters are as in the Synopsis of proposals (McNeill & Turland, 2011). Before formal consideration of the proposals at the XVIII IBC, the Nomenclature Committee for Fungi (NCF) supported proposals D, E, and F but not G and H (Norvell, 2011). Arguments within the NCF against transferring governance of fungal nomenclature to an IMC included the lack of provision for “many voting formalities now well established for IBCs” (Norvell, 2011). At the Nomenclature Section of the XVIII IBC, two of the five proposals (D and E) were successful, resulting in new wording in the title and throughout the Melbourne Code to make it clear that references to organisms within the Code are specifically inclusive of fungi. However, at the Nomenclature Section, three proposals (F–H) were withdrawn by the proposers on the understanding that they would be considered by a new Subcommittee on Governance of the Code with Respect to Fungi (Flann & al., 2014).

The three proposals related to Division III: proposal F suggested that the NCF be elected by an International Mycological Congress (IMC), while proposals G and H suggested that decisions on proposals wholly related to fungi be taken at an IMC and that such decisions be binding on the Nomenclature Section convened at the subsequent IBC.

The term “fungi governance” is used here as shorthand for “government of decisions on proposals solely related to names of organisms treated as fungi”. It is important to note that the changes to fungi governance discussed below are only in respect of formal proposals to change the Code. Other matters concerning the nomenclature of fungi, such as proposals to conserve or reject or requests for binding decisions will continue to be dealt with by the NCF, the General Committee, and ultimately the Nomenclature Section of an IBC, just the same as for other organisms covered by the Code.
Majority view on fungi governance in the Subcommittee

From the commencement of discussions in the Subcommittee, the voting members split into two groups: one (of eight members) wishing to follow the intent of the original proposals by Hawksworth & al. (2009) and the other (of two members) wishing to retain the existing arrangements. Arguments in support of shifting "fungi governance" included the greater proportion of mycologists attending Nomenclature Sessions at IMCs in comparison to those present at the Nomenclature Section of IBCs; the particularities of fungal nomenclature that require attention by mycologists; and the shorter time period between IMCs.

At the Melbourne IBC, ten past, current, or future members of the NCF were present and otherwise no more than half a dozen other mycologists, inclusive of lichenologists, were among the 204 registered participants (see list of participants in Flann & al., 2014). A similarly low attendance of mycologists, with the majority of those attending being members of the NCF, occurred at the Vienna IBC in 2005 (Flann & al., 2015). In contrast, well-attended informal “Nomenclature Sessions” have been a regular feature of IMCs, including IMC9 in Edinburgh in 2010 and IMC10 in Bangkok in 2014. There were around 100 delegates at the IMC9 Session and 50 at the IMC10 Session. It should also be noted that there were more lichenologists present at each of the Nomenclature Sessions of the last two IMCs than at the Nomenclature Sections of the last two IBCs.

At the last two IMC Nomenclature Sessions, nomenclature questionnaires were distributed to all Congress participants and detailed reports were published (Norvell & al., 2010; Redhead & al., 2014). The number of questionnaires returned was 174 at IMC9 and 117 at IMC10. The high attendance at Nomenclature Sessions at IMC9 and IMC10 demonstrates interest and engagement in nomenclatural issues by mycologists. There was 93.6% (of votes cast) support in the Nomenclature Session at IMC10 for the proposition “In general, questions peculiar to fungal nomenclature should be voted at International Mycological and not International Botanical Congresses” (Redhead & al., 2014).

A second reason for transferring fungi governance to IMCs is that there are particular aspects of the Code that are already unique to fungi, changes to which are best discussed and voted on by mycologists. The current Code specifies one item that must be considered at an IMC, which is the confirmation of repositories required under Art. 42.3; and Code-mandated registration is at present unique to fungal names. The initial impetus for transferring some governance of fungal nomenclature to IMCs came from the debates around the move to one fungus:one name. While this issue has been resolved as far as changes to Art. 59 are concerned, there remain implementation issues, such as around different morph-names with the same epithet (Hawksworth & al., 2013; Hawksworth, 2014) and the lists from working groups under Art. 14.13; the latter Article (along with Art. 56.3) being specific to fungi. Informed discussion about these fungi-specific items is best held at an IMC rather than an IBC.

The four-year IMC schedule in contrast to the six-year IBC schedule is another reason to support IMCs formally dealing with matters specific to fungi. If an IMC informally approves changes to rules particular to fungi, there can be a delay of up to several years before such proposals can be formally put before an IBC. Outcomes of Nomenclature Sessions at previous IMCs informed voting on proposals specific to fungi at the Melbourne IBC Nomenclature Section, especially those on Art. 59 concerning fungi with a pleomorphic life cycle. Given that the opinions of mycologists in general were a factor in decisions about Art. 59 at the Melbourne IBC, the proposals could just as well have been dealt with at the previous IMC in 2010. A number of current, published proposals specific to fungi, such as those by Hawksworth (2014), which include protection against unlisted names in the lists of names compiled by working groups (under Art. 14.13), have strong support from mycologists. These proposals could have been dealt with at IMC10 in 2014, had there been a formal Nomenclature Session at that meeting. Instead, the next opportunity for these proposals to be formally considered will be the Shenzhen IBC in 2017, after a three-year gap.

Although there were moves for a separate nomenclatural code for fungi in the 2000s, the current discussion on fungi governance has not been driven by a desire to create a separate code for fungi. Indeed, several members of the Subcommittee are supportive of long-term moves towards a single BioCode covering the nomenclature of all organisms.

There will obviously continue to be mycological representation at the IBC, particularly from members of the NCF and other nomenclaturally minded mycologists interested in all aspects of the Code that are not specific to particular organisms – i.e., most of the articles of the current Code. However, the Subcommittee concluded (with an 80% majority) that it was desirable for matters specifically related to fungi to be dealt with at IMCs.

It was noted by some Subcommittee members that the dual system proposed was in the best interests of fungal nomenclature as it means that general issues will be debated in a forum drawing on experience of a wide range of nomenclatural specialists (the IBC Nomenclature Section), whereas those issues pertinent only to organisms treated as fungi will be considered in a mycological forum (the IMC Nomenclature Session).

Minority view on fungi governance in the Subcommittee

The minority view of the Subcommittee, held by two members (Demoulin and Lendemer), was that the NCF should continue to be elected by the Nomenclature Section of an IBC, and fungi governance should stay with the IBC. Demoulin and Lendemer recognized the value of informal Nomenclature Sessions at IMCs, but wished to retain the power to change the Code at IBCs. They recognized that previous Nomenclature Sessions at IMCs had value “for presenting ideas and taking the pulse of the mycological community” but were “inadequate for a legislative body” (quote from Demoulin). Lendemer preferred that mycologists be encouraged to engage with the Nomenclature Section at an IBC, just as phycologists and bryologists are, rather than dividing the governance of organisms covered by the Code. In the spirit of the BioCode, Lendemer supported the current unified approach to botanical nomenclature that gives mycologists representation, to what degree they desire, and the ability to participate in nomenclatural matters pertaining to many different taxonomic groups. Specifically he did not want to establish a precedent that could lead to further splits. Lendemer also had concerns in relation to lichenized fungi, noting that even though “these organisms are now integrated into the fungal Tree of Life, the vestiges of the intellectual split remain in the existence of separate societies and journals, many of which have more connections to … traditional botany … than to mycology”. Lendemer indicated that the International Association for Lichenology should be consulted about proposed changes, and efforts made to ensure that there was appropriate representation from lichenologists at the proposed Fungal Nomenclature Sessions.
**Formal Proposals**

Two formal proposals to amend the Code (henceforth referred to as the “Proposals”) encapsulating the majority view of the Subcommittee are published in parallel to this report (May & al., 2016). The first Proposal amends Division III of the Code so that proposals on matters relating solely to names of organisms treated as fungi are dealt with by the Fungal Nomenclature Session of an IMC; the second Proposal deals with election of the NCF. The Proposals are presented as edits to the proposed new Division III (Knapp & al., 2016a) and follow closely the procedures laid out there, with the exception of institutional votes. The rationale for the Proposals is explained below, based mainly on points put forward by the eight members of the Subcommittee who did support changes in fungi governance.

**Function of the Fungal Nomenclature Session**

Prior to IBC Melbourne, a significant sticking point raised by those considering transference of fungal governance to IMCs, such as in the report of the Nomenclature Committee for Fungi (Norvell, 2011), was that the original proposal by Hawksworth & al. (2009) did not specifically include a number of features that are part of normal arrangements for the Nomenclature Section of an IBC. Such features include pre-publication of a synopsis of proposals, a pre-Congress guiding vote, and institutional votes during the Nomenclature Session. In addition, the size of the majority required in votes to accept proposals to amend the Code was not specified. Therefore, the proposed Fungal Nomenclature Session of an IMC includes a Fungal Nomenclature Bureau (with Chair, Secretary, and Deputy Secretary) and all other procedures in Division III (except institutional votes), such as the requirement for 60% support for proposals to be accepted.

In the Proposals from this Subcommittee, some of the terminology applied to the various gatherings, groups, and persons dealing with proposals solely related to fungi has been changed from that applying during the Nomenclature Section of an IBC, so that Nomenclature Section, Bureau of Nomenclature and Nominating Committee are replaced by Fungal Nomenclature Session, Fungal Nomenclature Bureau, and Nominating Committee of the Fungal Nomenclature Session, respectively; and the President, Rapporteur-général, and Vice-rapporteur are renamed Chair, Secretary, and Deputy Secretary, respectively. These differences in terminology do not indicate any functional difference. The renaming follows previous usage of “Nomenclature Session” at several past IMCs, but also serves to distinguish the Fungal Nomenclature Session and the officers of the Fungal Nomenclature Bureau when discussed at the same time as the Nomenclature Section and the Bureau of Nomenclature.

**Who decides what proposals deal solely with fungi?**

It should normally be clear which proposals deal solely with names of organisms treated as fungi. In the event that it is not clear, and a decision one way or the other is necessary, the first Proposal from this Subcommittee stipulates that the General Committee in consultation with the NCF is responsible for making that decision.

**Scheduling of the Fungal Nomenclature Session**

The IMC9 and IMC10 Nomenclature Sessions were held as three two-hour blocks during the Congresses, sometimes extending over programmed tea- and lunch-breaks. Within the Subcommittee there were various opinions as to the optimal format and timing of the proposed Fungal Nomenclature Session, but squeezing the Session between and/or overlapping with other sessions of the Congress was considered undesirable. The Fungal Nomenclature Session must occur prior to the final plenary of the Congress (which occurs during the closing ceremony) so that any formal motions can be approved by the Congress as a whole. The Subcommittee discussed options of holding the Nomenclature Session before or during the Congress, but opinions within those on the Subcommittee who support proposals related to fungi being dealt with at IMC were evenly split on such timing. There was also a variety of views on the length of the Session: from a half a day to two whole days. However, organizational issues specific to each Congress, such as how many days the Congress runs for, availability of suitably sized venues, how much business is on the agenda (in terms of proposals and their complexity) and so on, mean that the timing and duration of the Nomenclature Session seems best left to negotiation between the International Mycological Association (IMA) and the Fungal Nomenclature Bureau. Therefore, the proposed new wording specifies this course of action. Planning by the IMA for IMC11 in Puerto Rico in 2018 already includes a full day set aside for the Fungal Nomenclature Session in the middle day of the Congress.

**Publication of proposals and reports**

Subsection 1.4 of the proposed new Division III indicates that various nomenclatural publications, such as proposals to amend the Code, are published as specified by the General Committee; noting that such publications currently appear in the journal Taxon. The first Proposal from this Subcommittee adds reference to the journal IMA Fungus, as another place for publication of nomenclatural proposals; this journal being especially suitable since it is an open-access publication of the IMA. It should be noted that the intent of the amended subsection 1.4 of the proposed new Division III is that only proposals to amend the Code relating solely to names of organisms treated as fungi need to be published in IMA Fungus (i.e., not proposals to conserve or reject names of fungi, which will continue to be published in Taxon). However, the General Committee will direct the appropriate actions about publication of proposals and could consider parallel publication in both Taxon and IMA Fungus (as has already been done for some proposals; e.g., Hawksworth, 2015a, b), or cross-referencing in Taxon (such as in the Report of the Nomenclature Committee for Fungi) to proposals published in IMA Fungus.

**Institutional votes**

In the questionnaires at several previous IMCs, there has not been a question specifically about institutional votes. However, during the Nomenclature Session at IMC10 in Bangkok in 2014, there were speakers for and against institutional votes, with discussion on the issue intermixed with other issues such as online voting during a Congress (Redhead & al., 2014). During this discussion there was some confusion as to whether “proxy” votes were for individual and/or institutional votes, but it is clear from the current Div.III.4(b)(i) that transfer of personal votes is not permitted.

Overall, the Subcommittee considered that those present at the Fungal Nomenclature Session of an IMC are likely to be representative of the broader mycological community, and therefore institutional votes add an unnecessary administrative layer; despite the view by some that institutional votes would be a stabilizing factor. The Proposals therefore do not include the provision for institutional votes, and consequently there is also no provision for transfer of institutional votes.

**Guiding vote**

The proposed new Division III specifies a guiding vote on proposals to amend the Code, coinciding with the publication of the
Synopsis of proposals. The guiding vote is not the final vote on proposals, but guides the formal Fungal Nomenclature Session. In the past, this vote has often been referred to as the “mail vote”, but the vote does not necessarily have to be conducted by mail now that online voting mechanisms are available. In parallel with the proposed new Division III, for proposals solely concerning fungi, authors of proposals and members of the NCF are included in the criteria set for participation in the guiding vote. Discussion within the Subcommittee included the option of an online vote open to all mycologists, but this was considered too broad. Given that the pre-Congress guiding vote for Proposals to be discussed during the Nomenclature Section of an IBC is organized by the Bureau of Nomenclature in conjunction with the International Association for Plant Taxonomy, the counterpart organization for the guiding vote of a Fungal Nomenclature Session is proposed to be the IMA. Therefore, membership of the IMA or of organizations that are themselves members of the IMA are included among the criteria for participating in the guiding vote. In addition, there is an option to include in the guiding vote individual members of other organizations as approved by the Fungal Nomenclature Bureau.

Individual membership of the International Mycological Association, according to its Statutes (http://www.ima-mycology.org/society/statutes), is granted to those registering at an IMC, and remains active until the next Congress; but there is no facility for taking out individual membership between Congresses. The option of the guiding vote being open specifically to individual IMA members is therefore too restrictive in terms of enabling voting for proposals relating to the following IMC; there is no opportunity for individuals who are not already members to vote in the pre-Congress guiding vote because they cannot become members until the Congress itself. However, the IMA also has a membership category “Member Mycological Organizations” (MMOs), under which individual members of specified organizations are also members of the IMA. MMOs include the following regional mycological organizations: the Australasian, British, Dutch, Finnish, Indian, Indonesian, Norwegian, and Swedish Mycological Societies; the Mycological Societies of America, China, Japan, and the Republic of China; and the German and Korean Societies of Mycology. Two other groups that are also IMA members are the British Lichen Society and the Southern African Society for Plant Pathology.

If the first Proposal from this Subcommittee is successful, further organizations whose members wish to participate in the guiding vote can be encouraged to become MMOs of IMA. The low representation from Africa and Latin America among the MMOs is noted. Among the IMA MMOs are also Regional Member Mycological Organizations (RMMOs), for Africa, Asia, Australasia, Europe, Latin America, and North America. Each of these has designated officers, but no other members as such. The RMMOs may offer another means of providing access to IMA membership, and consequently the ability to participate in the guiding vote, such as by allowing smaller regional groups to affiliate with RMMOs rather than becoming MMOs — but this will be a matter for the IMA.

To cater for international scientific organizations representing mycologists that are not IMA member organizations there is also a facility for the Fungal Nomenclature Bureau to approve further organizations as being among those whose members can participate in the guiding vote. This option is included to ensure broad participation by mycologists, some of whom may not fall under IMA membership, but are members of other organizations; and where those organizations may not choose or be able to become IMA member organizations, such as due to financial commitments. Examples of organizations that could be considered for inclusion in the guiding vote include, but are not limited to, the International Association for Lichenology (IAL), the International Society for Human and Animal Mycology (ISHAM), the International Society for Plant Pathology (ISPP), and the International Commission on the Taxonomy of Fungi (ICTF). Of course, persons who fall under more than one of the categories for eligibility for the guiding vote would be entitled to one vote only.

There was debate within the Subcommittee about effective representation of lichenologists. Firstly, it was noted that lichenologists are generally well-represented at International Mycological Congresses, with at least as many present as at recent International Botanical Congresses. Secondly, the International Association for Lichenology is one of the organizations specifically suggested above for consideration by the Fungal Nomenclature Bureau to be added to the list of organizations whose members would be entitled to participate in the guiding vote.

In due course, equity of participation in the guiding vote can no doubt be improved. However, in the first instance, membership of IMA and its affiliated organizations, plus membership of other pertinent organizations identified by the Fungal Nomenclature Bureau, will provide a wide spectrum of mycologists with access to the guiding vote for the Fungal Nomenclature Session of an IMC. This access is at least equivalent to that provided by IAPT membership to the guiding vote of a Nomenclature Session of an IBC.

Electon of the Nomenclature Committee for Fungi

Voting at the IMC10 Nomenclature Session was 97.2% (of votes cast) in favour of the NCF being appointed by IMCs (Redhead & al., 2014). In initial discussions of this Subcommittee, there was majority support for election of the NCF by an IMC, with seven of the ten voting members favouring this option, and one member favouring election by an IMC with subsequent ratification by an IBC. The second Proposal from this Subcommittee, with election of the NCF by an IMC, was supported by 80% of the Subcommittee members.

Procedures should the Proposals be accepted

The By-laws Committee (Knapp & al., 2016b) recommends that the proposed new Division III, which is presented as a single Proposal, be adopted as a trial for the duration of the Nomenclature Section of the XIX IBC in Shenzhen, and then be discussed and voted upon in the normal sequence of proposals, likely to be on the last day of the Section. The Fungi Governance Proposals from this Subcommittee naturally fall in sequence after the proposed new Division III. Should any wording in the new Division III be altered, the majority intent of this Subcommittee should be clear enough to allow suitable amendments to the Proposals.

Should the fungi governance Proposals be accepted, there would need to be special procedures for the first implementation, given certain features such as election of the Chair of the Fungal Nomenclature Section of one IMC by the corresponding gathering of the previous IMC. It is suggested that in the first implementation, any positions that need election by an IMC are elected by the IBC at which the Proposals are accepted, acting on advice from the NCF.

Conclusion

Both Proposals to amend the Code resulting from discussion within this Subcommittee have 80% support, and also the support of the International Mycological Association, the President and Secretary-General of which are co-authors of the Proposals. Therefore, the procedures outlined in the Proposals have the support of the
organization responsible for the IMC, at which the proposed Fungal Nomenclature Sessions will be held. Those deciding on the Proposals should also note the very high (>93%) support for the changes encapsulated in the Proposals shown in answers to questionnaires at two previous IMCs.

**Literature cited**


