

SPECIAL-PURPOSE COMMITTEE REPORTS

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Report of the Special-purpose Committee on Virtual Participation in the Nomenclature Section

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Abstract The Special-purpose Committee on Virtual Participation in the Nomenclature Section was established by the XIX International Botanical Congress (IBC) in Shenzhen, China in 2017, with the mandate “to investigate the possibility of and mechanisms for virtual participation and voting in the Nomenclature Section of an International Botanical Congress via the internet” and to report to the XX IBC. The wide access to the World Wide Web and availability of software for virtual meetings makes the possibility for virtual (online) attendance and voting at a Nomenclature Section seem attainable and advisable. In order to make informed recommendations, we discussed various aspects of online attendance and voting, such as: who should be able to observe?; what would qualify a person to cast institutional votes and personal votes?; if the accumulation of institutional votes should be allowed by an online voter; registration of online voters; how costs would be covered; and recommendations for online attendees. This report provides a synthesis of our discussions and is necessary for interpreting the proposals of this Special-purpose Committee to change aspects of Div. III (Provisions for governance) of the *Code* (Landrum & al. in *Taxon* 70: 1397–1398. 2021). This report and those proposals should be consulted together.

Keywords *Code*; electronic vote; International Botanical Congress; nomenclature; Nomenclature Section; online participation

Introduction

A Special-purpose Committee on Virtual Participation in the Nomenclature Section (NS) was established by the XIX International

Botanical Congress (IBC) in Shenzhen, China in 2017 (Wilson, 2019). The mandate of this Committee is “to investigate the possibility of and mechanisms for virtual participation and voting in the

Nomenclature Section of an International Botanical Congress via the internet” to make the governance of the nomenclature of algae, fungi, and plants more inclusive. Several people at the NS in Shenzhen offered to participate in the deliberations of this Committee. After reviewing the list, colleagues from diverse areas were invited to join in order to broaden its representation. Eight of the members of this Committee earlier proposed that governance of a NS should be made more inclusive through virtual attendance and electronic voting given that the technology now available is sufficient to achieve this (Landrum & al., 2017). The paper of Landrum & al. (2017), and the earlier ones of Smith & al. (2010, 2011), have provided the impetus needed to create this Committee.

Our Committee proposes new Provisions for virtual (online) attendance and voting (Landrum & al., 2021) to Div. III (Provisions for governance) of the *International Code of Nomenclature for algae, fungi, and plants* (hereafter *Code*, Turland & al., 2018). We recognize that online attendance and voting at a NS cannot be considered standard until its feasibility is established. We therefore suggest that the proposed Provisions be tested at the next NS. Such a trial would determine the practicability of online participation. If successful, we anticipate that the Provisions for online participation will be voted on and passed by the next NS and IBC, included as part of Div. III of the *Code*, and therefore become the norm for NSs in the future.

When the idea of online attendance at a NS was first proposed (Landrum & al., 2017), limitations due to the considerable expenses (accommodation, subsistence), personal health and/or mobility concerns, and the carbon footprint and costs of international travel were emphasized. At the time, the global Covid-19 pandemic that gained momentum in 2020 and is carrying on unabated had not yet happened. This tragic event proved that online meetings are now often desirable, or even indispensable, and these have become frequent. Examples of national and international meetings that have recently taken place online are: Plant Biology 2020 Worldwide Summit; XXXI Reunión Anual Sociedad de Botánica de Chile in 2020; Botanical Society of America in 2020; EarthOptimism2020; Jornada de Botánica (JOBOT) 2020; Society for Conservation Biology (LACA) 2020; Korean Society of Plant Taxonomists 2021; XXXVIII Jornadas Argentinas de Botánica 2021; and the Scottish Botanists' Conference 2020. As we write (April 2021), online meetings are continuing and expected to persist for most of this year at least, and likely beyond.

Discussions in the Special-purpose Committee on Virtual Participation in the NS were conducted by email and at least one brief in-person meeting of two members, mainly in 2019 and 2020. What seemed clear to some of us at the beginning appeared to be more complicated as the discussions progressed. The main questions before us were: Who should be able to attend a NS online? Who should be able to cast votes online? What should the requirements for online voting be? Should online voting be restricted to institutional votes or should it include personal votes as well?

We briefly discuss these and other topics here and give the results of the in-Committee voting. One member was out of contact during 2020, was not able to vote, and is recorded as having abstained from voting. For an idea to be accepted and become part of the proposals (Landrum & al., 2021) that accompany this report, at least 60% support was required, i.e. 11 votes in favour.

Topics discussed and results of voting

Right to observe a Nomenclature Section. Barring the one abstention (see above), the Committee unanimously agreed that anyone who might want to observe a NS online should have the right to

do so. Observers in most cases would be people interested in the nomenclature of algae, fungi, and plants but might include non-taxonomists, especially users of taxonomic information working in the fields of agriculture, conservation, ecology, forestry, and horticulture. Voting would not be allowed for people merely observing. Observers would become online attendees with voting rights if they registered for the NS by a predetermined date and paid a set fee (see below).

Right to observe (17 in favour, 1 abstaining).

As a corollary to this right to observe is the ability and right of the organizers of the NS to broadcast the proceedings of the NS. Because the choice of the location of the IBC is beyond the purview of the users of the *Code* and the organizers of the NS, we can only recommend the IBC be located in a country and place that will provide appropriate internet access.

Right to cast institutional votes. At present, one to seven institutional votes are allocated to institutions on a list prepared by the Committee on Institutional Votes (see *Code*: Div. III Prov. 3, 5.9 (b), and 7.1(c)). An institution may authorize in writing that any member of a NS carry its votes. There are no special requirements for using an institutional vote (Prov. 5.9(b)). We agreed that an online attendee holding one or more institutional votes should have the right to use them for voting on matters brought before a NS. *Right to cast institutional votes (17 in favour, 1 abstaining).*

Right to accumulate and cast institutional votes. A member attending the NS in person may carry the institutional votes of more than one institution, to which that member need not be affiliated. No single member attending a NS in person is allowed more than 15 votes, including his/her personal vote. The accumulation and use of institutional votes by online attendees, as in-person participants do in the NS, was less clear in the discussions in our Special-purpose Committee. One thought was that online voting allows anyone to vote, and therefore there is no need for institutional votes to be assigned to anyone except a member of the NS affiliated with the institution, whether attending in person or online (see *Right to cast institutional votes*, above). Others have argued that institutional votes themselves are not fairly distributed and that they should be eliminated. However, more than 60% expressed the view that online attendees with voting rights should have the same voting rights as in-person attendees and therefore be able to accumulate and use institutional votes. Another point in favour of this view is that some potential voters might not have good access to the internet and therefore would be unable to vote online. *Right to accumulate and cast institutional votes (13 in favour, 4 against, 1 abstaining).*

Right to cast personal votes. The Committee discussed whether online personal votes should be included in the proposals. Those in favour expressed the view that online attendees should have the same rights as in-person attendees. Those against expressed the view that the proposal would be simpler and easier to pass, once considered and voted on at the next NS, by leaving out personal votes. The majority agreed that personal votes should be included. *Right to cast personal votes (14 in favour, 3 against, 1 abstaining).*

Registration to vote. The Committee was nearly unanimous in supporting prior registration by all persons planning to be online attendees at a NS. Registration should be done well ahead of the NS to enable the Organizing Committee of the IBC and the Bureau of Nomenclature to plan the online meeting. In addition, only participants with sufficient interest in nomenclature would be thinking ahead far enough to register. *Requiring registration (16 in favour, 1 against, 1 abstaining).*

Cost for non-voting online observers. The Committee generally agreed that non-voting observers of the NS should not be

charged, or be charged a small fee only. *Cost to non-voting online observers (free 11, modest fee 5, abstaining 2).*

Cost for voting online attendees. This is a complex topic. In general, one advantage of an online meeting is the low cost compared to an in-person meeting. Many people who rarely or never attend an IBC could attend an online NS. But if the cost of attending a NS online is low, some might never choose to attend a NS in-person. Those persons attending a NS in person might consider it unfair that people attending online, and voting, pay much less. Cost is also a way of including only those with a great interest in nomenclature. Following discussions, most of us agreed that for voting the cost should be the same for online attendees as for in-person attendees. In the past, participating in the NS has required at least one-day of registration in the IBC. We hope that in the future this cost may vary according to the home country of the participant as it does for some societies (e.g. Asociación Latinoamericana de Botánica). *People attending and voting online should pay fees similar to those of in-person attendees (11 in favour, 7 against).*

Requiring IAPT membership for voting. Some members of the Committee believed that paying for one day of the IBC and advance registration in the NS should be the only requirements for online voting in a NS. Other members expressed the view that it was important to require membership in the International Association for Plant Taxonomy (IAPT) as a way of including only those people with some experience in nomenclature. Those arguing against requiring IAPT membership pointed out that it is not required for in-person attendees; and that taxonomists using the *Code* include mycologists, phycologists, and bryologists, who are less likely to be IAPT members than are vascular plant taxonomists. *Requiring IAPT membership (6 in favour, 11 against, 1 abstaining).*

The Special-purpose Committee on Virtual Participation in the NS further made three recommendations that received at least 60% support.

Local Meetings. We recommend that observers and online attendees consider meeting together as groups beforehand and during a NS. This would allow people to discuss the issues among themselves and educate each other as to the issues at hand. *Recommend local meetings (11 in favour, 6 against, 1 abstaining).*

Delayed voting. At a NS, proposals are sometimes “made from the floor” without having been published in *Taxon* beforehand (see for example Div. III Prov. 5.7). Because attendees (online and in-person) may not be attending a meeting continuously, some members of this Committee expressed the view that there should be delayed voting on new proposals (or amendments to published proposals) made at the NS “from the floor”. That would allow online attendees to consider the proposal and be present when the voting takes place. Others argued that delayed voting would be impractical and complicate a NS. *Recommend delayed voting (11 in favour, 6 against, 1 abstaining).*

Recognition for participation. Attending a NS is a professional service that may not be properly acknowledged by supervisors

who are not taxonomists. The majority of the Committee members expressed the view that recognition of this service be provided by the organizers of the NS for online attendees. This might be a form letter to all online attendees who registered beforehand and who voted at the NS. Other members of this Committee considered this an undue burden to place upon the Organizing Committee. *Recommend recognition for participation (14 in favour, 2 against, 2 abstaining).*

Several online meeting software packages are now available (see, e.g., comparisons at <https://www.pcmag.com/picks/the-best-video-conferencing-software>). Voting software packages are also available, but we have not yet tried them. Several members of this Committee would be pleased to assist the IBC Organizing Committee and Bureau of Nomenclature in selecting and testing software.

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Literature cited

- Landrum, L.R., Demissew, S., Fortunato, R., Freire-Fierro, A., Moore, G., Parra-O., C., Rico Arce, L. & Smith, G.F. 2017. Making nomenclature governance more inclusive through virtual attendance and electronic voting at the Nomenclature Section of an International Botanical Congress. *Taxon* 66: 704–707. <https://doi.org/10.12705/663.10>
- Landrum, L.R., Fortunato, R., Barkworth, M., Breitwieser, I., Demissew, S., Dönmez, A.A., Dutta, S., Freire-Fierro, A., Kim, Y.-D., León, B., Moore, G., Mosyakin, S., Oh, S.-H., Parra-O., C., Prado, J., Rico Arce, L., Sennikov, A.N. & Smith, G.F. 2021. (127–135) Proposals to add new Provisions and Recommendations to Division III of the *International Code of Nomenclature for algae, fungi, and plants* related to virtual participation in the Nomenclature Section. *Taxon* 70: 1397–1398.
- Smith, G.F., Figueiredo, E. & Moore, G. 2010. Who amends the *International Code of Botanical Nomenclature*? *Taxon* 59: 930–934. <https://doi.org/10.1002/tax.593021>
- Smith, G.F., Figueiredo, E. & Moore, G. 2011. Who amends the *International Code of Botanical Nomenclature*? A response to Applequist & al. (2010). *Taxon* 60: 213–215. <https://doi.org/10.1002/tax.601020>
- Turland, N.J., Wiersema, J.H., Barrie, F.R., Greuter, W., Hawksworth, D.L., Herendeen, P.S., Knapp, S., Kusber, W.-H., Li, D.-Z., Marhold, K., May, T.W., McNeill, J., Monro, A.M., Prado, J., Price, M.J. & Smith, G.F. (eds.) 2018. *International Code of Nomenclature for algae, fungi, and plants (Shenzhen Code) adopted by the Nineteenth International Botanical Congress Shenzhen, China, July 2017*. Regnum Vegetabile 159. Glashütten: Koeltz Botanical Books. <https://doi.org/10.12705/Code.2018>
- Wilson, K.L. 2019. Report of the General Committee: 21. *Taxon* 68: 160–162. <https://doi.org/10.1002/tax.12011>