

accepted (subject to Art. 9.19 and 9.20), but may be further narrowed to a single one of these specimens by way of a subsequent lectotypification, neotypification, or epitypification (see also Art. 9.14)."

The next proposal addresses the rule in Art. 9.19 that states "The author who first designates (Art. 7.10, 7.11, and F.5.4) a lectotype or a neotype in conformity with Art. 9.11–9.13 must be followed, but that choice is superseded [in certain circumstances]". The purpose of "in conformity with Art. 9.11–9.13" is not immediately clear. While it may have been added because the supersession rules in Art. 9.19 are not applicable to Art. 9.16 (which has its own supersession rule in Art. 9.18), it fails to state that a type designated in Art. 9.14, 9.16, 9.17 or 9.19 must be followed, and those four Articles do not state that a type designated under the applicable Article must be followed. The requirement that a type be followed also arguably conflicts with the rules that permit a new type to be designated if the earlier one is lost, destroyed or missing. To address these matters, the following changes are proposed.

(312) Amend Art. 9.19 as follows (new text in bold, deleted text in strikethrough):

"9.19. The author who first designates (Art. 7.10, 7.11, and F.5.4) a lectotype or a neotype in conformity with **the relevant rules of Art. 9.11–9.13** must be followed, ~~but that choice unless a new replacement type is designated in conformity with the relevant rules of Art. 9. Any lectotype or neotype (other than a neotype under Art. 9.16)~~ is superseded if (a) the holotype or, in the case of a neotype, any of the original material is found to exist; the ~~choice~~ **designation** may also be superseded if it can be shown that [...]."

Article 9.19(c) states that if the type seriously conflicts with the protologue, "an element that is not in conflict with the protologue is to be chosen; a lectotype may only be superseded by a non-conflicting element of the original material, if such exists; if none exists it may be superseded by a neotype". Because there is no requirement to designate a non-conflicting lectotype or neotype, the only

apparent reason to require it in Art. 9.19(c) is to avoid a second supersession. In any case, this standard is too strict, especially because many protologues are now quite long and exceedingly detailed: any conflict whatsoever arguably renders the new typification ineffective. Finally, the last part of the rule states that if no non-conflicting elements of original material exist, then a neotype, theoretically including one that seriously conflicts with the protologue, may be designated. To address these matters, the following amendments to Art. 9.19(c) are proposed.

(313) Amend Art. 9.19 clause (c) as follows (new text in bold, deleted text in strikethrough):

"9.19. [...] (c) it is in serious conflict with the protologue, in which case an element that is not in **serious** conflict with the protologue is to be ~~chosen~~ **designated**; a lectotype may only be superseded by ~~an a non-conflicting~~ element of the original material **that does not seriously conflict with the protologue**, if such exists; if none exists it may be superseded by a neotype **that does not seriously conflict with the protologue**."

Article 9 Ex. 15 provides that a herbarium sheet designated as a type containing more than one gathering (and more than one taxon) can be superseded under Art. 9.19(b) with a new designation to comply with Art. 9.14. However, Art. 8.2 (and Ex. 3 thereunder) is very clear that a specimen cannot include more than one gathering. As such, the sheet simply cannot be the type, and the original designation has no nomenclatural standing. To avoid future confusion related to this subject, we propose the deletion of Ex. 15.

(314) Delete Art. 9 Ex. 15.

Acknowledgements

We thank Nicholas J. Turland and Dr. John H. Wiersema for their comments and suggestions.

(315–316) Proposals to clarify the role of epitypes and to further nomenclatural stability with regard to epitypes and neotypes

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DOI <https://doi.org/10.1002/tax.13017>

First published as part of this issue. See online for details.

The nomenclatural problems emerging from epitype designations (see Art. 9.9, also Art. 9.17, 9.20 and 9.21 of the *International Code of Nomenclature for algae, fungi, and plants*, the "Code": Turland & al.

in *Regnum Veg.* 159. 2018), especially situations when an epitype and the type it supports differ taxonomically, were recently considered and discussed in several publications (e.g. Ariyawansa & al. in *Fungal*

Diversity 69: 57–91. 2014; Rindi & al. in Fottea (Olomouc) 17: 78–88. 2017; Mosyakin & McNeill in Phytotaxa 376: 133–137. 2018; Mosyakin & Mandák in Taxon 67: 1218–1219, 1220–1221. 2018; in Ukrayins'k. Bot. Zhurn. 77: 413–427. 2020; in Taxon 70: 206–207. 2021; Lendemer in Taxon 69: 849–850. 2020), including proposals to amend the *Code* (e.g. Lendemer in Taxon 69: 631. 2020; Mazumdar & al. in Taxon 69: 631. 2020; Wisnev in Taxon 70: 1382–1383. 2021; de Lirio & al. in Taxon 70: 1384. 2021; Steudel in Taxon 70: 1385–1385. 2021) and summarized by Sennikov (in Nordic J. Bot. 2022(8): e03535. 2022).

However, it seems that Sennikov (l.c.) disagreed with our conclusion that “the application of a name is ultimately established by the epitype, not the lectotype (or even the holotype or neotype)” (Mosyakin & McNeill, l.c.: 134) because “this conclusion is in contradiction with the other functions of the primary types” (Sennikov, l.c.: 2). However, let us consider the logic of Art. 9.9. First, it states that an epitype serves as “an interpretative type”. Second, an epitype can be designated “when the holotype, lectotype, or previously designated neotype, or all original material associated with a validly published name, is demonstrably ambiguous and cannot be critically identified for purposes of the precise application of the name to a taxon”. Therefore an epitype, by definition, serves as the type used for taxonomic interpretation of a taxonomically ambiguous name thereby establishing the proper taxonomic application of that name. That is exactly what we stated in our article (see above).

But what should be done if, after the designation of an epitype, it is demonstrated that the supported type or all original material associated with a name *can* “be critically identified for purposes of the precise application of the name to a taxon”? Probably in that case an epitype is no longer needed and can be simply cancelled, abandoned or disregarded? Unfortunately, that is not the case.

It is supposed (or implied) in the *Code* (Art. 9.9) that the author who designates an epitype is certain that a type or all original material associated with a name “is demonstrably ambiguous and cannot be critically identified for purposes of the precise application of the name to a taxon”. No requirements for any specific proof of that demonstrable ambiguity is currently prescribed in the *Code* (see, however, Rec. 9B), but Lendemer (l.c.: 631) recently proposed to require a statement of demonstrable ambiguity for epitype designation, which we consider a useful amendment. There are also some other proposals to amend the *Code* (see above). However, in our opinion, more certainty might be needed in the future, in comparison with the current requirement of demonstrable ambiguity and Rec. 9B, because to one researcher a taxonomic application of a certain type can be viewed as demonstrably ambiguous, while another author may consider the same specimen not taxonomically ambiguous at all. It still remains uncertain who should be the judges in that case.

Here we propose an amendment to Art. 9.20 making more explicit the conditions under which the procedure of conservation should be undertaken. The thrust of our proposal is already implicit in the current wording of Art. 9.20 requiring conservation of a type under Art. 14 to resolve any conflict between an epitype and the type it supports. The purpose of conservation is to avoid disadvantageous nomenclatural changes and to retain those names that best serve stability of nomenclature (Art. 14.1 and 14.2). We propose that Art. 9.20 make it explicit that any conflict involving an epitype is to be resolved in whatever way best serves nomenclatural stability.

(315) Amend Art. 9.20 as follows (new text in bold):

“9.20. The author who first designates (Art. 7.10, 7.11, and F.5.4) an epitype must be followed; a different epitype may be designated only if the original epitype is lost or destroyed (see also Art. 9.17). A lectotype or neotype supported by an epitype may be superseded in accordance with Art. 9.19 or, in the case of a neotype, in accordance with Art. 9.18. If it can be shown that an epitype and the type it supports differ taxonomically and that neither Art. 9.18 nor 9.19 applies, the name may be proposed for conservation with a conserved type **if this will best serve nomenclatural stability** (Art. 14.9; see also Art. 57).”

In our opinion, the procedure of epitypification, as it is currently prescribed in the *Code* and applied now, can be dangerous for nomenclatural stability. In particular, it can be used as a tool for nomenclatural and taxonomic “resurrection” of long-forgotten and/or taxonomically obscure names that are not in current use and may compete with currently accepted names. Many of such long-forgotten and obscure names should better remain in oblivion, for the sake of nomenclatural stability. We have already stated that “At least a new Recommendation not encouraging restoration of taxonomically obscure and nomenclaturally long-forgotten names through their epitypification should be considered, especially in cases when such resurrection affects well-established and widely accepted names” (Mosyakin & McNeill, l.c.: 136). Here we propose a new Recommendation in Rec. 9B.

(316) Add a new Recommendation in Rec. 9B:

“9B.3. Neotypes and/or epitypes should not be designated for long-forgotten and/or taxonomically obscure names that are not in current use, especially if such names may compete in terms of priority with currently accepted names.”

Acknowledgements

We are grateful to Nicholas J. Turland (Botanischer Garten und Botanisches Museum Berlin, Freie Universität Berlin, Germany) and John H. Wiersema (Smithsonian Institution, Washington, D.C., U.S.A.) for their useful comments and editing.