

proof of effective publication (Art. 29–31) of the name being typified, along with the author(s) designating the type and those elements required by Art. 9.21, 9.22, and 9.23.”

“*Note 4.* For organisms treated as algae or plants under this *Code*, issuance of an identifier by a recognized repository has no effect on valid publication of a name (Art. 32–45) or effective type designation (Art. 7.8–7.11). Instead, these simply serve as stable digital references to the information present in the actual place of publication.”

(378) Add two Recommendations to a new Rec. 42A:

“*42A.1.* Following the effective and valid publication of new names and nomenclatural acts, authors should report them to a recog-

nized nomenclatural repository (Art. 42.1) for indexing and assignment of a unique identifier (Art. 42.4 and 42.6). While it is in the interest of the authors to do this promptly, any other party may present proof of effective and valid publication to these repositories for the purposes of both indexing and identifier assignment. In groups where proactive registration is mandatory (see Art. F.5), additional publication details (e.g. final pagination, precise date of publication, etc.) should be provided to the registrar at this time.”

“*42A.2.* Specification of names and nomenclatural acts for the purpose of exchange of digital information should include the unique identifier for those entities as established by a recognized nomenclatural repository (Art. 42.1).”

(379–382) Proposals to amend the *International Code of Nomenclature for algae, fungi, and plants* to ensure that the names of algae and fungi are not subject to uncertainty on the applicability of the rules of any other *Code* and to further clarify Art. 45.1

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Alexandrium was published by Halim (in Vie & Milieu, Sér. A, Biol. Mar. 11: 102. 1960). The name applies to a group of thecate dinoflagellates, of which some 30 species are currently recognized (AlgaeBase; https://www.algaebase.org/search/genus/detail/?genus_id=44609). Members of the genus are economically important in forming large blooms, producing so-called red tides, with several species producing toxins that cause Paralytic Shellfish Poisoning when the shellfish are eaten. Halim (l.c.), who was primarily an oceanographer, had returned to his position in the Département d’Océanographie in Alexandria (Egypt) after completing doctoral studies at “la Station zoologique Villefranche” in France. Although his publication lacked any explicit statement as to which *Code* was being followed, it has long been assumed that, given his background, Halim was using the zoological *Code* and that the generic name *Alexandrium* was therefore “available” under the *International Code of Zoological Nomenclature* (ICZN; Ride & al., Int. Code Zool. Nomencl., ed. 4. 1999; <https://www.iczn.org/the-code/the-code-online/>) and hence validly published under the provisions of Art. 45.1 of the *International Code of Nomenclature for algae, fungi, and plants* (ICN; Turland & al. in Regnum Veg. 159. 2018; see footnote to Art. 45.1).

The recent interest in the nomenclatural status of *Alexandrium* arose when Elbrächter & al. (in Taxon 68: 589–590. 2019), considering that the type material of *Blepharocysta splendor-maris* (Ehrenb.) Ehrenb. was referable to a species of *Alexandrium* (sensu lato),

proposed conservation of *Alexandrium* against *Blepharocysta*. In its report on the proposal (Andersen in Taxon 70: 1125. 2021), the Nomenclature Committee for Algae (NCA) stated that “The name ‘*Alexandrium*’ Halim (*Dinophyceae*) could not be recommended for conservation because it is not a validly published name.” The rationale given for this conclusion was advice from Francisco Welter-Schultes, Chair of the Editorial Committee for the next edition of the ICZN, to the effect that Halim (l.c.) failed to indicate he was describing an animal (ICZN Art. 1.1.1).

The rationale for this decision surprised the members of the NCA and, importantly, the wider audience of users of dinoflagellate names. It also generated extensive correspondence on, among other matters, this particular interpretation of Art. 1.1.1 of the ICZN. Discussion also arose as to whether Silva’s opinion (Index Nominum Algarum; <https://ucjeps.berkeley.edu/cgi-bin/porp.cgi?160711>) that it was “not possible to tell whether author uses ICBN or ICZN” was correct or if there was enough internal evidence to show Halim was using the ICZN. This is not the place to pursue this matter, except to recognize that the existence of divergent opinions on such a case shows that rules should be devised so as to avoid such controversy, and to address the more fundamental issue, implicit in the current wording of Art. 45.1 of the ICN, that, currently, names of algae and fungi may be subject to uncertainty in the interpretation of the rules in *Codes* other than the ICN. As the mycological and phycological communities have no say in such interpretation, this seems

inappropriate, and steps should be taken to preclude this ever happening. Woelkerling & Moestrup (in Taxon 71: 1337–1338, 2022) have suggested addressing the issue by exempting dinoflagellates from certain provisions of the *ICN*, such as the need for a Latin description or diagnosis. However, I believe that a more general approach is needed – one that deals with all organisms to which Art. 45.1 may apply and not just to dinoflagellates. My proposal below to add a penultimate sentence to Art. 45.1 addresses this need, ensuring that uncertainty in the interpretation of the provisions of another *Code* is never an issue.

(379) Add a sentence to Art. 45.1 as follows (new text in bold):

“45.1. If a taxon originally assigned to a group not covered by this *Code* is treated as belonging to the algae or fungi, any of its names need satisfy only the requirements of the relevant other *Code* that the author was using for status equivalent to valid publication under this *Code* (but see Art. 54 and F.6.1, regarding homonymy). The *Code* used by the author is determined through internal evidence, irrespective of any claim by the author as to the group of organisms to which the taxon is assigned. **If no clear internal evidence exists to determine the *Code* being used by the author, names therein need only satisfy the specific requirements for the equivalent of valid publication in any one of the *Codes* that might have been used regardless of whether or not that *Code* is deemed applicable.** However, a name generated in zoological nomenclature in accordance with the Principle of Coordination is not validly published under this *Code* unless and until it actually appears in a publication as the accepted name of a taxon.”

If Prop. 379 is accepted, I would commend the following Example to the Editorial Committee:

The generic name *Alexandrium*, with one species, *A. minutum*, was published by Halim (in Vie & Milieu, Sér. A, Biol. Mar. 11: 101–105, 1960) without clear internal evidence of the *Code* that Halim was following. Halim did not include any Latin description or indicate a type for *A. minutum*, both requirements at that time under the *International Code of Botanical Nomenclature*. His names do, however, meet the specific requirements of the *International Code of Zoological Nomenclature* (Art. 10–20) for availability. Consequently, when treated as algal names, they are validly published under the *International Code of Nomenclature for algae, fungi, and plants*, despite the fact that the *ICZN* has been deemed inapplicable to Halim’s publication (Andersen in Taxon 70: 1125, 2021).

There are also more general problems with the current wording of Art 45.1 that I am taking this opportunity to address. From its first inclusion in the *Code*, the precursor of the current Art. 45.1 has implicitly assumed that, whatever might have been the situation in the past, there was at that time no longer doubt as to the *Code* under which any taxon fell. This is reflected in the opening phrase, unchanged since the Leningrad *Code* (Stafleu & al. in Regnum Veg. 97, 1978): “If a taxon originally assigned to a group not covered by this *Code* [...]” This assumption overlooks the existence of so-called “ambiregnal organisms” currently treated by some under one *Code* and by others under another. Because it is most commonly for the names of organisms in these groups that the provisions of Art. 45.1 are needed, it should be made clear that they are indeed subject to Art. 45.1.

Because the rules being followed by earlier authors are rarely explicitly stated and, indeed, many names were published before any rules existed, it seems worthwhile to recognize this by including the qualifying “appear to have been”. A small rearrangement and rewording of the introductory phrasing will address these concerns.

(380) Amend Art. 45.1 as follows (new text in bold, deleted text in strikethrough):

“45.1. ~~If a taxon originally assigned to a group not covered by this *Code* is treated as belonging to the algae or fungi, any of its names~~ **Any of the names of a taxon treated as belonging to the algae or fungi but that were, or appear to have been, published under the provisions of another *Code* assigned to a group not covered by this *Code* is treated as belonging to the algae or fungi, any of its names** need satisfy only the requirements of the relevant other *Code* that the author was **considered to be** using for status equivalent to valid publication under this *Code* (but see Art. 54 and F.6.1, regarding homonymy). [...]”

This proposal, if accepted, also permits the following more concise wording that I would refer to the Editorial Committee: “45.1. Any of the names of a taxon treated as belonging to the algae or fungi but that were, or appear to have been, published under the provisions of another *Code* need satisfy only the requirements of that *Code* for status equivalent to valid publication under this *Code* (but see Art. 54 and F.6.1, regarding homonymy). [...]”

Many names in current use were published prior to the existence of any rules of nomenclature, and the question has been asked as to how to assess the *Code* considered to be used by the authors of such names. It is implicit that this would be done by internal evidence in the publication, but it would be clearer if this were set out in a Note. Accordingly I propose:

(381) Add a Note immediately after Art. 45.1 to read:

“Note 0. Names published prior to the existence of nomenclatural codes are deemed to have been published under whichever *Code* is suggested by internal evidence.”

The point has also been made that the sentence in Art. 45.1 “The *Code* used by the author is determined through internal evidence, irrespective of any claim by the author as to the group of organisms to which the taxon is assigned” is overly restrictive as the internal evidence sometimes includes statements of taxonomic assignment that by their wording reveal the *Code* that was being followed. In addition, the phrase “used by the author” might be held to imply the particular edition of the *Code* involved and not, as is necessarily the case because rules are retroactive, the current edition. To address this, I propose the following further amendments:

(382) Amend the second sentence of Art. 45.1 to read (new text in bold, deleted text in strikethrough):

“45.1. [...] The *Code* used ~~by the author~~ **by the author** is determined through internal evidence, irrespective of any claim by the author as to the ~~group of~~ **relationships of the** organisms to which the taxon is assigned. [...]”

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