

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 comments.

(375–376) Proposals to address valid publication based on information in the protologue (Articles 40, 8 Ex. 3 and 9.2)

Michael A. Wisnev¹ & Jefferson Prado²

¹ Los Angeles, California 90068, U.S.A.

² Instituto de Pesquisas Ambientais (IPA), Herbário SP, Av. Miguel Estéfano, 3687, 04301-012, São Paulo, São Paulo, Brazil

Address for correspondence: Michael A. Wisnev, miwisne@gmail.com

DOI <https://doi.org/10.1002/tax.13043>

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

Article 40.2 of the *Shenzhen Code* (Turland & al. in *Regnum Veg.* 159. 2018) states that for purposes of publishing a new species name, “indication of the type as required by Art. 40.1 can be achieved by reference to an entire gathering”. In our view, it is implicit that Art. 40.2 is not satisfied if the referenced material is more than one gathering even if this fact is not apparent in the protologue. However, based on Prop. 163–164 by Mosyakin & McNeill (in *Taxon* 71: 1325–1326. 2022), there is a difference of opinion on this issue.

Article 8 Ex. 3 illustrates this matter. It states that because the apparent holotype includes material “collected at more than one time, it belongs to more than one gathering and cannot be accepted as a type. Raudonat & Rischer’s name is not validly published under Art. 40.2.” It is important to note that the Example does not make any statement about the actual language of the protologue. In our view, this Example is correct because there is no reference to a single gathering, as required by Art. 40.2, if the referenced item consists of more than one gathering. Whether this is apparent from the protologue is irrelevant.

We offer the following changes to the Example to make this point more explicit.

(375) Amend Art. 8 Ex. 3 as follows (new text in bold, deleted text in strikethrough):

“Ex. 3. The protologue of “*Echinocereus sanpedroensis*” (Raudonat & W. Rischer (in *Echinocereenfreund* 8(4): 88–97. 1995) states “**Holotypus: Mexico, Edo Sonora, Rancho San Pedro, Ri. 263, cult. W. Rischer Mai 1995 (ZSS), AX 16502**”. **While the protologue contains no additional information as to the contents of this** ~~was based on a~~ “holotype”, ~~it consisting~~ **consists** of a complete plant with roots, a detached branch, an entire flower, a flower cut in halves, and two fruits that, according to the label, were taken from the same cultivated individual at different times and preserved, in alcohol, in a single jar. Because this material was collected at more than one time, it belongs to more than one gathering and cannot be accepted as a type. Raudonat & Rischer’s name is not validly

published under Art. 40.2, **even though there is nothing in the protologue indicating the holotype is more than one gathering.**”

We also recommend that the Editorial Committee move this Example to Art. 40.

Examples (other than voted Examples) are not comparable to a rule and are “solely for illustrative purposes” (Art. 8 footnote 1). While we believe that Art. 8 Ex. 3 is fully supported by Art. 40.2, some clarification of the rules appears desirable to address whether external evidence on what is referenced in the protologue is relevant to determine if the publication rules are satisfied. In this regard, we note that Art. 9.2 already addresses certain errors and omissions in the protologue. It states “If a designation of holotype made in the protologue of the name of a taxon is later found to contain errors (e.g. in locality, date, collector, collecting number, herbarium code, specimen identifier, or citation of an illustration), these errors are to be corrected provided that the intent of the original author(s) is not changed. However, omissions of required information under Art. 40.6–40.8 are not correctable.” Because this Article mentions Art. 40.6–40.8, it also applies to the valid publication rules in Art. 40.

To further address this issue, consider the following hypothetical example. Assume that the protologue of a new name that is otherwise validly published by Santa (2023) states “Holotype: North Pole, December 25, 2020, *Santa* 302 (H)”. If the actual specimen is *Santa* 320 or *Santa* 802, Art. 9.2 treats the name as validly published. However, if *Santa* 302 consists of more than one gathering, it is not an error but is equivalent to an omission. Similarly, if *Santa* 302 is a photograph, we do not think it is correctable in light of Art. 40.4, which provides that the type may not be an illustration on or after 1 January 2006 (except as provided in Art. 40.5).

We also note that the statement in Art. 9.2 that omissions of required information are not correctable is better placed in Art. 40. If that information is not provided, the name is not validly published, and there is no holotype to be corrected.

We offer the following proposal to address this matter.

(376) Amend Art. 9.2 as follows (new text in bold, deleted text in strikethrough) and add a new Article in Art. 40:

“9.2. If a designation of holotype **(or indication of type under Art. 40)** made in the protologue of the name of a taxon is later found to contain errors (e.g. in locality, date, collector, collecting number, herbarium code, specimen identifier, or **incorrect** citation of an illustration), these errors are to be corrected provided that the intent of the original author(s) is not changed. ~~However, omissions of required information under Art. 40.6–40.8 are not correctable.~~”

“40.n. Except as expressly provided in this *Code* (e.g. Art. 9.14), a name of a new taxon is not validly published if external evidence reveals that the internal evidence in the protologue failed to meet the requirements for valid publication (i.e. Art. 32–45, F.4, F.5, and H.9). For example, even if not apparent from the protologue, a name of a new taxon is not validly published if the indicated type consists of more than one gathering, or for names published on or after 1 January 2007, is an illustration (except as permitted by Art. 41.5),

or if the purported validating description or diagnosis in a referenced earlier publication is inadequate under Art. 38. In contrast, errors in the indication of the type described in Art. 9.2 do not prevent the valid publication of the name of a new taxon. However, omissions of the required information to validly publish a name (e.g. Art. 40.6–40.8) are not correctable.”

It is worth noting that two Examples in the *Shenzhen Code* involve the opposite fact pattern: while the protologue might suggest that the type is more than one gathering, a review of the referenced materials reveals that they are in fact a single gathering. See Art. 40 Ex. 4 and Art. 46 Ex. 22. We have offered appropriate amendments to the Editorial Committee.

Acknowledgements

We thank Nicholas J. Turland and John H. Wiersema for their assistance.

(377–378) Proposals to improve the indexing and exchange of digital nomenclatural data

John C. Brinda¹ & Mark F. Watson²

1 *Missouri Botanical Garden, 4344 Shaw Blvd., St. Louis, Missouri 63110, U.S.A.*

2 *Royal Botanic Garden Edinburgh, 20A Inverleith Row, Edinburgh EH3 5LR, Scotland, United Kingdom*

Address for correspondence: John C. Brinda, john.brinda@mobot.org

DOI <https://doi.org/10.1002/tax.13044>

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

The use of agreed-upon standards is one of the foundations of effective scientific communication. In some cases, those standards come about organically as researchers converge on a set of best practices. In other cases, standards may need to be rigorously imposed in order to guarantee adherence. Both examples exist in the *International Code of Nomenclature for algae, fungi, and plants* (“*Code*”; Turland & al. in Regnum Veg. 159. 2018) and either might be applied in the case under discussion. In addition, there is precedence in the *Code* for recommending certain “identifiers” meant to stand in for richer data. See for example, Rec. 46A Note 1, which recommends using standard forms for the authors of plant names. Even more directly applicable is Art. 40 Note 4, which recommends the use of standard herbarium codes when citing institutions. These codes are widely used in digital datasets to unambiguously identify where a specimen resides. A precise statement of the problem we are trying to solve is important here, because it is clear to us that at least three issues are involved: registration, indexing and data exchange. When we discuss this topic with our peers, we find that these issues are often conflated, while in our minds they must be discussed separately.

Registration

Registration as an end unto itself (i.e. as a way to block “bad” names from ever being published) has been summarily rejected by

the botanical community and need not be discussed further. However, registration is now offered as a way to achieve two other, more desirable goals – namely rapid indexing and efficient data exchange. It should be pointed out that both indexing and data exchange are already occurring in the absence of registration of plant names. The merits of registration can therefore only be considered in the context of its *marginal* improvement upon these two activities and must be weighed against the extra overhead it introduces to the process.

Indexing

Advocates of mandatory proactive registration suggest that it will improve indexing by either (1) alerting human indexers to the imminent publication of a name, or (2) allowing the AI robots of the future to identify and flag new names in digital (and digitized) publications. Arguments that claim mandatory proactive registration will entirely solve the indexing problem are misguided. That is because the most important data needed by the indexers cannot be required at the time of proactive registration and in most cases are beyond the control of the authors anyway. As indexers and authors, we must already visit and revisit these data at least twice in the case of many electronic publications. First, when the version of record appears and again when it gains final pagination. To add yet another layer on top of this does not make the process any easier and only