

or isosyntype if such exists. ~~If no isotype, syntype, or isosyntype is extant, the lectotype must be chosen from among the, or otherwise~~ a paratype if such exists. If none of the above specimens exists, the

lectotype must be chosen from among the uncited specimens and cited and uncited illustrations that comprise the remaining original material, if such exist.”

(363–368) Proposals regarding holotypes

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Article 9.1 of the *Shenzhen Code* (Turland & al. in *Regnum Veg.* 159. 2018) states that the holotype “is the one specimen or illustration (but see Art. 40.4) either (a) indicated by the author(s) as the nomenclatural type or (b) used by the author(s) when no type was indicated”. One immediate question is how to determine if the author used one specimen or illustration. In particular, should a single element cited in the protologue (without indication that it is the type) be treated as the holotype? The question was answered when Art. 9 Note 1 was revised in the *Shenzhen Code* to provide “If the author used only one specimen or illustration, either cited or uncited, when preparing the account of the new taxon, it must be accepted as the holotype, *but the possibility that the author used additional, uncited specimens or illustrations (which may have been lost or destroyed) must always be considered*” (emphasis added). Article 9 Ex. 2, apparently added to illustrate the new Note, makes it clear that it is almost impossible to meet the use test unless the author states that the element is the only one used.

Nonetheless, based on my discussions with other botanists, many users of the *Code* continue to believe that a single cited element is necessarily the holotype, even if not indicated as such by the author of the name. This view may well have originated in Art. 7 Note 1 of the *Berlin Code* (Greuter & al. in *Regnum Veg.* 118. 1988), which stated that “If the author included only one element, that one must be accepted as the holotype.” While the word “included” was later changed to “used” in the *Saint Louis Code* (Greuter & al. in *Regnum Veg.* 138. 2000), that change hardly made it apparent that a single cited element is not necessarily the holotype.

I had assumed this new language in Art. 9 Note 1 arose through the normal amendment process, i.e. a proposal printed in *Taxon*, addressed in the Synopsis of Proposals and voted upon by the Nomenclature Section of an International Botanical Congress, and that the Editorial Committee in turn added Ex. 2 as permitted by Div. III Prov. 7.11. However, there is nothing in the Synopsis of Proposals by Turland & Wiersema (in *Taxon* 66: 207–274. 2017) mentioning a proposal to amend Art. 9 Note 1. (The Synopsis includes every proposal, showing new text in bold and deleted text in strikethrough.) For that reason, it must be assumed the new language was added by the Editorial Committee, presumably to support the newly added Example and explain the use test.

While the *Shenzhen Code* gives the Editorial Committee full power to add or delete Examples, its powers to amend the Articles and Notes are limited. Division III Prov. 7.11 states that “The Editorial Committee is charged with the preparation and publication of the *Code* in conformity with the decisions approved by the relevant International Botanical Congress. It is empowered to make any editorial modification *not affecting the meaning of the provisions concerned* [...]” (emphasis added).

In my view, the new language in Art. 9 Note 1 affects the meaning of Art. 9.1(b). Turland & al. (in *Taxon* 69: 626–627. 2020) appeared to agree when they stated “In order to make clearer the circumstances under which a holotype can exist, the following amendments to Art. 9.1 and Art. 9 Note 1 are proposed. Note 1 is converted to an Article because it contains provisions not covered by other Articles and, as explained in the Preface of the *Shenzhen Code* (p. xxiv), ‘Notes have binding effect but, unlike Articles, do not introduce any new provision or concept.’” Because this language was added in the manner above, it should be deleted.

Equally if not more important, I see no value in considering the possibility of lost or destroyed elements. If they are lost or destroyed, they cannot be designated as a type, and that possibility is best ignored entirely, as are other remote possibilities. For example, Art. 9 Ex. 1 states that the use test is met because the author stated it was the only specimen used. That statement does not preclude the possibility that the author used an illustration or that the author failed to remember another specimen was used. In my view, if the possibility of lost or destroyed elements is considered, these other possibilities should be considered as well, and the use test should simply be deleted altogether. The better answer is to ignore these unknown possibilities.

(363) Amend the second sentence of Art. 9 Note 1 as follows (deleted text in strikethrough):

“*Note 1.* [...]. If the author used only one specimen or illustration, either cited or uncited, when preparing the account of the new taxon, it must be accepted as the holotype, but the possibility that the author used additional, uncited specimens or illustrations ~~(which may have been lost or destroyed)~~ must always be considered. [...]”

In addition, if Prop. 008 (Turland & al., l.c. 2020) is accepted, delete “(which may have been lost or destroyed)” in the new Art. 9.1bis.

The above proposal raises another matter: the Editorial Committee may inadvertently amend the *Code* in a manner that changes the meaning of the rules without the knowledge of the botanical community at large. In fact, given the large number of proposals, many members of the Editorial Committee may be unaware as to whether or not some changes are purely editorial in nature. It cannot be known what other changes, if any, may have been made by the Editorial Committee in the past that affected the meaning of the rules.

In my view, the powers given to the Committee in Prov. 7.11, without a requirement of a full accounting of all changes, represent a poor practice.

(364) Amend Div. III Prov. 7.11 as follows (new text in bold):

“7.11. The Editorial Committee is charged with the preparation and publication of the *Code* in conformity with the decisions approved by the relevant International Botanical Congress. It is empowered to make any editorial modification not affecting the meaning of the provisions concerned, e.g. to change the wording of any Article, Note, or Recommendation and to avoid duplication, to add or remove non-voted Examples, and to place Articles, Notes, Recommendations, and Chapters of the *Code* in the most convenient place, while retaining the previous numbering insofar as possible. **The Editorial Committee shall prepare and publish online a document noting all changes added editorially.**”

As noted before, many continue to believe a single cited element is a holotype even if not indicated as such. In turn, I have already encountered at least five names where an author has, in a formal botanical treatment, asserted that such a single cited element in an earlier protologue is the “holotype”. Based on Art. 9 Note 1, that assertion is incorrect. While Art. 9.10 generally permits the term holotype to be corrected to lectotype, Art. 9 Note 6 states that this misuse may be corrected only if the requirements of Art. 7.11 are met. Because Art. 7.11 requires a lectotype designation made on or after 1 January 2001 to specifically state “designated here”, it is extremely unlikely that the use of holotype on or after that date can be corrected to lectotype.

These cases of incorrectly asserted holotypes must be republished as lectotypes or the names will technically remain type-less. It also appears that a number of brief papers have already been published to designate an element as the lectotype because it had incorrectly been stated to be the holotype; it is likely that more will be published in the future. As stated by Turland & al. (l.c. 2020) in connection with a proposal to permit a name to be validly published even if the author indicated a lectotype rather than holotype as required by Art. 40.6: “It would not serve nomenclatural stability to penalize authors and disallow valid publication of such names merely because an incorrect term was used to denote the type. This would be bureaucracy for its own sake [...]”

If a later author states that the single specimen cited in an earlier protologue is the holotype contrary to Art. 9.1, that specimen is a syntype, and the only other element that might be designated as a lectotype is an isosyntype. The fact that there may have been lost or destroyed specimens is completely irrelevant – these obviously cannot be designated as lectotypes today. In contrast, if the only element cited is an illustration, then uncited materials may also be designated as the lectotype, assuming of course that there are none.

To minimize the need to publish a designation of a lectotype in these situations, the following proposal is offered.

(365) Amend Art. 9.10 and Art. 9 Note 6 as follows (new text in bold, deleted text in strikethrough):

“9.10. The use of a term defined in the *Code* (Art. 9.1, 9.3 and 9.5–9.9) as denoting a type, in a sense other than that in which it is so defined, is treated as an error to be corrected (for example, the use of the term lectotype to denote what is in fact a neotype). **The use of the term holotype on or after 1 January 2001 to denote a lectotype for a single specimen cited in a protologue of a name of a new taxon published prior to 1 January 1958 is to be corrected, notwithstanding the requirement of Art. 7.11 to include the phrase “designated here”.**”

“Note 6. **Except as noted in Art. 9.10, a** ~~A~~ **misused term may be corrected only if the requirements of Art. 7.11 (for correction to lectotype, neotype, and epitype) are met and Art. 40.6 (for correction to holotype) does not apply.**”

In addition, add “(but see Art. 9.10)” at the end of Art. 7.11.

For names published on or after 1 January 1990, a single element cited in the protologue is not the holotype: the name is not even validly published unless the word type or holotype (or an equivalent) is used (Art. 40.6). However, it is not clear if the single element cited in a publication on and after 1 January 1958 and before 1 January 1990 is the holotype. Starting in 1958, Art. 40.1 requires that the type be indicated to validly publish the name. However, Art. 40.3 states “For the purpose of Art. 40.1, mention of a single specimen or gathering (Art. 40.2) or illustration, even if that element is not explicitly designated as type, is acceptable as indication of the type of the name of a new species or infraspecific taxon (but see Art. 40.6).” Because that statement is for the purpose of Art. 40.1, it remains unclear whether such a mention is sufficient to indicate a holotype (as currently required by Art. 9.1) or to designate it (as required before the *Shenzhen Code*, and proposed to be reinstated by Prop. 007, Turland & al., l.c. 2020).

In my view, the rules should explicitly and unambiguously state whether these single cited elements are holotypes; providing an answer is more important than the answer itself. I am also of the view that it is not desirable to address an Art. 9.1 issue in Art. 40; users may simply be unaware of that other provision or, even if aware of it, not realize that it is intended by the author to address an Art. 9.1 issue. The following two proposals offer different answers to this question.

(366) Amend Art. 9.1 as follows (new text in bold):

“9.1. A holotype of a name of a species or infraspecific taxon is the one specimen or illustration (but see Art. 40.4) either (a) indicated by the author(s) as the nomenclatural type or (b) used by the author(s) when no type was indicated. **A single specimen or illustration cited in the protologue of a name of a new taxon published on or after 1 January 1958 and before 1 January 1990 is the holotype.** As long as the holotype is extant, it fixes the application of the name concerned (but see Art. 9.15).”

(367) If Prop. 366 is rejected, amend Art. 9.1 as follows (new text in bold):

“9.1. A holotype of a name of a species or infraspecific taxon is the one specimen or illustration (but see Art. 40.4) either (a) indicated by the author(s) as the nomenclatural type or (b) used by the author(s) when no type was indicated. **Except as provided in Art. 9.1(b), a single specimen or illustration cited in the protologue, without the use of the word “type” or “holotype” or one of**

their equivalents, is not the holotype. As long as the holotype is extant, it fixes the application of the name concerned (but see Art. 9.15).”

Article 40.3 states that “mention of a single specimen or gathering (Art. 40.2) or illustration, even if that element is not explicitly designated as type, is acceptable as indication of the type”. In contrast, Art. 9.1 currently provides that the holotype must be “indicated”, although Prop. 007 (Turland & al., l.c. 2020) proposes that it must be designated, which was the long-standing rule before the *Shenzhen Code*. The phrase “explicitly designated” in Art. 40.3 suggests that there is some unknown distinction between explicit designations and other designations.

(368) Delete the word “explicitly” in the second sentence of Art. 40.3 as follows (deleted text in strikethrough):

“40.3. [...]. For the purpose of Art. 40.1, mention of a single specimen or gathering (Art. 40.2) or illustration, even if that element is not ~~explicitly~~ designated as type, is acceptable as indication of the type of the name of a new species or infraspecific taxon (but see Art. 40.6).”

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(369–373) Proposals to eliminate the future application of Article 20.2 to generic names matching technical terms in morphology

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Article 20.2 of the *Shenzhen Code* (Turland & al. in Regnum Veg. 159. 2018) dates back to the earliest international rules of botanical nomenclature (*Règles internationales de la nomenclature botanique adoptées par le Congrès international de botanique de Vienne, 1905*; Briquet, *Règles Int. Nomencl. Bot.* 1906), the so-called Vienna Rules, where the first part of Art. 54 reads as follows:

“Art. 54. Names of genera must be rejected in the following special cases:

1. When they are formed from a technical term borrowed from morphology, unless they are accompanied by specific names.”

This was slightly modified (as shown in underscore) in the ensuing Brussels Rules (Briquet, *Règles Int. Nomencl. Bot.*, ed. 2. 1912), to read:

“Art. 54. Names of genera must be rejected in the following special cases:

1. When they coincide with a technical term concurrently used in morphology, unless they are accompanied by specific names.”

This passage, with further modifications, later became part of Art. 67 of the Cambridge Rules (Briquet, *Int. Rules Bot. Nomencl.*, ed. 3. 1935):

“Art. 67. Names of genera are illegitimate in the following special cases and must be rejected.

(2) When they coincide with a technical term currently used in morphology unless they were accompanied, when originally

published, by specific names in accordance with the binary method of Linnaeus. On and after Jan. 1, 1912, all new generic names coinciding with such technical terms are unconditionally rejected.”

Without further change, it became part of Art. 78 of the Stockholm Code (Lanjouw & al. in Regnum Veg. 3. 1952), and then Art. 68 of the subsequent Paris Code (Lanjouw & al. in Regnum Veg. 8. 1956), before landing, with considerable restructuring, in its current place under Art. 20 of the Montreal Code (Lanjouw & al. in Regnum Veg. 23. 1961):

“The name of a genus may not coincide with a technical term currently used in morphology unless it was published before 1 Jan. 1912 and was accompanied, when originally published, by a specific name published in accordance with the binary method of Linnaeus.”

where it remained unchanged until becoming Art. 20.2 in the Leningrad Code (Stafleu & al. in Regnum Veg. 97. 1978):

“20.2 The name of a genus may not coincide with a technical term currently used in morphology unless it was published before 1 Jan. 1912 and was accompanied, when originally published, by a specific name published in accordance with the binary system of Linnaeus.”

Thereafter, it remained stable until the Vienna Nomenclature Section of 2005, where considerable discussion ensued, stimulated by the then-controversial case of whether to adopt the name *Cleistogenes* vs. *Kengia* and leading to a floor proposal by Zijlstra (see Flann