“(194–196) Proposals to modify Article 42.4

Jefferson Prado & Regina Y. Hirai

Instituto de Botânica, Herbário, C.P. 3005, CEP 01031-970, São Paulo, SP, Brazil
Author for correspondence: Jefferson Prado, iprado.01@uol.com.br

During our participation (as author or reviewer) in the preparation of two annotated checklists of all ferns and lycophytes from Cono Sur carried out by Ponce & al. (in Monogr. Syst. Bot. Missouri Bot. Gard. 107: 1–161. 2008) and from Brazil, coordinated by Prado & Sylvestre (in Forzza & al., Cat. Pl. Fung. Brasil 1: 69–74. 2010), we detected problems involving the application of species names. These problems are related to the correct understanding of Articles regarding an illustration with analysis validating names of taxon at generic, specific, and infraspecific rank, partly because of the history of changes in the Code, for example between the Leningrad Code (Stafleu & al. in Regnum Veg. 97. 1978) and the Sydney Code (Voss & al. in Regnum Veg. 111. 1983). Nowadays, these rules about illustrations appear in Art. 42.3 and 42.4 (McNeill & al. in Regnum Veg. 146: 77. 2006). As stated by Morton (in Taxon 16: 119–121. 1967), this provision concerning valid publication by illustration has been in the Code since the Congress of Vienna in 1905.

According to provisions of these Articles in the Leningrad Code, a published illustration can be used to validate a name of a vascular plant before 1908, if it has: “... an illustration with analysis showing essential characters.” However, a clarification on this rule was introduced into the Sydney Code as a Note (Art. 42 Note 2), to explain what is meant by “analysis”: “An analysis in this context is a figure or a group of figures, commonly separate from the main illustration of the plant (though usually on the same page or plate), showing details aiding identification, with or without a separate caption” [our bold type for emphasis]. Thus, after 1983, the Code requires that a caption is necessary in order to consider an illustration validly published; this caption can be separate or not from the illustration.

In this regard, at least two examples of misinterpretation of these rules can be taken from the literature involving Neotropical ferns. Probably there are additional examples of misinterpretation of the Code, but to simplify the text we present here just two of them, as follows.

Morton (l.c.) discussed the adoption of the name Lindsaea klotzschiana Moritz ex Ettingsg. by Kramer (in Acta Bot. Neerl. 6: 176. 1957). According to Morton (l.c.), Lindsaea feei C. Chr. is the correct name for the species, because L. klotzschiana was not validly published either by Moritz (1854, apud Morton l.c.) or by Ettingshausen (1865, apud Morton l.c.). Morton (l.c.) concluded that Moritz published a nomen nudum and Ettingshausen published just one small illustration showing details of the venation of a pinna for this species. For Morton (l.c.), the illustration by Ettingshausen is not sufficient to meet the provision of the Code (Edinburgh Code, Lanjouw & al. in Regnum Veg. 46. 1966). He explained that at least two figures were necessary to fulfill the provision of the Article to validate a name of a vascular plant. Although Morton (l.c.) called attention to this point (we agree with him), most recent floras having adopted the name Lindsaea klotzschiana instead of L. feei, for example: Stolze (in Fieldiana, Bot., n.s., 6: 290. 1981), Murillo-Pulido & Harker-Useche (Helech. Pl. Afines Colombia: 114. 1990), Moran (in Moran & Riba, Fl. Mesoamer. 1: 158. 1995), Smith (in Steyermark & al., Fl. Venezuela. Guayana 2: 58. 1995), Mickel & Smith (in Mem. New York Bot. Gard. 88: 365. 2004), Gómez & Arbeláez (in Monogr. Syst. Bot. Missouri Bot. Gard. 116: 92. 2009).

A second example comes from a more recent case related to polypod ferns belonging to the Polypodium polypondioidea complex, revised by Weatherby (in Contr. Gray Herb. 124: 22–35. 1939) and with one species combined in Pleopeltis by Sota (in Hickenia 3(47): 197. 2003).

Morton (l.c.) commented that a similar situation of names based only on illustrations concerns those names in a paper by Vellozo (in Fl. Flumin. Icon. 11. 1827; see Carauta in Taxon 22: 281–284. 1973). According to Morton (l.c.), those names in Florae Fluminensis Icones were not validly published because they show only whole plants or large portions of them, but lack analysis or details of the essential characters. However Polypodium squallidum Vell. was combined in Pleopeltis by Sota (l.c.) in order to accommodate this species in the new sense of Pleopeltis proposed by Andrews & Windham (in Fl. N. Amer. 2: 324–327. 1993). Sota (l.c.) based his decision to combine the species on the statement presented by Burkart (in Darwiniana 12: 661. 1963) that considered the name by Vellozo (l.c.) validly published in 1827. Burkart (l.c.) explained his conclusion as follows: “... there are two figures on the Vellozo’s plate and it is sufficient to reach the provision of the Code ” (at that time, the Montreal Code, Lanjouw & al. in Regnum Veg. 23. 1961). But, Burkart failed to consider whether either of the figures on the Vellozo’s plate was diagnostic for the species. These conclusions, by Burkart and Sota, thus assumed P. squallidum to be validly published 1827, not 1881, when the Vellozo’s species descriptions first appeared in the literature (Vellozo in Arch. Mus. Nac. Rio de Janeiro 5: 443–467. 1881). For us, the essential diagnostic details required by the rules do not appear on Vellozo’s plate for
This was clearly demonstrated by Weatherby (l.c.), who pointed out that the attachment of the scales on the lamina (appressed or somewhat spreading), scale margins, and their position on the laminar surfaces are the essential characters for distinguishing this taxon from the related ones (Polypodium polypodioides var. michauxianum Weath. and P. polypodioides var. aciculare Weath.) and by the venation pattern differs from Polypodium ecklonii Kunze (anastomosing veins in P. polypodioides var. minus vs. free veins in P. ecklonii).

Because it has not always been clear how many figures or what details are needed on an illustration, or whether these details are sufficiently diagnostic to validate a name, some nomenclaturally incorrect decisions have been taken. For example, based on Burkart’s (l.c.) arguments cited above, Sota (l.c.) choose Polypodium squalidum as the basionym for the combination to Pleopeltis squalida (Vell.) de la Sota. Sota also failed to consider an older name, Marginaria minima Bory, also cited by Burkart (l.c.), for the same species. This situation became more problematic because recent authors followed Sota’s concept and have used the combination proposed by him in recent floras and checklists, such as: Pensiero & Gutiérrez (in Pensiero et al., Fl. Vasc. Prov. Santa Fe: 194. 2005), Schwarzschild & Labiak (in Hoehnea 34: 193. 2007), Labiak et al. (in Monogr. Syst. Bot. Missouri Bot. Gard. 107: 108. 2008), Prado & Labiak (in Lopes et al., Patr. Reserva Biol. Alto da Serra de Paranapiacaba: 277. 2009), Assis & Labiak (in Revista Brasil. Bot. 32: 245. 2009), and Salino & Almeida (in Stehmann et al., Pl. Floresta Atlântica: 102. 2010).

To remedy this problem, we (in Amer. Fern J. 100. in press), have provided a new combination in Pleopeltis for this species, based on the oldest legitimate basionym (Marginaria minima Bory).

To avoid future nomenclatural problems related to the correct interpretation of Art. 42.4 we propose a new wording for this Article, plus a new explanatory Note, as follows:

(194) Amend Art. 42.4 to read (additions in bold, deletions in strikethrough):
“Art. 42.4. For the purpose of Art. 42, an analysis is, for vascular plants, an illustration containing at least one additional figure, or group of figures, showing details aiding identification, commonly separate from the main figure/illustration of the plant (though usually on the same illustration or page or plate), showing details aiding identification, with or without a separate caption.”

(195) Add the following Note after Art. 42.4:
“Note 1. For the purpose of Art. 42.4, a caption is the name of the taxon itself and/or any additional attached word on the illustration.”

Also, to help understanding why some published illustrations or plates do not validate publication, according to Art. 42.4, a new example could be included in the Code, as presented below:

(196) Add the following Example after Art. 42.4:
“Ex. 1. When Vellozo (in Fl. Flumin. Icon. 11: ad t. 76. 1827) published Polypodium squalidum, two figures were presented for this species (the plant habit plus a detail of a segment, neither diagnostic) on the same plate and page; consequently this name is not validly published. But this name was validated when Vellozo’s species descriptions appeared in 1881 (Vellozo in Arch. Mus. Nac, Rio de Janeiro 5: 449. 1881).”

The example in the current Code (Art. 42 Ex. 5, McNeill et al., l.c.: 77) concerns an illustration with analysis that fulfils all provisions of Art. 42.2, but to explain better the interpretation of this rule it would be nice to have another example showing the opposite situation.

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(197–198) Two proposals on the illustration with analysis

Paul van Rijckevorsel

Dipteryx, Postbus 4047, 3502 HA Utrecht, The Netherlands. dipteryx@freeler.nl

An encounter with an illustration with analysis revealed that in such cases authorship may be problematical, because of the extreme paucity of written text. Under the Code, as it now stands, ascription of a name to an author is insufficient by itself (Art. 46.4); it takes ascription of both the name and the validating description or diagnosis to the same author (Art. 46.2) to settle authorship, otherwise authorship is to be attributed to the author of the publication (which is also the case if ascription of the name is the same as the authorship of the publication). In the case of an illustration with analysis there is no validating description or diagnosis, and there may well be difficulty in determining “the author of the illustration”. All the more so, since only internal evidence may be used (Art. 46.7) and each part of the publication (which may come down to just the illustration) is to be evaluated separately (Art. 46.5). Article 42.3 rules that, for the purposes of Art. 42, the illustration with analysis (which, for non-vascular plants, may mean the single figure showing details aiding identification, Art. 44.2), is acceptable in place of a written description or diagnosis. It appears safe to assume that the author to whom the name is ascribed on the illustration is the person whose taxonomic judgement is expressed in the illustration, in the “details aiding identification”; the same taxonomic judgement that otherwise would have been expressed in a description or diagnosis. It would make sense to treat him as acceptable in place of an author of a written description or diagnosis.

(197) Add a new Rule to Art. 46 (as a second, or possibly fourth, sentence in Art 46.2 or as an independent paragraph):
“However, a name that is validly published by an illustration with analysis (Art. 42.3–4, 44.1–2) (in which case there is no validating description or diagnosis) must be attributed to the author or authors to whom the name was ascribed on the illustration.”

(198) In Art. 42.4 replace “For the purpose of Art. 42” by “for the purposes of this Code” or “For the purpose of Art. 42, 44 and 46”.

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