

## A New Combination in *Pleopeltis* and Some Nomenclatural Notes Related to Illustrations Validating Fern Names

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**ABSTRACT.**—We present the new combination *Pleopeltis minima* (Bory) J. Prado & R. Y. Hirai and we selected a lectotype for *Marginaria minima* described by Bory, based on material from southern Brazil. This taxon has a wide range in the southern part of South America and it has been recognized in the rank of species and/or variety by several previous authors, but its correct name has been misleading. Recently it has been treated as a member of *Pleopeltis*, but with a wrong epithet. The nomenclatural mistake involving this species arose because there are different interpretations of some nomenclatural rules defined in the IBCN. A similar misunderstanding of the same rule is also discussed for a species in *Lindsaea*.

**KEY WORDS.**—*Pleopeltis*, *Lindsaea*, nomenclature

During our participation as reviewer or author of an annotated checklist of the ferns and lycophytes from *Cono Sur* (by the first author; Ponce *et al.*, 2008) and from Brazil by both authors (Labiak and Hirai, 2010), we discovered problems involving a name for a species in Polypodiaceae. These problems are related to the correct understanding of the Articles 42.3 and 42.4 of the current Code (McNeill *et al.*, 2006) regarding illustration with analyses validating names at species and infraspecies levels, and the selection of a correct basionym for a new combination.

The provisions of these Articles in the current Code (McNeill *et al.*, 2006) are: “**42.3.** Prior to 1 January 1908 an illustration with analysis, or for non-vascular plants a single figure showing details aiding identification, is acceptable, for the purpose of this Article, in place of a written description or diagnosis. **42.4.** For the purpose of Art. 42, an analysis is a figure or 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.”

In other words, a published illustration can be used to validate a name of a vascular plant published before 1908, but this illustration needs to show adequate details to match the requirements of both Articles to therefore be considered acceptable. This provision has been in the Code since the Congress of Vienna in 1905 (Morton, 1967), but the Sydney Code (Voss *et al.*, 1983) introduced a clarification that a caption is necessary in order to consider an illustration validly published; this caption can be separate or together with the illustration.



At least two examples of misinterpretation of these rules can be taken from monographs and recently published floras for neotropical ferns. There are probably other similar examples, but we present just two of them, as follows.

The first example is related to a polypod fern belonging to the *Polypodium polypodioides* complex, revised by Weatherby (1939). These are epiphytic plants with laminar surfaces overlain by scales. In the southern part of South America, a focus of our studies, at least six names have been applied to a species from this complex, in different genera and ranks: *Marginaria minima* Bory, *Polypodium minimum* (Bory) Herter, *Polypodium polypodioides* (L.) Watt var. *minimum* (Bory) Kuhlman & Kuhn, *Goniophlebium incanum* (Sw.) J. Sm. var. *minus* Fée (as “minor”), *Polypodium polypodioides* (L.) Watt var. *minus* (Fée) Weath., and *Polypodium squalidum* Vell.

*Polypodium squalidum* was combined in *Pleopeltis* by Sota (2003) in order to accommodate this species in the new sense of *Pleopeltis* proposed by Andrews and Windham (1993). Sota (2003) based his decision on information presented by Burkart (1963), who adopted the name published by Vellozo (1831 [1827], 1881). Three questions arise from this nomenclatural act: 1) is Vellozo’s name validly published?; 2) is *Polypodium squalidum* the oldest name for this taxon?; and 3) if not, is there another name available to be combined in *Pleopeltis*?

As discussed by Weatherby (1939) and Morton (1967), names published by Vellozo (1831 [1827]) in *Florae Fluminensis Icones* in 1827 (actually, as pointed out by Carauta (1973), the effective date of publication of *Florae Fluminensis Icones*, vol. 11 is 1831) were not validly published because they were accompanied only by illustrations that did not show essential characters. Thus, not all requirements of the Code for valid publication were fulfilled. We agree. However, when the descriptions for the Vellozo’s species were published in 1881, these names became validly published, but the date of the validity of the names is 1881, not 1831 [1827].

We also conclude, as did Burkart (1963), that *Polypodium squalidum* is not the oldest name for this species, and that *Marginaria minima* Bory is an older basynonym available for this species in *Pleopeltis*.

Burkart (1963) noted that the epithet “*minimum*” was pre-occupied in *Polypodium*, so he adopted the next available name, *Polypodium squalidum* Vell., as the name for this species. His conclusion was based on the fact that the Vellozo’s name was validly published in 1831 [1827]. In this point we believe he erred, because he considered both figures diagnostics for the taxon.

Weatherby (1939) pointed out that the attachment of the scales on the lamina (appressed or somewhat spreading), scale margins, and scale position on the laminar surfaces are the essential characters for distinguishing this taxon from related ones (*Polypodium polypodioides* var. *michauxianum* Weath.; *P. polypodioides* var. *aciculare* Weath.). Also, the venation pattern (free) in *P. polypodioides* var. *minus* differs from that in *Polypodium ecklonii* Kunze, which has anastomosing veins. Unfortunately, the details of veins and scales are not visible on the figure published by Vellozo.



Despite the fact that there is an older name for the *Polypodium squalidum*, many recent authors have used the combination published by Sota (2003) in *Pleopeltis*, e.g., Pensiero and Gutiérrez (2005), Schwartsburd and Labiak (2007), Labiak *et al.* (2008), Prado and Labiak (2009), Assis and Labiak (2009), and Salino and Almeida (2010).

For the species heretofore known as *Pleopeltis squalida* (Vell.) de la Sota, we propose a new combination and choose a lectotype as follows:

#### New combination:

***Pleopeltis minima*** (Bory) J. Prado & R. Y. Hirai, **comb. nov.** *Marginaria minima* Bory, Dict. Class. Hist. Nat. 10: 177. 1826. *Goniophlebium incanum* (Sw.) J. Sm. var. *minus* Fée, Crypt. Vasc. Brésil 1: 107. 1869, as “minor”. *Polypodium minimum* (Bory) Herter, Anales Mus. Nac. Montevideo, ser. 2, 1: 368, tab. 28. 1925, *nom. illeg.*, non Aublet (1775), nec Brackridge (1854), T. Moore (1857), Baker (1879). *Polypodium polypodioides* (L.) Watt var. *minus* (Fée) Weath., Contr. Gray Herb. 124: 31. 1939. *Polypodium polypodioides* (L.) Watt var. *minimum* (Bory) Kuhlmann & Kuhn, Fl. Distr. Ibiti: 22. 1948. Lectotype here chosen: “parties tempérées du Brésil” Santa Catarina, *Crypt. Voy. de la Coquille* 61 (P00632926!). **Fig. 1.**

*Polypodium squalidum* Vell., Fl. Flumin. Icon. 11: t. 76. 1831 [1827] (*nomen nudum*), Arch. Mus. Nac. Rio de Janeiro 5: 449. 1881. *Pleopeltis squalida* (Vell.) de la Sota, Hickenia 3(46): 196. 2003. Lectotype chosen by Burkart (1963): Fl. Flumin. Icon. 11: tab. 76.

*Polypodium microlepis* Fée, Gen. fil.: 238. 1852, *ex descr.* Type: America Australi, Herb. Mougeotiano, *Pamplin* 38 (P, not seen).

**Distribution and habitat.**—This species grows epiphytically or terrestrially in forests; Bolivia, Argentina, Brazil, Paraguay, and Uruguay; 0–1800 m.

The sheet containing the lectotype here selected has two collections by Coquille, one with the barcode P00632925 (*Coquille* 60) and the other P00632926 (*Coquille* 61). Above the specimen of *Coquille* 60 there is an annotation pointing out that it was collected in Santa Catarina State in 1827, one year after the publication of the name by Bory (1826).

For an additional list of synonyms for this taxon, see Weatherby (1939, p. 31, under *Polypodium polypodioides* var. *minus* (Fée) Weath.).

A second example of the same problem, publication of a species name by using an inadequate illustration, was documented by Morton (1967), who discussed the adoption of the name *Lindsaea klotzschiana* Moritz ex Ettingshausen by Kramer (1957). According to Morton (1967), *Lindsaea feei* C. Chr. is the correct name for the species, because *L. klotzschiana* was not validly published either by Moritz (1854, apud Morton 1967) or by Ettingshausen (1865, apud Morton 1967). In Morton's (1967) opinion, Moritz (1854) published a *nomen nudum* because Ettingshausen (1865) published only





FIG. 1. Photograph of the lectotype of *Marginaria minima* Bory (©MNHN, Paris Herbarium, 2010).



one small illustration showing details of the venation of a pinna. Morton concluded that this was insufficient to meet the provisions for valid publication in the Code (at that time, the Edinburgh Code, Lanjouw *et al.*, 1966). Even though Morton (1967) called attention to this point, unfortunately, most recent floras have adopted the name *Lindsaea klotzschiana* instead of *L. feei*, for example, Stolze (1981), Murillo-Pulido and Harker-Useche (1990), Moran (1995), Smith (1995), Mickel and Smith (2004), and Gómez and Arbeláez (2009). So, to solve this nomenclatural problem we suggest the following citation for both species name:

***Lindsaea feei*** C. Chr., Index Filic. 393. 1906, **nom. nov.** for *L. elegans* Fée, Gen. Filic. (Mém. Foug. 5) 106. 1852, **nom. illeg.**, non Hooker (1837). *Lindsaea klotzschiana* Moritz ex Ettingsh., Farnkr. Jetztw. 212, pl. 145, f. 12. 1865(1864), **nom. nud.** Lectotype chosen by Kramer (1957): Venezuela, Tovar, Moritz 238 (P00538895!, duplicates B!, P!, W not seen).

To avoid future nomenclatural problems related to the correct interpretation of Art. 42.4 we proposed a new wording for this Article, plus a new explanatory Note and one example (Prado & Hirai 2010).

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