

Nomenclature and revised typification of *Cheilanthes bonariensis* (Cheilantheae, Pteridaceae)

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Abstract A revised typification of *Acrostichum bonariense*, based on the cited illustration, is necessary. An epitype is designated to interpret the inadequate original drawing.

Keywords *Acrostichum bonariense*; cheilanthoid ferns; epitype; Neotropics

■ INTRODUCTION

During a revision of the genus *Cheilanthes* (Pteridaceae) in South America (Ponce, unpub.), the typification of *Acrostichum bonariense* Willd., basionym of *Cheilanthes bonariensis* (Willd.) Proctor, came into question. This well-known species is widely distributed in North America and South America, from Mexico to Chile and Argentina (Sota, 1977; Tryon & Stolze, 1989; Ponce & al., 2008). Until Tryon & Tryon (1982), the species was usually known as *Notholaena aurea* (Poir.) Desv. Although Proctor (1953) had already placed this species in his Jamaican checklist in *Cheilanthes*.

In their revised circumscription of *Cheilanthes*, Tryon & Tryon (1982) treated 21 of 58 American species of *Notholaena* (sensu Tryon, 1956), including *N. aurea*, plus all Old World species of *Notholaena*, in *Cheilanthes*. Accepting the transfer to *Cheilanthes* required the use of the epithet *bonariensis*, as *Cheilanthes bonariensis*, because a prior name, *C. aurea* Baker, pre-empted transfer of *Pteris aurea* Poir. to *Cheilanthes*. However, a review of the type of *Acrostichum bonariense* Willd., the basionym, suggests to us that a specimen in the Willdenow herbarium, the nomenclatural type accepted by Tryon (1956), Proctor (1985) and Tryon & Stolze (1989), can no longer stand because the description of Willdenow was based on material from Buenos Aires, whereas the specimen in the Willdenow herbarium originates, according to the label, from “Guadeloupe prope Mexico”. This discrepancy was already noted but not satisfactorily explained by Proctor (1985).

■ TYPIIFICATION AND NOMENCLATURE

When Willdenow published *Acrostichum bonariense* he stated: “Felix pumila americana incana et lanuginosa. Amman. Com. petrop. 10. p. 300. t. 22. f. 1.* ... Habitat in Bonaria.” That phrase is virtually identical to Amman’s original description “FILICEM pumilam Americanam, incanam et lanuginosam. TAB. XXII. Fig. 1. ... Sponte crescit circa Buenos Ayres in America.” Furthermore in Willdenow’s species description

a cross sign is following the name indicating an imperfectly known or doubtful species, and the star behind his literature citation refers to a good description to be found at the place cited (see Stearn, 1983). Also he noted neither v.s. (= vidi siccam = I saw it dried) nor v.v. (= vidi vivam = I saw it living), as usual (e.g., as in *Acrostichum appendiculatum*, Sp. Pl., ed. 4, 5: 115. 1810).

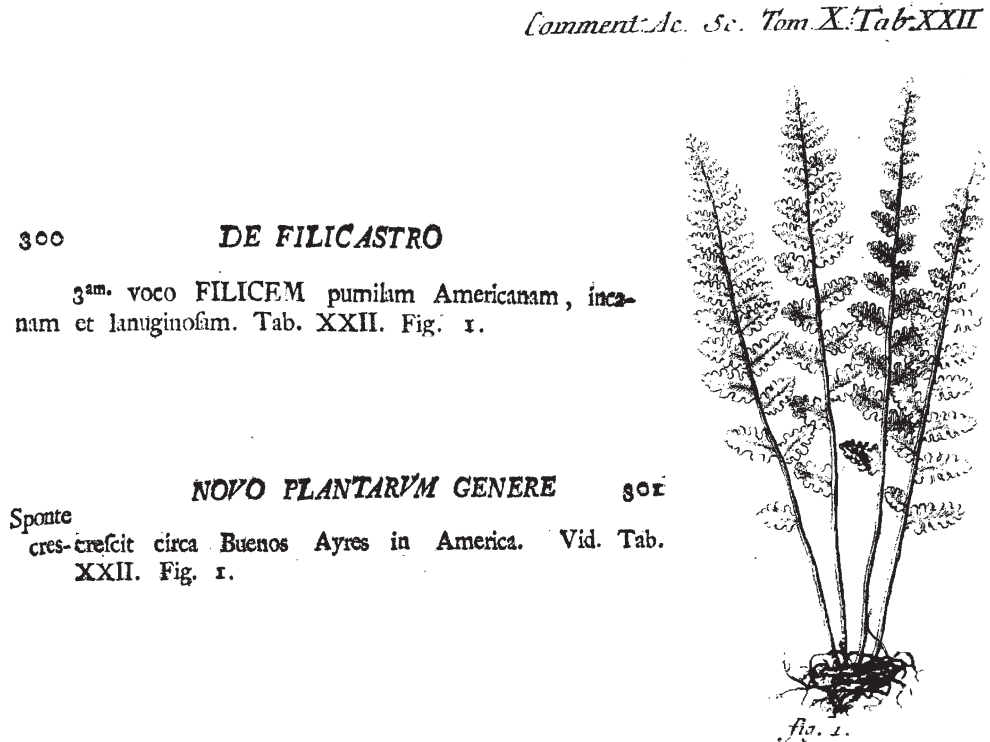
All this is strong evidence that Willdenow did not have a specimen at hand when he described the species. Therefore, the Amman illustration, and only any specimens he used, are original material. We have unsuccessfully tried to trace any Amman specimens. Because the Amman paper (1738) is poorly known, that illustration (Fig. 1) has been disregarded or ignored as a potential type until now. We here designate Amman’s illustration (Art. 9.2 of the *Code*, McNeill & al., 2006) as the (obligatory) lectotype.

Amman (1738) cited as provenance “Sponte crescit circa Buenos Ayres in America”. However *C. bonariensis* does not grow in the province of Buenos Aires, only in the neighbouring provinces and in northwestern Argentina (Sota, 1977; Ponce & al. 2008). Yet a similar species, *C. buchtienii* (Rosenst.) R.M. Tryon, occurs in Buenos Aires (Sota, 1977; Ponce & al. 2008). Its blades are deltate with truncate to subtruncate bases, with fewer, shorter pinnae compared to the long-linear blades of *C. bonariensis*, with more numerous pinnae and gradually reduced proximal pinnae. Although Amman’s illustration may also match *C. buchtienii*, neither this, nor *C. bonariensis* are an unquestionable match for that illustration (Fig. 1). Therefore, we epitypify the lectotype with the specimen in the Willdenow herbarium to preserve current usage of *C. bonariensis* (Art. 9.7 of the *Code*, McNeill & al., 2006).

Cheilanthes bonariensis and *C. buchtienii* occur both in Bolivia and Argentina and should be kept as separate species.

Cheilanthes bonariensis (Willd.) Proctor in Bull. Inst. Jamaica, Sci. Ser. 5: 15. 1953 ≡ *Acrostichum bonariense* Willd., Sp. Pl., ed. 4, 5: 114. 1810 ≡ *Notholaena bonariensis* (Willd.) C. Chr., Index Filic.: 459. 1906 – Lectotype (designated here): illustration “Filicem pumilam Americanam,

Fig. 1. Reproduction of Amman's disregarded original drawing (Amman, 1738: table, XXII, fig. 1) and details of his description (1738: 300, 301) which have identically been used by Willdenow to establish his *Acrostichum bonariense* (Willdenow, 1810: 115).



incanam et lanuginosam” in *Comment. Acad. Sci. Petrop.* 10: t. 22, f. 1. 1738 – Epitype (designated here): Habitat in colle Guadeloupe prope Mexico, collector unknown (B-W 19537 -01 0!).

= *Cheilanthes ferruginea* Willd. ex Link, *Enum. Hort. Berol.* Alt. 2: 463. 1822 ≡ *Pellaea ferruginea* (Willd. ex Link) Nees in *Linnaea* 19: 684. 1847 ≡ *Notholaena ferruginea* (Willd. ex Link) Hook., *Sec. Cent. Ferns*: t. 52. 1861 (comb. inval.), non Desv., 1813 – Holotype: “America meridionali” J.A. Bonpland & F.W.H.A. von Humboldt s.n. (B-W 20113 -01 0!; GH photo!).

= *Pteris aurea* Poir. (in Lamarck, *Encycl.* 5: 710. 1804) ≡ *Notholaena aurea* (Poir.) Desv. in *Mém. Soc. Linn. Paris* 6: 219. 1827 – Holotype: Peru, *Jussieu 1333* (P!, GH photo!).

= *Notholaena rufa* C. Presl var. *minor* C. Presl, *Reliq. Haenk.* 1: 19. 1825 – Holotype: México, *Haenke s.n.* (PR 78539 not seen; isotype B 20 0154259!, photo SI!).

= *Notholaena rufa* var. *major* C. Presl, *Reliq. Haenk.* 1: 19. 1825 – Holotype: México, *Haenke s.n.* (PR 78540 not seen, photo SI!).

■ LITERATURE CITED

- Amman, J. 1738. De Filicastro, novo plantarum genere, aliisque minus notis rarioribus Filicum speciebus. *Comment. Acad. Sci. Imp. Petrop.* 10: 278–302, t. 12, f. 1–3.
- McNeill, J., Barrie, F.R., Burdet, H.M., Demoulin, V., Hawksworth, D.L., Marhold, K., Nicolson, D.H., Prado, J., Silva, P.C., Skog, J.E., Wiersema, J.H. & Turland, N.J. (eds.). 2006. *International code of botanical nomenclature (Vienna Code): Adopted by the Seventeenth International Botanical Congress Vienna, Austria, July 2005*. *Regnum Vegetabile* 146. Ruggell: Gantner.
- Ponce, M., Prado, J. & Giúdice, G. 2008. Pteridaceae. Pp. 115–136 in: Zuloaga, F.O., Morrone, O. & Belgrano, M.J. (eds.), *Catálogo de las plantas vasculares del Cono Sur (Argentina, Sur de Brasil, Chile, Paraguay y Uruguay)*, vol. 1. Saint Louis: Missouri Botanical Garden.
- Proctor, G.R. 1953. A preliminary checklist of Jamaican pteridophytes. *Bull. Inst. Jamaica Sci. Ser.* 5: 1–89, maps 1–2, t. 1–3.
- Proctor, G.R. 1985. *Ferns of Jamaica*. London: British Museum (Natural History).
- Sota, E.R. de la. 1977. Pteridófitas. Pp. 1–275 in: Cabrera, A.L. (ed.), *Flora de la Provincia de Jujuy. Colecc. Ci. Inst. Nac. Tecnol. Agropecu.* 13(2): 1–275.
- Stearn, W.T. 1983. *Botanical Latin*. London: David & Charles.
- Tryon, R. 1956. A revision of the American species of *Notholaena*. *Contr. Gray Herb.* 179: 1–106.
- Tryon, R.M. & Stolze, R.G. 1989. Pteridophyta of Peru. Part II: 13. Pteridaceae - 15. Dennstaedtiaceae. *Fieldiana, Bot.*, n.s., 22: 1–128.
- Tryon, R.M. & Tryon, A.F. 1982. *Ferns and allied plants with special reference to tropical America*. New York: Springer.
- Willdenow, C.L. 1810. *Species plantarum*, ed. 4, vol. 5. Berlin: impensis G.C. Nauk.