

Typification of plants illustrated by Feuillée: a reply to Zanotti et al.

Mark A. HersHKovitz
Santiago, Chile
cistanthe@gmail.com

ABSTRACT: Zanotti et al. (2022a) lectotypified *Gnaphalium viravira* Feuillée ex Molina with its illustration in Feuillée (1725). They concluded that this illustration qualified as original material seen by Molina (1782). However, HersHKovitz (2020a, b) had concluded that Molina had not seen any of the illustrations in Feuillée (1725), thus none qualify as original material for taxa he validly published.

Key words: Feuillée, *Gnaphalium*, Molina, *Pseudognaphalium*, *Tutuca*.

Zanotti et al. (2022a) lectotypified *Gnaphalium viravira* Feuillée ex Molina [= *Pseudognaphalium viravira* (Feuillée ex Molina) Anderb.] with Feuillée's illustration of this plant (Feuillée, 1725: tab. 13). Molina's (1782) account of the species included the text "Elichrysum Americanum latifolium, vulgò Viravira I. R. H.," which is inscribed in Feuillée's illustration. Thus, Zanotti et al. (2022a) reasoned that Molina (1782) had seen the illustration and that it was "original material" per Article 9.4(a) of the ICN (Turland et al., 2018). However, the *same* text appears in Feuillée's (1725: 18) account of the medicinal properties of this plant. Thus, Molina (1782) could have copied the text from Feuillée (1725: 18) without having seen the illustration, which he did not cite.

The point may seem moot, except that HersHKovitz (2020a; cf. 2020b) concluded that Molina did not see *any* of the illustrations of Feuillée (1725). This conclusion emerged from an analysis of the identity of *Tutuca* Molina (Molina, 1810), which Molina based on the designation "*Tutuca* Feuillée." Hence, as in the case of *Gnaphalium viravira*, Molina's taxon may be written as *Tutuca* Feuillée ex Molina (but see below).

HersHKovitz (2020a, b) determined that *Tutuca* Molina refers to *Chusquea* Kunth (Poaceae), the largest genus of bamboo. This identity also was surmised by Philippi (1864: 8). Molina (1810) noted that the plant had hollow stems, which native people of southern Chile used to make flutes. In fact, the indigenous name for bamboo and apparently also flute is the onomoponic "tutuca" or "trutruca." This name apparently extends to other materials hollowed out to make flutes, such as bones. In Chile to this day, chicken legs are referred to and marketed as "trutros."

However, Feuillée's (1725: tab. 41) illustration of his "*Tutuca*" is not a bamboo, but an annual species of *Calandrinia* Kunth (HersHKovitz, 2020a, b). Philippi (1867) reported that he had not seen Feuillée's (1725) work when he made his earlier diagnosis (Philippi, 1864) of *Tutuca* Molina as a bamboo. He changed his diagnosis to *Calandrinia*, and he mocked Molina for believing that that an annual *Calandrinia* species could be used to make a flute.

So how did Molina (1810) confuse an annual calandrinia with a bamboo? Simple. HersHKovitz (2020a) noted that Molina (1810) cited illustrations from the first two volumes of Feuillée's work (Feuillée, 1714a, b), but not the third (Feuillée, 1725). He also noted that the illustrations in the first two volumes were intercalated with the text, whereas in the third volume, they were collated and bound at the end. It seems unlikely that Molina (1810) would not have cited these illustrations if he had seen them. It seems even more unlikely that, having seen the illustration

of “*Tutuca* Feuillée,” he would have confused this with a bamboo. This suggests that Molina's copy of Feuillée (1725) did not include the separately collated illustrations.

The final piece of the puzzle is that bamboos are monocarpic. HersHKovitz (2020a) calculated that Molina did not see flowers of *Tutuca* Molina. Even without seeing Feuillée's (1725) illustration, Molina would have appreciated that bamboo flowers are very different from the dichlamydious flowers described by Feuillée (1725). At the same time, Feuillée's (1725) description of the leaves of “*Tutuca* Feuillée” was not completely incompatible with bamboo leaf morphology. Thus, Molina (1810), *not* having seen Feuillée's illustration, concluded that his *Tutuca* and that of Feuillée were the same, and he co-opted Feuillée's (1725) description of the flowers of an annual calandrinia into his description of a sterile bamboo.

In summary, there seems to be no positive evidence that Molina saw the illustrations of Feuillée (1725). But there is strong circumstantial evidence that he did not, most significantly the irreconcilable discordance between Feuillée's (1725) illustration of “*Tutuca* Feuillée” and Molina's (1810) description of *Tutuca* Feuillée ex Molina. Thus, a strong case can be made for retraction of the typification designated in Zanotti et al. (2022) and restoration of the neotypification of *Gnaphalium viravira* designated by Freire et al. (2014). However, the latter specimen is a Carlo Bertero collection, which itself may raise different issues (HersHKovitz, 2020c; cf. Zanotti et al. 2022b).

Literature cited

- Feuillée, L. E. 1714a. Journal des Observations Physiques, Mathematiques et Botaniques. Vol 1. Chez Pierre Giffart, Paris. <https://bibdigital.rjb.csic.es/records/item/9794-redirectio>
- Feuillée, L. E. 1714b. Journal des Observations Physiques, Mathematiques et Botaniques. Vol 2. Chez Pierre Giffart, Paris. <https://bibdigital.rjb.csic.es/records/item/9795-redirectio>
- Feuillée, L. E. 1725. Journal des Observations Physiques, Mâthematiques et Botaniques. Vol. 3. Jean Mariette, Paris. [Histoire des Plantes Medecenales qui Sont le Plus en Usage aux Royaumes de l' Amerique Meridionale, du Pérou y de Chily. Pierre Giffart, Paris.] <https://www.biodiversitylibrary.org/item/26110>
- Freire, S. E., N. D. Bayón, C. M. Baeza, D. A. Giuliano & C. Monti. 2014. Revision of the genus *Pseudognaphalium* (Asteraceae, Gnaphalieae) in Chile. *Gayana Bot.* 71: 68–107. <http://dx.doi.org/10.4067/S0717-66432014000100010>
- HersHKovitz, M. [A.] 2020a. Systematics of *Calandrinia pilosiuscula* DC a.k.a. *Calandrinia compressa* Schrad. ex DC (Montiaceae–Montioideae). *EcoEvoRxiv*. <https://doi.org/10.32942/osf.io/wgaf3>.
- HersHKovitz, M. A. 2020b. (2751–2753) Proposals to reject the names *Tutuca*, *T. chilensis*, and *T. fistulosa* (Poaceae). *Taxon* 69: 822–823. <https://doi.org/10.1002/tax.12300>
- HersHKovitz, M. A. 2020c. Bertero's ghost revisited: new typifications of *Talinum linaria* Colla and *Calandrinia gaudichaudii* Barnéoud (= *Calandrinia pilosiuscula* DC; Montiaceae). *EcoEvoRxiv*. <https://doi.org/10.32942/osf.io/n4d5j>
- Molina, G. I. 1782. Saggio sulla Storia Naturale del Chili. Stamperia di S. Tommaso d' Aquino, Bologna. <https://bibdigital.rjb.csic.es/records/item/9635-saggio-sulla-storia-naturale-del-chili>
- Molina, J. I. 1810. Saggio sulla Storia Naturale del Chili, ed. 2. Fratelli Masi e Comp., Bologna, Italy. <https://www.biodiversitylibrary.org/item/186209>
- Philippi, R. A. 1864. Commentar zu den von Molina beschrieben chilenischen Pflanzen. *Bot. Zeit.* 22: 7–24. <https://www.biodiversitylibrary.org/item/104707>
- Philippi, R. A. 1867. Sobre las plantas chilenas descritas por el padre Feuillée. *Anales Univ. Chile, I, Mem. Ci. Lit.* 29: 760–775. <https://anales.uchile.cl/index.php/ANUC/article/download/27220/28836/>

- Turland, N. J., J. H. Wiersema, F. R. Barrie, W. Greuter, D. L. Hawksworth, P. S. Herendeen, S. Knapp, W.-H. Kusber, D.-Z. Li, K. Marhold, T. W. May, J. McNeill, A. M. Monro, J. Prado, M. J. Price & G. F. Smith. 2018. International Code of Nomenclature for Algae, Fungi, and Plants (Shenzhen Code) adopted by the Nineteenth International Botanical Congress Shenzhen, China, July 2017. *Regnum Vegetabile* 159. Glashütten: Koeltz Botanical Books. <https://doi.org/10.12705/Code.2018>; <http://www.iapt-taxon.org/nomen/main.php>
- Zanotti, C. A., Freire, S. E., & Giuliano, D. A. 2022a. The unnoticed type of *Gnaphalium viravira*. *Novon* 30: 113–114. <https://doi.org/10.3417/2022785>
- Zanotti, C. A., P. Moroni & J. M. Acosta, J. M. 2022. Estudios morfológicos y moleculares respaldan la presencia del género *Microphyes* en la Argentina y su posición en la tribu Polycarpeae (Caryophyllaceae). *Darwiniana, nueva serie* 10: 388–403. <https://doi.org/10.14522/darwiniana.2022.102.1079>