



Nomenclatural priority of the genus *Linochilus* over *Piofontia* (Asteraceae: Astereae)

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Abstract

Linochilus Benth (1845) has priority as the correct name for the recently reinstated genus *Piofontia* Cuatrecasas (1943) segregated from *Diplostephium* Kunth (1820). A brief taxonomic historical account is provided in order to explain the taxonomic problem. A list of 61 names within *Linochilus* is given, including 59 new combinations. The 60 combinations recently created for *Piofontia* are listed as synonyms.

Resumen

Linochilus Benth (1845) tiene prioridad como el nombre correcto para el recientemente reestablecido género *Piofontia* Cuatrecasas (1943) segregado de *Diplostephium* Kunth (1820). Se entrega una breve reseña taxonómica histórica con el propósito de explicar el problema taxonómico. Se provee una lista de 61 nombres que conforman el género *Linochilus*, incluyendo 59 nuevas combinaciones. Las 60 combinaciones recientemente establecidas para *Piofontia* se listan como sinónimos.

Introduction

Diplostephium Kunth (1820a: 96) sensu lato includes 111 species (Vargas 2011) of prostrate to erect shrubs and small trees characteristic of the high tropical Andean flora, found in páramos, the upper limit of the cloud forest, and the humid puna (Blake 1928, Cuatrecasas 1969, Vargas *et al.* 2017). The genus has a continuous distribution ranging from the northern limit of Chile (lat. 17–18°S) to the Sierra Nevada de Santa Marta in the northern limit of Colombia (lat. 11°N), including Bolivia, Peru, Ecuador, and Venezuela (Blake 1928, Cuatrecasas 1969, Vargas 2011); and two species present in the Talamanca Range in Costa Rica (Blake 1922, Vargas 2011). Colombia is the most species-rich country with ca. 63 species (Vargas 2011).

Vargas *et al.* (2017), based on phylogenomic analyses, found that *Diplostephium* was not monophyletic, with species falling into two non-sister clades. These clades show a strong geographic delimitation: a southern clade distributed mainly in the northern half of the Central Andes, and a northern clade from the Northern Andes and Costa Rica. Some species of the two clades overlap in geography around the boundary between Ecuador and Colombia. Because the southern clade includes the type species of *Diplostephium*, *D. ericoides* (Lamarck) Cabrera (1959: 238) (= *Diplostephium lavandulifolium* Kunth 1820a: 97) (Cuatrecasas 1991), a different generic name was needed for the northern clade. Accordingly, Vargas (2018) proposed the reinstatement of *Piofontia* Cuatrecasas (1943a: 5) for the northern clade, providing 60 new combinations, for 59 species and one subspecies. The northern clade, however, also includes the type of the genus *Linochilus* Benth (1845: 197), published earlier and therefore having priority over *Piofontia* for this clade at generic rank.

George Benth published “Plantae Hartwegianae” in fascicules between 1839 and 1857 based on the collections made by Karl Theodor Hartweg in America (Stafleu 1970). Stafleu & Cowan (1976) provided the printed and probable publication dates of each fascicule by page numbers. According to them, the genus *Linochilus* and the species *L. rosmarinifolius* Benth (1845: 198) were published in 1845 (p. 197–198, fasc. 2C), and *L. floribundus* Benth

(1845: 203) was published in the same year but in a different fascicule (p. 203, fasc. 2D). Since *L. rosmarinifolius* was published along with the generic description, it corresponds to the generic type. At the end of “Plantae Hartwegianae”, Bentham (1857[March], p.356, fasc. ZZ) in his “Emendanda et corrigenda” transferred the two species to the earlier published name *Diplostephium* (Kunth 1820a) although attributing the combinations to H. A. Weddell (e.g. “*Diplostephium rosmarinifolium*, Wedd. Chlor. And. Ined.—*Linochilus rosmarinifolius*, Benth. supra.”). Weddell’s treatment of *Diplostephium* in *Chloris Andina* volume 1 (Weddell 1857) was published months later in November 1857 (Staffleu & Cowan 1988). Six additional not validly published combinations (*nom. nud.*) under *Linochilus* appeared in Weddell’s treatment of *Diplostephium* as synonyms authored by Schultz Bipontinus (as *in litt.*).

Nearly one hundred years later, Cuatrecasas (1943a) erected the monotypic genus *Piofontia* based on *P. colombiana* Cuatrecasas (1943a: 5–6), which he later transferred to *Diplostephium* (Cuatrecasas 1953a). No attention had been paid to this name before Vargas (2018).

Linochilus has been mentioned as a generic synonym of *Diplostephium* by subsequent authors like Weddell (1857), Blake (1922), and Cuatrecasas (1969). Vargas (2011) presented a nomenclator for *Displostephium* where he also listed *Linochilus* as a generic synonym but not *Piofontia*, although he included *P. colombiana* as the basionym of *D. colombianum* (Cuatrecasas) Cuatrecasas (1953a: 153). Finally, Vargas (2018) reinstated *Piofontia* and listed the *Linochilus* combinations under their respective *Piofontia* names, but did not mention *Linochilus* as a generic synonym.

To summarize, the application of *Piofontia* as the generic name for the recently segregated clade from *Diplostephium* as circumscribed by Vargas (2018) goes against the principle of priority (Articles 6.6, 11.3, 11.4 Turland *et al.* 2018) due to the fact that *Linochilus* was legitimately published 98 years earlier. Therefore, *Piofontia* is incorrect when considered congeneric with *Linochilus* which is, in this case, the correct name to apply.

Since the incorrect application of *Piofontia* is still very recent (i.e. Vargas 2018), it has not yet been in use. Hence, the quick publication of the present article is expected to help to avoid further confusion about the naming of this diverse newly recognized clade. Below are listed the pertinent new combinations under the genus *Linochilus*. References are given for each of the heterotypic synonyms listed. Typifications are not mentioned since they have been fully covered by Vargas (2011, 2018). Details about distribution and morphology are also given by Vargas (2018).

Taxonomic treatment

Linochilus Bentham (1845: 197–198)

Type:—*Linochilus rosmarinifolius* Benth.

= *Piofontia* Cuatrecasas (1943: 5).

Type:—*Piofontia colombiana* Cuatrecasas

1. *Linochilus alveolatus* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium alveolatum* Cuatrecasas (1943b: 224–225).

Homotypic synonym:—*Piofontia alveolata* (Cuatrec.) Vargas (2018: 487).

2. *Linochilus anactinotus* (Wedd.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium anactinotum* Weddell (1857: 201).

Homotypic synonym:—*Piofontia anactinota* (Wedd.) Vargas (2018: 487).

3. *Linochilus antioquiensis* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium antioquiense* Cuatrecasas (1961: 12–13).

Homotypic synonym:—*Piofontia antioquiensis* (Cuatrec.) Vargas (2018: 487).

4. *Linochilus apiculatus* (S.F.Blake) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium apiculatum* Blake (1936: 79–80).

Homotypic synonym:—*Piofontia apiculata* (S.F.Blake) Vargas (2018: 487).

5. *Linochilus bicolor* (S.F.Blake) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium bicolor* Blake (1922: 85).

Homotypic synonym:—*Piofontia bicolor* (S.F.Blake) Vargas (2018: 487).

Heterotypic synonym:—*Diplostephium tabanense* Cuatrecasas (1943b: 216–217). Ref.: Cuatrecasas (1969: 111).

6. ***Linochilus camargoanus*** (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium camargoanum* Cuatrecasas (1972: 351–352).

Homotypic synonym:—*Piofontia camargoana* (Cuatrec.) Vargas (2018: 487).

7. ***Linochilus cayambensis*** (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium cayambense* Cuatrecasas (1956: 183–184).

Homotypic synonym:—*Piofontia cayambensis* (Cuatrec.) Vargas (2018: 487).

8. ***Linochilus chrysotrichus*** (S.Díaz & B.L.Restrepo) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium chrysotrichum* Díaz-Piedrahita & Restrepo (1994: 243–245).

Homotypic synonym:—*Piofontia chrysotricha* (S.Díaz & B.L.Restrepo) Vargas (2018: 487).

9. ***Linochilus cinerascens*** (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium cinerascens* Cuatrecasas (1945: 422–423).

Homotypic synonym:—*Piofontia cinerascens* (Cuatrec.) Vargas (2018: 487).

9.1. ***Linochilus cinerascens*** subsp. ***puracensis*** (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium violaceum* Cuatrec. var. *puracense* Cuatrecasas (1945: 424).

Homotypic synonyms:—*Diplostephium cinerascens* Cuatrec. subsp. *puracense* (Cuatrec.) Cuatrecasas (1969: 138). *Piofontia cinerascens* (Cuatrec.) O.M.Vargas subsp. *puracensis* (Cuatrec.) Vargas (2018: 488).

Heterotypic synonym:—*Diplostephium cinerascens* Cuatrec. var. *centrale* Cuatrecasas (1945: 423). Ref.: Cuatrecasas (1969: 138).

10. ***Linochilus colombianus*** (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Piofontia colombiana* Cuatrecasas (1943a: 5–6).

Homotypic synonym:—*Diplostephium colombianum* (Cuatrec.) Cuatrecasas (1953a: 153).

11. ***Linochilus coriaceus*** (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium coriaceum* Cuatrecasas (1969: 123–124).

Homotypic synonym:—*Piofontia coriacea* (Cuatrec.) Vargas (2018: 488).

12. ***Linochilus costaricensis*** (S.F.Blake) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium costaricense* Blake (1922: 82–83).

Homotypic synonym:—*Piofontia costaricensis* (S.F.Blake) Vargas (2018: 488).

13. ***Linochilus crassifolius*** (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium crassifolium* Cuatrecasas (1953b: 401–402).

Homotypic synonym:—*Piofontia crassifolia* (Cuatrec.) Vargas (2018: 488).

14. ***Linochilus cyparissias*** (Wedd.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium cyparissias* Weddell (1857: 203).

Homotypic synonym:—*Piofontia cyparissias* (Wedd.) Vargas (2018: 488).

15. ***Linochilus ellipticus*** (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium ellipticum* Cuatrecasas (1943b: 212–214).

Homotypic synonym:—*Piofontia elliptica* (Cuatrec.) Vargas (2018: 488).

16. ***Linochilus eriophorus*** (Wedd.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium eriophorum* Weddell (1857: 206).

Homotypic synonym:—*Piofontia eriophora* (Wedd.) Vargas (2018: 488).

17. *Linochilus farallonensis* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
Basionym:—*Diplostephium floribundum* (Benth.) Wedd. subsp. *farallonense* Cuatrecasas (1945: 423–424).
Homotypic synonyms:—*Diplostephium farallonense* (Cuatrec.) Cuatrecasas (1969: 135). *Piofontia farallonensis* (Cuatrec.) Vargas (2018: 488).
18. *Linochilus floribundus* Benth (1845: 203)
Homotypic synonyms:—*Diplostephium floribundum* (Benth.) Weddell (1857: 205). *Piofontia floribunda* (Benth.) Vargas (2018: 488).
Heterotypic synonyms:—*Diplostephium ochroleucum* Klatt (1886: 37). Ref.: Cuatrecasas (1969: 129).
19. *Linochilus fosbergii* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
Basionym:—*Diplostephium fosbergii* Cuatrecasas (1953b: 403).
Homotypic synonym:—*Piofontia fosbergii* (Cuatrec.) Vargas (2018: 488).
20. *Linochilus frontinensis* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
Basionym:—*Diplostephium frontinense* Cuatrecasas (1991: 123–124).
Homotypic synonym:—*Piofontia frontinensis* (Cuatrec.) Vargas (2018: 488).
21. *Linochilus glutinosus* (S.F.Blake) Saldivia & O.M.Vargas, **comb. nov.**
Basionym:—*Diplostephium glutinosum* Blake (1936: 78–79).
Homotypic synonym:—*Piofontia glutinosa* (S.F.Blake) Vargas (2018: 488).
22. *Linochilus grantii* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
Basionym:—*Diplostephium grantii* Cuatrecasas (1953b: 403–404).
Homotypic synonym:—*Piofontia grantii* (Cuatrec.) Vargas (2018: 489).
23. *Linochilus heterophyllus* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
Basionym:—*Diplostephium heterophyllum* Cuatrecasas (1943b: 230–232).
Homotypic synonym:—*Piofontia heterophylla* (Cuatrec.) Vargas (2018: 489).
24. *Linochilus huertasii* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
Basionym:—*Diplostephium huertasii* Cuatrecasas (1969: 126–127).
Homotypic synonym:—*Piofontia huertasii* (Cuatrec.) Vargas (2018: 489).
25. *Linochilus inesianus* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
Basionym:—*Diplostephium inesianum* Cuatrecasas (1969: 192–194).
Homotypic synonym:—*Piofontia inesiana* (Cuatrec.) Vargas (2018: 489).
26. *Linochilus jaramilloi* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
Basionym:—*Diplostephium jaramilloi* Cuatrecasas (1975: 317–319).
Homotypic synonym:—*Piofontia jaramilloi* (Cuatrec.) Vargas (2018: 489).
27. *Linochilus jenesanus* (S. Díaz & M.E.Morales) Saldivia & O.M.Vargas, **comb. nov.**
Basionym:—*Diplostephium jenesanum* Díaz-Piedrahita & Morales-Puentes (2002: 7).
Homotypic synonym:—*Piofontia jenesana* (S.Díaz & M.E.Morales) Vargas (2018: 489).
28. *Linochilus juajibioyi* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
Basionym:—*Diplostephium juajibioyi* Cuatrecasas (1969: 140–141).
Homotypic synonym:—*Piofontia juajibioyi* (Cuatrec.) Vargas (2018: 489).
29. *Linochilus julianii* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
Basionym:—*Diplostephium julianii* Cuatrecasas (1969: 127–128).
Homotypic synonym:—*Piofontia julianii* (Cuatrec.) Vargas (2018: 489).

30. ***Linochilus lacunosus*** (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium lacunosum* Cuatrecasas (1953b: 406).
 Homotypic synonym:—*Piofontia lacunosa* (Cuatrec.) Vargas (2018: 489).
31. ***Linochilus leiocladus*** (S.F.Blake) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium leiocladum* Blake (1928: 62–63).
 Homotypic synonym:—*Piofontia leioclada* (S.F.Blake) Vargas (2018: 489).
32. ***Linochilus micradenius*** (S.F.Blake) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium micradenium* Blake (1928: 49).
 Homotypic synonym:—*Piofontia micradenia* (S.F.Blake) Vargas (2018: 489).
33. ***Linochilus mutiscuanus*** (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium mutiscuanum* Cuatrecasas (1969: 117, 119).
 Homotypic synonym:—*Piofontia mutiscuana* (Cuatrec.) Vargas (2018: 489).
34. ***Linochilus nevadensis*** (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium nevadense* Cuatrecasas (1956: 182).
 Homotypic synonym:—*Piofontia nevadensis* (Cuatrec.) Vargas (2018: 489).
35. ***Linochilus oblongifolius*** (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium oblongifolium* Cuatrecasas (1943b: 220).
 Homotypic synonym:—*Piofontia oblongifolia* (Cuatrec.) Vargas (2018: 489).
36. ***Linochilus obtusus*** (S.F.Blake) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium obtusum* Blake (1922: 84).
 Homotypic synonym:—*Piofontia obtusa* (S.F.Blake) Vargas (2018: 489).
37. ***Linochilus ocanensis*** (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium ocanense* Cuatrecasas (1956: 182–183).
 Homotypic synonym:—*Piofontia ocanensis* (Cuatrec.) Vargas (2018: 489).
38. ***Linochilus ochraceus*** (Kunth) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Aster ochraceus* Kunth (1820b: 94–95).
 Homotypic synonyms:—*Diplostephium ochraceum* (Kunth) Nees von Esenbeck (1832: 201). *Tetramolopium ochraceum* (Kunth) Candolle (1836: 262). *Piofontia ochracea* (Kunth) Vargas (2018: 489).
 Heterotypic synonym:—*Diplostephium denticulatum* Blake (1918: 25–26). Ref.: Cuatrecasas (1969: 108).
39. ***Linochilus parvifolius*** (S.F.Blake) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium parvifolium* Blake (1922: 74).
 Homotypic synonym:—*Piofontia parvifolia* (S.F.Blake) Vargas (2018: 490). *Diplostephium microphyllum* Weddell (1857: 201), nom. illeg., non *Diplostephium microphyllum* (Vent.) Nees von Esenbeck (1832: 191–192) = *Olearia microphylla* (Vent.) Maiden & Betche (1916: 194).
40. ***Linochilus perijaensis*** (S.Díaz & G.P.Méndez) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium perijaense* Díaz-Piedrahita & Méndez (1997: 406–408).
 Homotypic synonym:—*Piofontia perijaensis* (S.Díaz & G.P.Méndez) Vargas (2018: 490).
41. ***Linochilus phyllicoides*** (Kunth) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Aster phyllicoides* Kunth (1820b: 93).
 Homotypic synonyms:—*Tetramolopium phyllicoides* (Kunth) Candolle (1836: 262). *Diplostephium phyllicoides* (Kunth) Weddell (1857: 205). *Piofontia phyllicoidea* (Kunth) Vargas (2018: 490).
 Heterotypic synonym:—*Diplostephium umbelliferum* Blake (1922: 80–81). Ref.: Cuatrecasas (1969: 164).

42. *Linochilus pittieri* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium pittieri* Cuatrecasas (1943b: 221–222).
 Homotypic synonym:—*Piofontia pittieri* (Cuatrec.) Vargas (2018: 490).
43. *Linochilus rangelii* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium rangelii* Cuatrecasas (1981: 74–75).
 Homotypic synonym:—*Piofontia rangelii* (Cuatrec.) Vargas (2018: 490).
44. *Linochilus revolutus* (S.F.Blake) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium revolutum* Blake (1922: 78–79).
 Homotypic synonym:—*Piofontia revoluta* (S.F.Blake) Vargas (2018: 490).
 Heterotypic synonyms:—*Diplostephium revolutum* var. *longifolium* Cuatrecasas (1936: 134–135). *Diplostephium revolutum* var. *rubrum* Cuatrecasas (1943b: 236). *Diplostephium revolutum* f. *macrocephalum* Cuatrecasas (1943b: 236). Ref.: Cuatrecasas (1969: 155).
45. *Linochilus rhododendroides* (Hieron.) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium rhododendroides* Hieronymus (1896: 340–341).
 Homotypic synonym:—*Piofontia rhododendroides* (Hieron.) Vargas (2018: 490).
 Heterotypic synonym:—*Diplostephium cochense* Hieronymus (1896: 341). Ref.: Cuatrecasas (1969: 149).
46. *Linochilus rhomboidalis* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium rhomboidale* Cuatrecasas (1969: 151–152).
 Homotypic synonym:—*Piofontia rhomboidalis* (Cuatrec.) Vargas (2018: 490).
47. *Linochilus ritterbushii* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium ritterbushii* Cuatrecasas (1972: 350–351).
 Homotypic synonym:—*Piofontia ritterbushii* (Cuatrec.) Vargas (2018: 490).
48. *Linochilus romeroi* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium romeroi* Cuatrecasas (1969: 173–175).
 Homotypic synonym:—*Piofontia romeroi* (Cuatrec.) Vargas (2018: 490).
49. *Linochilus rosmarinifolius* Benth. (1845: 198).
 Homotypic synonym:—*Diplostephium rosmarinifolium* (Benth.) Weddell (1857: 202). *Piofontia rosmarinifolia* (Benth.) Vargas (2018: 490).
 Heterotypic synonyms:—*Diplostephium baccharideum* Blake (1922: 77–78). *Diplostephium rosmarinifolium* var. *baccharideum* (Blake) Cuatrecasas (1936: 135). Ref.: Cuatrecasas (1969: 160).
50. *Linochilus rupestris* (Kunth) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Aster rupestris* Kunth (1820b: 94).
 Homotypic synonyms:—*Tetramolopium rupestre* (Kunth) Nees von Esenbeck (1832: 203–204). *Diplostephium rupestre* (Kunth) Weddell (1857: 206). *Piofontia rupestris* (Kunth) Vargas (2018: 490).
 Heterotypic synonym:—*Diplostephium mutisii* Cuatrecasas (1935: 25–26). Ref.: Cuatrecasas (1969: 168).
51. *Linochilus santamartae* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium santamartae* Cuatrecasas (1982: 174–176).
 Homotypic synonym:—*Piofontia santamartae* (Cuatrec.) Vargas (2018: 491).
52. *Linochilus saxatilis* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium saxatile* Cuatrecasas (1961: 14–15).
 Homotypic synonym:—*Piofontia saxatilis* (Cuatrec.) Vargas (2018: 491).
53. *Linochilus schultzei* (Wedd.) Saldivia & O.M.Vargas, **comb. nov.**
 Basionym:—*Diplostephium schultzei* Weddell (1857: 204).
 Homotypic synonym:—*Piofontia schultzei* (Wedd.) Vargas (2018: 491).

54. *Linochilus tachirensis* (V.M.Badillo) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium tachirensis* Badillo (1946: 305).

Homotypic synonym:—*Piofontia tachirensis* (V.M.Badillo) Vargas (2018: 491).

55. *Linochilus tamanus* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium tamanum* Cuatrecasas (1943b: 214–216).

Homotypic synonym:—*Piofontia tamana* (Cuatrec.) Vargas (2018: 491).

56. *Linochilus tenuifolius* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium tenuifolium* Cuatrecasas (1943b: 211–212).

Homotypic synonym:—*Piofontia tenuifolia* (Cuatrec.) Vargas (2018: 491).

57. *Linochilus tergocanus* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium tergocanum* Cuatrecasas (1969: 175–176).

Homotypic synonym:—*Piofontia tergocana* (Cuatrec.) Vargas (2018: 491).

58. *Linochilus venezuelensis* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium venezuelense* Cuatrecasas (1943b: 233–234).

Homotypic synonym:—*Piofontia venezuelensis* (Cuatrec.) Vargas (2018: 491).

59. *Linochilus violaceus* (Cuatrec.) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium violaceum* Cuatrecasas (1943b: 232–233).

Homotypic synonym:—*Piofontia violacea* (Cuatrec.) Vargas (2018: 491).

60. *Linochilus weddellii* (S.F.Blake) Saldivia & O.M.Vargas, **comb. nov.**

Basionym:—*Diplostephium weddellii* Blake (1922: 79).

Homotypic synonym:—*Piofontia weddellii* (S.F.Blake) Vargas (2018: 491). *Diplostephium sessiliflorum* Weddell (1857: 204–205), *nom. illeg.*, non *Diplostephium sessiliflorum* Sprengel (1826: 543) = *Oligactis sessiliflora* (Kunth) Robinson & Brettell (1974: 58).

Excluded names

Linochilus lavandulifolius Sch.Bip. in Weddell (1857: 200) *nom. nud.* as a synonym of *D. lavandulifolium* Kunth (1820a: 97) = *Diplostephium ericoides* (Lam.) Cabrera (1959: 238).

Linochilus meyenii Sch.Bip. in Weddell (1857: 201) *nom. nud.* as a synonym of *D. meyenii* Weddell (1857: 201–202).

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References

- Badillo, V.M. (1946) Contribución al conocimiento de la sistemática y distribución geográfica de las Compuestas de Venezuela. *Boletín de la Sociedad Venezolana de Ciencias Naturales* 10: 279–320.
- Bentham, G. (1845) *Plantae Hartwegianae*. W.Pamplin, London, pp. 197–203.
- Bentham, G. (1857) *Plantae Hartwegianae*. W.Pamplin, London, pp. 343–361.
- Blake, S.F. (1918) Further new or noteworthy Compositae. *Contributions from the Gray Herbarium of Harvard University* 53: 23–30.

- Blake, S.F. (1922) Key to the genus *Diplostegium*, with descriptions of new species. *Contributions from the United States National Herbarium* 24: 65–86.
- Blake, S.F. (1928) Review of the genus *Diplostegium*. *American Journal of Botany* 15: 43–64.
<https://doi.org/10.1002/j.1537-2197.1928.tb04877.x>
- Blake, S.F. (1936) Four new plants of the genus *Diplostegium*. *Proceedings of the Biological Society of Washington* 49: 77–81.
- Cabrera, A.L. (1959) Notas sobre tipos de Compuestas Sudamericanas en herbarios Europeos. I. *Boletín de la Sociedad Argentina de Botánica* 7: 233–246.
- Candolle, A.P. de (1836) Asteroideae. In: Candolle, A.P. de (Ed.) *Prodromus Systematis Naturalis Regni Vegetabilis*, vol. 5. Treuttel & Würtz, Paris, pp. 201–497.
- Cuatrecasas, J. (1935) Plantae Novae Colombianae: Series Altera. *Trabajos del Museo Nacional de Ciencias Naturales y Jardín Botánico. Serie Botánica* 29: 5–47.
- Cuatrecasas, J. (1936) Resumen de mi actuación en Colombia con motivo del II centenario del nacimiento de Mutis. *Trabajos del Museo Nacional de Ciencias Naturales y Jardín Botánico. Serie Botánica* 33: 5–158.
- Cuatrecasas, J. (1943a) Estudios sobre plantas andinas IV. *Caldasia* 2: 5–9.
- Cuatrecasas, J. (1943b) Estudios sobre plantas andinas V. *Caldasia* 2: 209–240.
- Cuatrecasas, J. (1945) Estudios sobre plantas andinas VI. *Caldasia* 3: 421–437.
- Cuatrecasas, J. (1953a) Neue und bemerkenswerte andine Compositen. *Feddes Repertorium Specierum Novarum Regni Vegetabilis* 55: 120–153.
- Cuatrecasas, J. (1953b) New taxa in the genus *Diplostegium*. *Bulletin of the Torrey Botanical Club* 80 (5): 401–408.
<https://doi.org/10.2307/2482085>
- Cuatrecasas, J. (1956) Studies on Andean Compositae-III. *Brittonia* 8 (3): 179–193.
<https://doi.org/10.2307/2804735>
- Cuatrecasas, J. (1961) Studies on Andean Compositae V. *Proceedings of the Biological Society of Washington* 74: 7–28.
- Cuatrecasas, J. (1969) Prima Flora Colombiana 3 Compositae–Astereae. *Webbia* 3: 90–194.
<https://doi.org/10.1080/00837792.1969.10669907>
- Cuatrecasas, J. (1972) Miscellaneous notes on Neotropical Flora II. *Phytologia* 23 (4): 350–365.
<https://doi.org/10.5962/bhl.part.19883>
- Cuatrecasas, J. (1975) Miscellaneous notes on Neotropical Flora VII. *Phytologia* 31 (4): 317–333.
- Cuatrecasas, J. (1981) Miscellaneous notes on Neotropical Flora XIII. *Phytologia* 49 (1): 69–75.
- Cuatrecasas, J. (1982) Miscellaneous notes on Neotropical Flora XV. New taxa in the Astereae. *Phytologia* 52 (3): 166–177.
<https://doi.org/10.5962/bhl.part.10517>
- Cuatrecasas, J. (1991) Especie nueva de *Diplostegium* de Colombia y sinónimos de *D. ericoides* del Ecuador. *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales* 18 (69): 123–125.
- Díaz-Piedrahita, S. & Restrepo, B.L. (1994) Una nueva especie de *Diplostegium* (Compositae: Astereae) de Colombia. *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales* 19 (73): 243–245.
- Díaz-Piedrahita, S. & Méndez Ramírez, G.P. (1997) Algunas novedades en Asteraceae de Colombia. *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales* 21 (81): 401–408.
- Díaz-Piedrahita, S. & Morales Puentes, M.E. (2002) Una especie nueva de *Diplostegium* (Asteraceae, Astereae) de los Andes de Boyaca, Colombia. *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales* 26 (98): 5–7.
- Hieronymus, G.H.E. (1896) Plantae Stuebelianae novae quas descripsit adjuvantibus alis auctoribus. *Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie* 21: 306–378.
- Klatt, F.W. (1886) Plantae Lehmannianae in Guatemala, Costa Rica et Columbia collectae. Compositae. *Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie* 8 (1): 32–52.
- Kunth, K.S. (1820a) *Diplostegium*. In: Bonpland, A.J., von Humboldt, A. & Kunth, K.S. (Eds.) *Nova Genera et Species Plantarum*. v. 4. Lutetiae Parisiorum, Paris, pp. 96–97.
- Kunth, K.S. (1820b) *Aster*. In: Bonpland, A.J., von Humboldt, A. & Kunth, K.S. (Eds.) *Nova Genera et Species Plantarum*. v. 4. Lutetiae Parisiorum, Paris, pp. 89–95.
- Maiden, J.H. & Betche, E. (1916) *A census of New South Wales Plants*. W.A. Gullick, Government Printer, Sydney, p. 194.
- Nees von Esenbeck, C.G.D. (1832) *Genera et Species Asterearum*. Sumtibus Leonardi Schrag, Norimbergae, pp. 186–204.
- Robinson, H. & Brettell, R.D. (1974) Studies in the Liabeae (Asteraceae) II. *Phytologia* 28 (1): 43–63.
<https://doi.org/10.5962/bhl.part.8031>
- Sprengel, C.P.J. (1826) *Caroli Linnaei Systema Vegetabilium*, vol. 3. Librieae Dieterichianae, Göttingen, 936 pp.
- Stafleu, F.A. (1970) *Historiae Naturalis Classica*. *Taxon* 19 (3): 417–422.
<https://doi.org/10.2307/1219067>

- Stafleu, F.A. & Cowan, R.S. (1976) *Taxonomic Literature. A selective guide to botanical publications and collections with dates, commentaries and types*, vol. 1. Second edition. Bohn, Scheltema and Holkema, Utrecht, pp. 173–181.
<https://doi.org/10.5962/bhl.title.48631>
- Stafleu, F.A. & Cowan, R.S. (1988) *Taxonomic Literature. A selective guide to botanical publications and collections with dates, commentaries and types*, vol. 7. Second edition. Bohn, Scheltema and Holkema, Utrecht, pp. 137–142.
- Turland, N.J., Wiersema, J.H., Barrie, F.R., Greuter, W., Hawksworth, D.L., Herendeen, P.S., Knapp, S., Kusber, W.H., Li, D.Z., Marhold, K., May, T.W., McNeill, J., Monro, A.M., Prado, J., Price, M.J. & Smith, G.F. (Eds.) (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] Koeltz Botanical Books, Glashütten, 254 pp.
<https://doi.org/10.12705/Code.2018>
- Vargas, O.M. (2011) A nomenclator of *Diplostephium* (Asteraceae: Astereae): A list of species with their synonyms and distribution by country. *Lundellia* 14: 32–51.
<https://doi.org/10.25224/1097-993X-14.1.32>
- Vargas, O.M., Ortiz, E.M. & Simpson, B.B. (2017) Conflicting phylogenomic signals reveal a pattern of reticulate evolution in a recent high-Andean diversification (Asteraceae: Astereae: *Diplostephium*). *The New Phytologist* 214: 1736–1750.
<https://doi.org/10.1111/nph.14530>
- Vargas, O.M. (2018) Reinstatement of the Genus *Piofontia*: A Phylogenomic-Based Study Reveals the Biphyletic Nature of *Diplostephium* (Asteraceae: Astereae). *Systematic Botany* 43: 485–496.
<https://doi.org/10.1600/036364418X697210>
- Weddell, H.A. (1857) *Chloris Andina*, vol. 1. Bertrand, Paris, pp. 199–206.