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**New combinations in *Andreettaea* Pleurothallidinae (Orchidaceae)**

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*Andreettaea* is expanded to include ca. 56 species currently classified under different generic names based on a phylogenetic analysis of the genus. The findings of Doucette *et al.* (2022) provide robust support for the monophyly of *Muscarella* as a clade including *Andreettaea* based on *ITS* and *matK* sequences and the results of SH-like topology tests, which rejected any possibility for the recognition of *Andreettaea* as part of *Pleurothallis* as proposed by Luer (1986) or as part of *Specklinia* as proposed by Pridgeon & Chase (2001) and Pridgeon (2005).

Although it is larger, the genus *Muscarella* as recognized by Luer (2006) and Karremans *et al.* (2016) unfortunately cannot be accepted when *Andreettaea ocellus* is recognized as part of that genus. The name *Andreettaea* (1978 vs 2006) takes priority under Art. 11.3 of the current Shenzhen Code (Turland *et al.* 2018). Art. 11.3 provides that “for any taxon from family to genus, inclusive, the correct name is the earliest legitimate one with the same rank.” The only exceptions for this article are for conserved names, sanctioned names, rejected names, family names, fossil names, and fungi names. None of these exceptions apply to *Muscarella* or any other relevant, known genus that would impact the recognition and expansion of *Andreettaea*.

Below 55 new combinations are provided based on the findings of an investigation of the phylogenetic placement of *Andreettaea ocellus* based on morphological and molecular data. These new combinations result in a monophyletic *Andreettaea* and reduce the total number of monotypic genera within the Pleurothallidinae. The new combinations are provided along with nomenclatural notes provided for: *Andreettaea catoxys*, *A. delicatula*, *A. helenae*, *A. mucronata*, *A. rojohnii*, and *A. zephyrina*.

*Andreettaea* Luer, Selbyana 2: 183. 1978. Type. *Andreettaea ocellus* Luer. *Pleurothallis* subg. *Andreettaea* (Luer) Luer, Monographs in Systematic Botany from the Missouri Botanical Garden 20: 31. 1986. Type. *Andreettaea ocellus* Luer.

*Pleurothallis* sect. *Muscariae* Luer, *Monographs in Systematic Botany from the Missouri Botanical Garden* 20: 89. 1986. Type. *Pleurothallis aristata* Hook.

*Muscarella* Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 94. 2006. Type. *Pleurothallis aristata* Hook., *Ann. Nat. Hist.* 2: 329. 1839.

*Vaginaella* Vierling, *OrchideenJ.* 25: 19. 2018. Type. *Vaginaella stromatolithoides* Vierling, *OrchideenJ.* 25: 19. 2018.

*Verapazia* Archila, *Revista Guatemalensis* 2: 32. 1999. *nom. inval.*

Epiphytes, rarely lithophytic, caespitose, generally under 5 cm height. Roots unbranched. Stems abbreviated, terete, enveloped by 1–3, imbricating, tubular, papery sheaths. Leaf erect to suberect, fleshy, narrowly elliptical to narrowly obovate with an acute or obtuse apex, subsessile to petiolate. Inflorescences racemose, erect to repent, produced from a small, papery spathe held near the base of the leaf, the peduncles terete with small, tubular to infundibular bracts, the rachi

sometimes abbreviated resulting in a brush-like inflorescence otherwise a standard raceme, the pedicels persistent and articulated with the ovary, which is terete and 6-sulcate, sepals glabrous, ciliate, spiculate, or pubescent, acute to acuminate, rarely obtuse, often contracted into a tail, generally free for their length, the lateral sepals rarely fused to the dorsal sepal, 3-veined; Petals elliptical, denticulate, serrate, or fringed, rarely entire, acute to acuminate, often caudate, rarely clavate, 1-veined; lip entire to trilobed, with similar variation of the margins as seen in the petals, the disc featureless to channeled between the calli, the base truncate, sometimes with minute, retrorse lobules, delicately hinged to the column-foot; column semiterete, the margins entire to narrowly winged, the apex entire to denticulate, the anther ventral, deciduous, the stigma ventral, the foot often with apical, pedestal-like calli; pollinia 2, ovoid, united by a flat, granular, bilobed caudicle. Fruit a capsule with bivalvate dehiscence.

1. *Andreettaea ancora* (Luer & R. Vásquez) A.Doucette, **comb. nov.** Basionym: *Pleurothallis ancora* Luer & R. Vásquez, *Phytologia* 46: 357. 1980. *Specklinia ancora* (Luer & R. Vásquez) Pridgeon & M.W.Chase, *Lindleyana* 16(4): 256 (2001). *Muscarella ancora* (Luer & R. Vásquez) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 95. 2006. Type: BOLIVIA. Cochabamba, Chapare, epiphytic in cloud forest along road to Tablas, 2300 m, 9 Feb 1980. *C.Luer, J.Luer & R.Vásquez 5172* (Holotype: SEL).
2. *Andreettaea aristata* (Hook.) A.Doucette, **comb. nov.** Basionym: *Pleurothallis aristata* Hook., *Ann. Nat. Hist.* 2: 329. 1839. *Humboltia aristata* (Hook.) Kuntze, *Revisio Generum Plantarum* 2: 667. 1891. *Muscarella aristata* (Hook.) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 96. 2006. *Specklinia aristata* (Hook.) Pridgeon & M.W.Chase. *Lindleyana* 16(4): 256. 2001. Type. HORTICULTURE: reportedly from British Guiana (Guyana), cultivated in the stove of C.S. Parker, of Liverpool, England, having been received with many other rarities from Demerara, *Parker s.n.* (holotype, K).
3. *Andreettaea cabellensis* (Rchb.f.) A.Doucette, **comb. nov.** Basionym: *Pleurothallis cabellensis* Rchb.f., *Linnaea* 22: 832. 1850. *Humboltia cabellensis* (Rchb. f.) Kuntze. *Revisio Generum Plantarum* 2: 667. 1891. *Sylphia cabellensis* (Rchb.f.) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 227. 2006. *Specklinia cabellensis* (Rchb. f.) Pridgeon & M.W. Chase. *Lindleyana* 16: 256. 2001. *Muscarella cabellensis* (Rchb. f.) Karremans. *Phytotaxa* 272: 29. 2016. Type. VENEZUELA: Carabobo, collected by P.Cabelle, 1370 m (as “4500”), May 1846, *N.Funck 578* (Holotype: W). NOTES: Karremans *et al.* (2016) found that this species belonged to *Muscarella* based on three accessions sequenced from *Karremans 5712* and reported that it also has pollinia with caudicles. The species is one of the few *Andreettaea* species with entire petal margins.
4. *Andreettaea catoxys* (Luer & Hirtz) A.Doucette, **comb. nov.** Basionym: *Pleurothallis catoxys* Luer & Hirtz, *Lindleyana* 11: 151. 1996. *Specklinia catoxys* (Luer & Hirtz) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 259. 2004. *Muscarella catoxys* (Luer & Hirtz) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 97. 2006. Type. ECUADOR: Morona-Santiago, 1500 m, 6 Feb 1987. *Luer et al. 12715* (Neotype: MO). Note: Karremans (2021) indicates that Luer (1996) cited the holotype of *Pleurothallis claviculata* Luer & Hirtz in the protologue as the holotype for *P. catoxys*. The information appears to have been duplicated as the illustrations of the two species differ but the collection information are identical. Karremans (2021) were able to locate a specimen matching the description in the protologue that was gathered by the author before the date of the name’s publication. That specimen was designated as the “type” based on Art. 9.2 (Turland *et al.* 2018).
5. *Andreettaea cestrochila* (Garay) A.Doucette, **comb. nov.** Basionym: *Pleurothallis cestrochila* Garay, *Orquideologia* 8: 180. 1973. *Specklinia cestrochila* (Garay) Pridgeon & M.W.Chase, *Lindleyana* 16: 257. 2001. *Muscarella cestrochila* (Garay) Luer *Monogr.*

- Syst. Bot. Missouri Bot. Gard.* 105: 97. 2006. Type. COLOMBIA: Antioquia, El Retiro, road to Las Palmas, 2500 m., collected by Gustavo Wills, s.d., *R.Escobar 715* (Holotype: AMES).
6. ***Andreettaea claviculata*** (Luer & Hirtz) A.Doucette, **comb. nov.** Basionym: *Pleurothallis claviculata* Luer & Hirtz, *Lindleyana* 11: 153. 1996. *Muscarella claviculata* (Luer & Hirtz) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 98. 2006. *Specklinia claviculata* (Luer & Hirtz) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 259. 2004. Type. ECUADOR: Pastaza, epiphytic in cloud forest along Río Zuñag, 2400 m, 23-28 Feb 1990, *Hirtz et al. 4635* (Holotype: MO).
  7. ***Andreettaea clavigera*** (Luer) A.Doucette, **comb. nov.** Basionym: *Pleurothallis clavigera* Luer, *Selbyana* 3: 268. 1977. *Specklinia clavigera* (Luer) Pridgeon & M.W.Chase, *Lindleyana* 16: 257. 2001. *Muscarella clavigera* (Luer) Luer *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 99. 2006. Type. HORTICULTURE: reportedly from Ecuador, where the plant was acquired from a collector from Manabí, 24 Feb 1977, *C.Luer 1468* (Holotype: SEL).
  8. ***Andreettaea coeloglossa*** (Luer & Hirtz) A.Doucette, **comb. nov.** Basionym: *Pleurothallis coeloglossa* Luer & Hirtz, *Lindleyana* 11: 154. 1996. *Specklinia coeloglossa* (Luer & Hirtz) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 259. 2004. *Muscarella coeloglossa* (Luer & Hirtz) Luer *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 99. 2006. Type. ECUADOR: Morona-Santiago, epiphytic in cloud forest north of Gualaquiza, 1700 m, 17 Feb 1986, *C.Luer et al. 11880* (Holotype: MO).
  9. ***Andreettaea corynetes*** (Luer & R. Vásquez) A.Doucette, **comb. nov.** Basionym: *Pleurothallis corynetes* Luer & R.Vásquez, *Phytologia* 46: 363. 1980. *Specklinia corynetes* (Luer & R.Vásquez) Pridgeon & M.W.Chase, *Lindleyana* 16: 257. 2001. *Muscarella corynetes* (Luer & R. Vásquez) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 100. 2006. Type. BOLIVIA: La Paz, Nor Yungas, cloud forest above Río Unduavi, 2450 m, 6 Feb 1980, *C.Luer et al. 5131* (Holotype: SEL).
  10. ***Andreettaea cryptophyta*** (Barb. Rodr.) A.Doucette, **comb. nov.** Basionym: *Lepanthes cryptophyta* Barb. Rodr., *Genera et Species Orchidearum Novarum* 2: 65. 1881. *Muscarella cryptophyta* (Barb. Rodr.) Bogarín & Karremans, *Pleurothallids Neotropical Jewels*. Vol. 1: 175. 2020. Type. BRAZIL: Minas Geraes, Parahybuna, December s.d., s.n. (Lectotype: Illustration). NOTES: The holotype is reported as lost by Karremans & Vieira-Uribe (2020) and illustration tab. 179A, in *Conogr. Orchid. Bresil*, vol. 3, at the Library of Rio de Janeiro Botanical Garden, cited as tab. 787 (unpubl.) in Barb.Rodr. loc. cit. was designated as the lectotype.
  11. ***Andreettaea cynocephala*** (Luer) A.Doucette, **comb. nov.** Basionym: *Pleurothallis cynocephala* Luer, *Selbyana* 5: 163. 1979. *Specklinia cynocephala* (Luer) Pridgeon & M.W.Chase, *Lindleyana* 16: 257. 2001. *Muscarella cynocephala* (Luer) Luer *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 100. 2006. Type. HORTICULTURE: cultivated at SEL, reportedly from Bolivia, Cochabamba, epiphytic in cloud forest between Cochabamba and Villa Tunari, 1900 m, Nov. 1978, *C. Luer 4065* (Holotype: SEL)
  12. ***Andreettaea delicatula*** (Lindl.) A.Doucette, **comb. nov.** Basionym: *Pleurothallis delicatula* Lindl., *Fol. Orchid.* 9 (*Pleurothallis*): 38. 1859. *Humboltia delicatula* Kuntze, *Revis. Gen. Pl.* 2: 667. 1891. *Specklinia delicatula* (Lindl.) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 260. 2004. *Muscarella delicatula* (Lindl.) Luer *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 101. 2006. Type: JAMAICA, Mt. Moses, 914 m as "3000 ft," Nov 1881, *Purdie s.n.* (Neotype: K). Notes. The sheet at K identified as the type

- consists of multiple collections, but the specimen stamped "Herbarium Hookerianum: 1867," appears to be the holotype given Lindly (1859) indicating the type as "Jamaica, Purdie. v. s. sp. in hb. Hooker." The specimen is also indicated as the holotype with a note by C.Luer dated July 1998.
13. *Andreettaea divexa* (Ames) A.Doucette, **comb. nov.** Basionym: *Pleurothallis divexa* Ames, *Schedul. Orchid.* 7: 20. 1924; replacement name for the homonym *Pleurothallis dichotoma* Ames, *Schedul. Orchid.* 6: 58 1923. *Muscarella divexa* (Ames) Karremans & S. Vieira-Uribe, *Pleurothallids Neotropical Jewels*. Vol. 1 2020. Type. COSTA RICA: Peralta, 370 m as "1200 ft," 13 Jul 1923, *C.H.Lankester 464* (Holotype: AMES [27014]).
  14. *Andreettaea echinodes* (Luer & R.Escobar) A.Doucette, **comb. nov.** Basionym: *Pleurothallis echinodes* Luer & R.Escobar, *Orquideologia* 16: 24. 1983. *Specklinia echinodes* (Luer & R.Escobar) Pridgeon & M.W.Chase, *Lindleyana* 16: 257. 2001. *Muscarella echinodes* (Luer & R.Escobar) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 101. 2006. Type. COLOMBIA: Norte de Santander, Páramo de Jurisdicciones, 2300 m, 30 Apr 1982 to 1 May 1982, *C.Luer, J.Luer, & Portillo #7675* (Holotype: SEL [SEL000759]; isotypes: AAU, COL [COL000000379], JAUM).
  15. *Andreettaea exesilabia* (A.H.Heller & A.D.Hawkes) A.Doucette, **comb. nov.** Basionym: *Pleurothallis exesilabia* A.H.Heller & A.D.Hawkes, *Phytologia* 14: 11. 1966. *Specklinia exesilabia* (A.H.Heller & A.D.Hawkes) Pridgeon & M.W.Chase, *Lindleyana* 16: 257. 2001. *Muscarella exesilabia* (A.H.Heller & A.D.Hawkes) Luer *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 102. 2006. Type. NICARAGUA: Jinotega, near Finca Santa Elena, Matagalpa-Jinotega Highway, on a fallen branch, 1370 m as "4510 ft.," Jul 1962, *A.H. Heller 6497* (Holotype: AMES).
  16. *Andreettaea fuchsii* (Luer) A.Doucette, **comb. nov.** Basionym: *Pleurothallis fuchsii* Luer, *Selbyana* 1: 244. 1975. *Specklinia fuchsii* (Luer) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 260. 2004. *Muscarella fuchsii* (Luer) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 104. 2006. Type. HORTICULTURE: reportedly from Ecuador, Pastaza, near Puyo, 750 m, *F.Fuchs Jr. s.n.*, type gathered from material cultivated at SEL, *C.Luer 157* (Holotype: SEL).
  17. *Andreettaea furcatipetala* (Luer & Hirtz) A.Doucette, **comb. nov.** Basionym: *Pleurothallis furcatipetala* Luer & Hirtz, in *Rev. Soc. Boliv. Bot.* 3: 50. 2001. *Specklinia furcatipetala* (Luer & Hirtz) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 260. 2004. *Muscarella furcatipetala* (Luer & Hirtz) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 104. 2006. Type. ECUADOR: Morona-Santiago, Chiviasa, east of Limón, alt. 1300 m, 21 October 1999, *A.Hirtz, E.Sánchez & S.Marin 7025* (Holotype: MO).
  18. *Andreettaea gongylodes* (Luer) A.Doucette, **comb. nov.** Basionym: *Pleurothallis gongylodes* Luer, *Selbyana* 5: 166 (1979). *Specklinia gongylodes* (Luer) Pridgeon & M.W.Chase, *Lindleyana* 16(4): 257 (2001). *Muscarella gongylodes* (Luer) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 105 (2006). Type. ECUADOR: Imbabura, 3000 m, ca 30 km W of Otavalo, 17 Feb 1978, *C.Luer, J.Luer & A.Hirtz 2602* (Holotype: SEL).
  19. *Andreettaea hastata* (Ames) A.Doucette, **comb. nov.** Basionym: *Pleurothallis hastata* Ames, *Orchidaceae* (Ames) 2: 268. 1908. *Specklinia hastata* (Ames) Pridgeon & M.W.Chase, *Lindleyana* 16: 258. 2001. *Muscarella hastata* (Ames) Karremans *Phytotaxa* 272: 30. 2016. Type. GUATEMALA: Alta Verapaz, Cubilquitz, 350 m, Dec 1901, *H. von Tuerckheim 501* (Holotype: AMES).
  20. *Andreettaea helenae* (Fawc. & Rendle) A.Doucette, **comb. nov.** Basionym: *Pleurothallis helenae* Fawc. & Rendle, *J. Bot.* 47: 4. 1909. *Specklinia helenae* (Fawc. & Rendle) Pridgeon & M.W. Chase *Lindleyana* 16: 258. 2001. *Muscarella helenae* (Fawc. & Rendle) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 105. 2006. Type. JAMAICA:

- Mabess River, 1067 m as "3500 ft.," in flower July, in fruit August, s.d., Harris s.n. (Holotype: location not reported). NOTES: The protologue indicates that the species was "described from a detailed drawing by Miss H. A. Wood." Luer (2006) indicates that the location of the holotype is unknown.
21. *Andreettaea herpestes* (Luer) A.Doucette, **comb. nov.** Basionym: *Pleurothallis herpestes* Luer, *Selbyana* 5: 167. 1979. *Specklinia herpestes* (Luer) Pridgeon & M.W.Chase, *Lindleyana* 16: 258. 2001. *Muscarella herpestes* (Luer) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 106. 2006. Type. Costa Rica: Cartago: epiphytic in cloud forest south of Cartago below Empalme, ca. 1900 m, 14 Sep 1979, C. Luer, J. Luer & K.S. Walter 4169 (Holotype: SEL).
  22. *Andreettaea ichthyonekys* (Luer) A.Doucette, **comb. nov.** Basionym: *Pleurothallis ichthyonekys* Luer, *Selbyana* 3: 316. 1977. *Specklinia ichthyonekys* (Luer) Pridgeon & M.W.Chase, *Lindleyana* 16: 258. 2001. *Muscarella ichthyonekys* (Luer) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 106. 2006. Type. ECUADOR: Zamora-Chinchi, between Loja and Zamora, 2800 m, 6 Mar 1977, C. Luer, J. Luer, & K. Cordoba 1571 (Holotype, MO).
  23. *Andreettaea infinita* (Luer) A.Doucette, **comb. nov.** Basionym: *Pleurothallis infinita* Luer, *Revista Soc. Boliv. Bot.* 1: 13. 1998. *Specklinia infinita* (Luer) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 261. 2004. *Muscarella infinita* (Luer) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 107. 2006. Type. HORTICULTURE: reportedly from Bolivia, La Paz, Nor Yungas, 1700 m, Aug 1991, flowered in cultivation in Quito, Ecuador, Dec 1991, A.Hirtz 5695 (Holotype: MO).
  24. *Andreettaea intonsa* (Luer & R.Escobar) A.Doucette, **comb. nov.** Basionym: *Pleurothallis intonsa* Luer & R.Escobar, *Orquideologia* 14: 156. 1981. *Specklinia intonsa* (Luer & R.Escobar) Pridgeon & M.W.Chase, *Lindleyana* 16: 258. 2001. *Muscarella intonsa* (Luer & R.Escobar) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 107. 2006. Type. COLOMBIA: Antioquia, Caldas, Alto de San Miguel, Morro Gil, 2550 m, 26 Jan 1974, R.Escobar et al. 1121 (Holotype: JAUM).
  25. *Andreettaea kennedyi* (Luer) A.Doucette, **comb. nov.** Basionym: *Pleurothallis kennedyi* Luer, *Selbyana* 3: 326. 1977. *Specklinia kennedyi* (Luer) Pridgeon & M.W.Chase, *Lindleyana* 16: 258. 2001. *Muscarella kennedyi* (Luer) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 108. 2006. Type. HORTICULTURE: reportedly from Peru, San Martin, near Divisoria, flowered in cultivation 11 Feb 1977, G.Kennedy s.n. (Holotype: SEL).
  26. *Andreettaea latilabris* (Foldats) A.Doucette, **comb. nov.** Basionym: *Pleurothallis latilabris* Foldats, *Acta Bot. Venez.* 3: 376. 1968. *Specklinia latilabris* (Foldats) Pridgeon & M.W.Chase, *Lindleyana* 16: 258. 2001. *Specklinia latilabris* (Foldats) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 261. 2004. *Muscarella latilabris* (Foldats) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 108. 2006. Type. VENEZUELA: Táchira, headwaters of Rio Quinimarí, above Rio de La Quebrada, 2600 m, s.d., J.A.Steyermark, G.C.K.Dunsterville, & E.Dunsterville 10881 (Holotype: VEN).
  27. *Andreettaea lipothrix* (Luer) A.Doucette, **comb. nov.** Basionym: *Pleurothallis lipothrix* Luer, *Phytologia* 55: 201. 1984. *Specklinia lipothrix* (Luer) Pridgeon & M.W.Chase, *Lindleyana* 16: 258. 2001. *Muscarella lipothrix* (Luer) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 109. 2006. Type. HORTICULTURE: reportedly from Ecuador, Zamora-Chinchi, between Loja and Zamora, 1400 m, collected by D.D'Allesandro, cultivated at Vilcabamba, 2 Nov 1982, C.Luer 8267 (Holotype: SEL).
  28. *Andreettaea llamachoi* (Luer) A.Doucette, **comb. nov.** Basionym: *Pleurothallis llamachoi* Luer, *Lindleyana* 13: 146. 1998. *Specklinia llamachoi* (Luer) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 261. 2004. *Muscarella llamachoi* (Luer) Luer,

- Monogr. Syst. Bot. Missouri Bot. Gard. 105: 109. 2006. Type. CUBA: Holguín, Mayari, Sierra de Nipe, behind cabins of Agricultural Station, 650 m, 25 Nov 1997, *C.Luer, J.Luer, M.Diaz, J.LLamacho, J.Ackerman, K.Dressler, & R.Dressler 18631* (Holotype: HAJB; Isotype: MO).
29. *Andreettaea longilabris* (Lindl.) A.Doucette, **comb. nov.** Basionym: *Pleurothallis longilabris* Lindl., Ann. Mag. Nat. Hist. ser. 3, 1: 328. 1858. *Humboltia longilabris* Kuntze, Revis. Gen. Pl. 2: 667. 1891. *Specklinia longilabris* (Lindl.) Luer, Monogr. Syst. Bot. Missouri Bot. Gard. 95: 261. 2004. *Muscarella longilabris* (Lindl.) Luer, Monogr. Syst. Bot. Missouri Bot. Gard. 105: 110. 2006. Type. CUBA: Oriente, Monte Verde, 1856-57, *C.Wright 651* (Holotype: K; Isotypes: BR, MO, NY).
30. *Andreettaea macroblepharis* (Rchb.f.) A.Doucette, **comb. nov.** Basionym: *Pleurothallis macroblepharis* Rchb.f., Gard. Chron. n.s. 2: 772. 1874. *Specklinia macroblepharis* (Rchb.f.) Pridgeon & M.W.Chase, *Lindleyana* 16: 258. 2001. *Muscarella macroblepharis* (Rchb.f.) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 110 (2006). Type. HORTICULTURE: reportedly from Peru, without a specific locality, collected by *B.Roezl 2669*, flowered in cultivation at Donnaueschingen, Baden, s.d., *M.Kirchhoff s.n.* (Holotype: W; Isotype: AMES).
31. *Andreettaea marginata* (Rich.) A.Doucette, **comb. nov.** Basionym: *Epidendrum marginatum* Rich., Actes Soc. Hist. Nat. Paris 1: 112 (err. typ. 105). 1792. *Muscarella marginata* (Rich.) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 111. 2006. Type. MEXICO: without a locality, s.d., *A.Richard s.n.* (Holotype: W).
32. *Andreettaea megalops* (Luer) A.Doucette, **comb. nov.** Basionym: *Pleurothallis megalops* Luer, *Selbyana* 7: 118. 1982. *Specklinia megalops* (Luer) Pridgeon & M.W.Chase, *Lindleyana* 16: 258. 2001. *Muscarella megalops* (Luer) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 113. 2006. Type. HORTICULTURE: reportedly from Ecuador, Azuay, cultivated by B.Malo at Tarqui, 26 Feb 1982, *C.Luer 7025* (Holotype: SEL).
33. *Andreettaea mucronata* (Lindl. ex Cogn.) A.Doucette, **comb. nov.** Basionym: *Pleurothallis mucronata* Lindl. ex Cogn., *Symb. Antill. (Urban).* 6: 424. 1909. *Muscarella mucronata* (Lindl. ex Cogn.) Karremans, *Phytotaxa* 272(1): 30 (2016). *Verapazia mucronata* (Lindl. ex Cogn.) Chiron & Szlach., *Richardiana, N.S.* 2: 167. 2018. Type. CUBA: Prope villam Monte Verde dictam, Cuba Orientali, Jan-Jul 1859, *C.Wright 1504* (Lectotype: BR [843494]). Notes: Lectotype designated by H.Stenzel in *Fl. Rep. Cuba, Ser. A. Pl. Vasc.* 12: 122. 2007.
34. *Andreettaea obliquipetala* (Acuña & C. Schweinf.) A.Doucette, **comb. nov.** Basionym: *Pleurothallis obliquipetala* Acuña & C.Schweinf., *Bot. Mus. Leafl.* 6: 3. 1938. *Trichosalpinx acunae* Luer, *Phytologia* 54: 394. 1983 [*nom. nov.* for *Pleurothallis obliquipetala*]. *Specklinia obliquipetala* (Acuña & C.Schweinf.) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 262. 2004. *Muscarella obliquipetala* (Acuña & C.Schweinf.) Karremans, *Phytotaxa* 272: 30. 2016. Type. CUBA: Oriente, Estribo del Este, Pico Turquino, 1 Aug 1935, *J.Acuña 9540* (Holotype: HAC [as “Estación Central Agronomica, Santiago de las Vegas, Cuba”]; isotype: AMES [46830]).
35. *Andreettaea oblonga* (Luer & Hirtz) A.Doucette, **comb. nov.** Basionym: *Pleurothallis oblonga* Luer & Hirtz, *Lindleyana* 11: 174. 1996. *Specklinia oblonga* (Luer & Hirtz) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 262. 2004. Type. ECUADOR: Pichincha, Volcan Illiniza, Cerro Azul, 2800 m, 23 Jan 1987, *C.Luer, J.Luer, & A.Hirtz 12479* (Holotype: MO).
36. *Andreettaea ocellus* Luer, *Selbyana* 2: 183. 1978. *Pleurothallis ocellus* (Luer) Luer, *Monographs in Systematic Botany from the Missouri Botanical Garden* 20: 31. 1986. Type. ECUADOR: Morona-Santiago, east of Paute, 2800 m, 10 Jul 1977, *C.Luer, J.Luer,*

- G.Luer, & A.Andretta 1661* (holotype, SEL). **NOTES:** Luer (2006) notes that the flowers of this species are non-resupinate, which appears to be either a misinterpretation of the plant material he studied or an aberrant flower as the living material we observed consistently produced resupinate flowers (Fig. 2).
37. *Andrettaea perangusta* (Luer) A.Doucette, **comb. nov.** Basionym: *Pleurothallis perangusta* Luer, *Selbyana* 3: 162. 1976. *Specklinia perangusta* (Luer) Pridgeon & M.W.Chase, *Lindleyana* 16: 258. 2001. *Muscarella perangusta* (Luer) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 114. 2006. Type. ECUADOR: Napo, west of Tena, 600 m, 26 Jul 1975, *J.Brenner 14* (holotype: SEL).
  38. *Andrettaea quinqueseta* (Ames) A.Doucette, **comb. nov.** Basionym: *Pleurothallis quinqueseta* Ames, *Schedul. Orchid.* no. 9: 35, fig. 6 (1925). *Specklinia quinqueseta* (Ames) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 263 (2004). *Muscarella quinqueseta* (Ames) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 114 (2006). Type. COSTA RICA: San Jose, La Hondura, 1300–1700 m, 2–4 Mar 1924, P.C.Standley 36283 (Holotype: AMES [29165]; isotype: US). Notes: A syntype, *Standley 38368*, is also mentioned in the protologue.
  39. *Andrettaea rojohnii* (Luer) A.Doucette, **comb. nov.** Basionym: *Muscarella rojohnii* Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 115. 2006. *Specklinia rojohnii* (Luer) J.M.H.Shaw, *Orchid Rev.* 122: 77. 2014. Type. ECUADOR: Loja, north of Loja, 200 m, collected by C.Rojohn, D.D'Alessandro, & L.Mendoza, s.d., *C.Luer 21988* (Holotype: MO). **NOTES:** Thoele & Karremans (2019) report that “*V. stromatolithoides* is synonymous with *M. rojohnii*, and that *Vaginaella* cannot be separated from *Muscarella* Luer (2006: 94).”
  40. *Andrettaea samacensis* (Ames) A.Doucette, **comb. nov.** Basionym: *Pleurothallis samacensis* Ames, *Schedul. Orchid.* 2: 22. 1923. *Specklinia samacensis* (Ames) Pridgeon & M.W.Chase, *Lindleyana* 16: 259. 2001. *Muscarella samacensis* (Ames) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 115. 2006. Type: GUATEMALA, Alta Verapaz, Samac near Coban, 1370 m as "4500 ft.," Oct 1920, *O.Ames 765* (Holotype: AMES).
  41. *Andrettaea schudelii* (Luer & Hirtz) A.Doucette, **comb. nov.** Basionym: *Pleurothallis schudelii* Luer & Hirtz, *Selbyana* 23: 40. 2002. *Specklinia schudelii* (Luer & Hirtz) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 263. 2004. *Muscarella schudelii* (Luer & Hirtz) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 116. 2006. Type. HORTICULTURE: reportedly from Ecuador, Zamora-Chinchipec, Cordillera del Condor, near Paquisha, 1200 m, cultivated at Ecuagenera, Gualaceo, Apr. 2001, *A.Hirtz 7604* (Holotype: MO).
  42. *Andrettaea segregatifolia* (Ames & C.Schweinf.) A.Doucette, **comb. nov.** Basionym: *Pleurothallis segregatifolia* Ames & C.Schweinf., *Schedul. Orchid.* no. 8: 33. 1925. *Specklinia segregatifolia* (Ames & C. Schweinf.) Solano & Soto Arenas, *Icones Orchidacearum* 5–6: xi. 2003. *Muscarella segregatifolia* (Ames & C.Schweinf.) Karremans, *Phytotaxa* 272: 31. 2016. Type. COSTA RICA: La Fuente, Peralta, 24 Jun 1924, *C.H.Lankester 914* (Holotype: AMES [28691]).
  43. *Andrettaea semperflorens* (Lindl.) A.Doucette, **comb. nov.** Basionym: *Pleurothallis semperflorens* Lindl., *Fol. Orchid.* 9 (*Pleurothallis*): 40. 1859. *Humboltia semperflorens* (Lindl.) Kuntze, *Revis. Gen. Pl.* 2: 668. 1891. *Humboltia semperflorens* (Lindl.) Kuntze, *Revis. Gen. Pl.* 2: 668. 1891. *Muscarella semperflorens* (Lindl.) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 117. 2006. Type. ILLUSTRATION: based on an illustration of *Pleurothallis acuminata* Focke (nom. illeg.), Suriname, Paramaribo, in woods along the River Commeuynne, 20 Nov 1846, *H.C. Focke s.n.* (Holotype: W).
  44. *Andrettaea sibatensis* (F.Lehm. & Kraenzl.) A.Doucette, **comb. nov.** Basionym: *Pleurothallis sibatensis* F.Lehm. & Kraenzl., *Bot. Jahrb. Syst.* 26: 445. 1899. *Specklinia*

- sibatensis* (F.Lehm. & Kraenzl.) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 263 (2004). *Muscarella sibatensis* (F.Lehm. & Kraenzl.) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 117 (2006). Type. COLOMBIA: Cundinamarca, hills around Sibate, 2800 m, 3 Feb 1883, *F.C.Lehmann* 2553 (Holotype: K; isotype: AMES, BM, BR).
45. *Andreettaea strumosa* (Ames) A.Doucette, **comb. nov.** Basionym: *Pleurothallis strumosa* Ames, *Schedul. Orchid.* 9: 41. 1925. *Specklinia strumosa* (Ames) Pridgeon & M.W.Chase, *Lindleyana* 16: 259. 2001. *Muscarella strumosa* (Ames) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 118. 2006. Type. COSTA RICA: Cartago, Carpintera, Feb 1924, *C.H.Lankester* 766 (Holotype: AMES).
46. *Andreettaea stumpfleii* (Luer) A.Doucette, **comb. nov.** Basionym: *Pleurothallis stumpfleii* Luer, *Selbyana* 5: 182. 1979. *Specklinia stumpfleii* (Luer) Pridgeon & M.W.Chase, *Lindleyana* 16: 259. 2001. *Muscarella stumpfleii* (Luer) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 119. 2006. Type. HORTICULTURE: reportedly from Ecuador, Zamora-Chinchipe, near Valladolid, 2500 m, collected in July 1975 by W.Teague, L.Figueroa, & D.Welisch, flowered in cultivation by H. Ripley in San Francisco, 18 Aug 1979, *C.Luer* 4096 (Holotype: MO).
47. *Andreettaea tamboensis* (Luer & R.Escobar) A.Doucette, **comb. nov.** Basionym: *Pleurothallis tamboensis* Luer & R.Escobar, *Orquideologia* 14: 174. 1981. *Specklinia tamboensis* (Luer & R.Escobar) Pridgeon & M.W.Chase, *Lindleyana* 16: 259. 2001. *Muscarella tamboensis* (Luer & R.Escobar) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 119. 2006. Type. COLOMBIA: Cauca, El Tambo, between Uribe and Quebraditas, "La Galera," 2400 m, *R.Escobar et al.* 1828 (Holotype: JAUM).
48. *Andreettaea tapantiensis* (Mel.Fernández & Bogarín) A.Doucette, **comb. nov.** Basionym: *Muscarella tapantiensis* Mel.Fernández & Bogarín, *Webbia* 76: 67. 2021. Type. COSTA RICA, Cartago: Paraíso, Orosi, Tapantí, Parque Nacional Tapantí, sendero Oropéndola, epiphytic along río Grande de Orosi in a premontain rainforest, 1330 m, 25 September 2015, *M.Fernández et al.* 1080 (Holotype: JBL [spirit, J0159]).
49. *Andreettaea tempestalis* (Luer) A.Doucette, **comb. nov.** Basionym: *Pleurothallis tempestalis* Luer, *Selbyana* 3: 396. 1977. *Specklinia tempestalis* (Luer) Pridgeon & M.W.Chase, *Lindleyana* 16: 259. 2001. *Muscarella tempestalis* (Luer) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 120. 2006. Type. ECUADOR: Zamora-Chinchipe, between Loja and Zamora, 2800 m, 6 Mar 1977, *C.Luer, J.Luer, & K.Cordoba* 1570 (Holotype: SEL).
50. *Andreettaea trullifera* (Luer & Hirtz) A.Doucette, **comb. nov.** Basionym: *Pleurothallis trullifera* Luer & Hirtz, *Lindleyana* 11: 190. 1996. *Specklinia trullifera* (Luer & Hirtz) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 264. 2004. *Muscarella trullifera* (Luer & Hirtz) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 120. 2006. Type. ECUADOR: Morona-Santiago, Cordillera del Condor, east of Guisme, 1650 m, 21 May 1988, *C.Luer, A.Hirtz, W.Flores, A.Andretta, & W.Teague* 13549 (Holotype: MO).
51. *Andreettaea tsubotae* (Luer & R.Escobar) A.Doucette, **comb. nov.** Basionym: *Pleurothallis tsubotae* Luer & R.Escobar, *Orquideologia* 20: 88. 1996. *Specklinia tsubotae* (Luer & R.Escobar) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 264. 2004. *Muscarella tsubotae* (Luer & R.Escobar) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 121. 2006. Type. HORTICULTURE: reportedly from Colombia, Risaralda, near Pereira, flowered in cultivation by S. Tsubota near Pereira, 10 May 1993, *C.Luer* 16763 (Holotype: MO).
52. *Andreettaea villosilabia* (Luer & Hirtz) A.Doucette, **comb. nov.** Basionym: *Pleurothallis villosilabia* Luer & Hirtz, *Selbyana* 23: 41. 2002. *Specklinia villosilabia* (Luer & Hirtz) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 264. 2004. *Muscarella villosilabia* (Luer & Hirtz) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 122. 2006. Type.



- ECUADOR: Morona-Santiago, west of Macas, along new road toward Guamote, 2300 m, 2 Mar 2001, C.Luer, J.Luer, & A.Hirtz 19622 (Holotype: MO).
53. *Andreettaea wernerii* (Luer) A.Doucette, **comb. nov.** Basionym: *Muscarella wernerii* Luer Monogr. Syst. Bot. Missouri Bot. Gard. 105: 122. 2006. *Specklinia wernerii* (Luer) J.M.H.Shaw, *Orchid Rev.* 122: 77. 2014. Type. ECUADOR: Zamora-Chinchiipe, between Loja and Zamora, near Estacion Cientifica San Francisco, 2100 m, 2 Oct 2004, F.A.Werner 1180 (Holotype: QCNE; isotype: MO).
54. *Andreettaea xanthella* (Luer) A.Doucette, **comb. nov.** Basionym: *Pleurothallis xanthella* Luer, *Selbyana* 1: 300. 1975. *Specklinia xanthella* (Luer) Pridgeon & M.W.Chase, *Lindleyana* 16: 260. 2001. *Muscarella xanthella* (Luer) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 123. 2006. Type. ECUADOR: Napo, west of Tena, 600 m, 26 July 1975, C.Luer, G.Luer, & S.Wilhelm 456 (Holotype: SEL).
55. *Andreettaea xyloura* (Luer & Hirtz) A.Doucette, **comb. nov.** Basionym: *Muscarella xyloura* Luer & Hirtz, *Monogr. Syst. Bot. Missouri Bot. Gard.* 105: 123. 2006. *Pleurothallis xyloura* (Luer & Hirtz) Pfahl, *Internet Orchid Sp. Photo Encycl. Nomencl. Notes* 2: 1. 2013. *Specklinia xyloura* (Luer & Hirtz) J.M.H.Shaw, *Orchid Rev.* 122: 77. 2014. Type. ECUADOR: Napo, between Rio Jatunyacu and Pano, 800 m, 22 Feb 2004, A.Hirtz & X.Hirtz 8683 (Holotype: MO).
56. *Andreettaea zephyrina* (Rchb.f.) A.Doucette, **comb. nov.** Basionym: *Pleurothallis zephyrina* Rchb.f., *Bonplandia* 3: 71 (1855). *Humboltia zephyrina* Kuntze, *Revis. Gen. Pl.* 2: 668. 1891. *Trichosalpinx zephyrina* (Rchb.f.) Luer, *Phytologia* 54: 398. 1983. *Specklinia zephyrina* (Rchb.f.) Luer, *Monogr. Syst. Bot. Missouri Bot. Gard.* 95: 265. 2004. Type. COLOMBIA: Santander, Aspasia, *H. Wagener s.n.* (Lectotype: W; isolectotype: K). Notes: Lectotypes designated by Luer (2006) as "Holotype" and "Isotype;" no indication of the type specimens other than locality, "Aspasia," in the protologue.

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