

APPENDIX 3

Excluded taxa

- Acineta superba* (Kunth) Rchb.f. in W.G.Walpers, Ann. Bot. Syst. 6: 609. 1863.
This is a species from South America not yet recorded in Panama.
- Acianthera lanceana* (Lodd. ex Lindl.) Pridgeon & M.W.Chase, Lindleyana 16: 244. 2001.
A species widely distributed in Central and South America. Although expected in Panama, no vouchers have been found or cited for the country (Luer 2004).
- Anathallis polygonoides* (Griseb.) Pridgeon & M.W.Chase, Lindleyana 16: 250. 2001.
This species is distributed in Trinidad & Tobago, Venezuela, Suriname, French Guiana, Ecuador and Peru. No records have been found from Panama (Luer 2006). It can be confused with *A. sertularioides*.
- Bletia reflexa* Lindl., Edwards's Bot. Reg. 21: t. 1760. 1835.
We have not seen specimens recorded in Panama.
- Brassia lanceana* Lindl., Edwards's Bot. Reg. 21: t. 1754. 1835.
This is a species from South America not yet recorded in Panama.
- Brassia longissima* (Rchb.f.) Nash, L.H.Bailey, Stand. Cycl. Hort. 1: 541. 1914.
Specimens collected in Panama correspond to *B. arcuigera* Rchb.f.
- Campylocentrum schneeanum* Foldats, Bol. Soc. Venez. Ci. Nat. 22: 274. 1961.
We have not seen specimens recorded in Panama. Specimens under this name might correspond to *C. tenellum* Todzia (Correa *et al.* 2004).
- Chysis aurea* Lindl., Edwards's Bot. Reg. 23: t. 1937. 1837.
This is a species from South America not yet recorded in Panama.
- Coryanthes maculata* Hook., Bot. Mag. 58: t. 3102. 1831.
This is a species from South America not yet recorded in Panama.
- Coryanthes picturata* Rchb.f., Bot. Zeitung (Berlin) 22: 332. 1864.
This name was applied to Panama and Costa Rica populations now known as *C. kaiseriana* (Gerlach & Dressler 2003).
- Coryanthes speciosa* Hook., Bot. Mag. 58: t. 3102. 1831.
This is a species from South America not yet recorded in Panama.
- Cryptocentrum gracillimum* Ames & C. Schweinf., Schedul. Orch. 8: 68. 1925.
Specimens under this name correspond to *Cryptocentrum caespitosum* Carnevali.
- Cryptocentrum inaequisepalum* C.Schweinf., Bot. Mus. Leaf. 12: 186. 1946.
This is a South American species not recorded in Panama (Carnevali 2001).
- Cryptocentrum peruvianum* subsp. *minus* (Schltr.) Carnevali, Harvard Pap. Bot. 5: 482. 2001.
This is a subspecies from Colombia not yet recorded in Panama (Carnevali 2001).
- Cyclopogon millei* (Schltr.) Schltr., Beih. Bot. Centralbl. 37(2): 391. 1920.
This is a South American species not recorded in Panama.
- Cyclopogon olivaceous* (Rolfe) Schltr., Beih. Bot. Centralbl. 37(2): 392. 1920.
This species is restricted to Ecuador and Peru. According to Szlachetko *et al.* (2005) this name has been applied to Mesoamerican populations; however, they do not correspond to the type and protologue of *C. olivaceous*.
- Cynoches ventricosum* Bateman, Orchid. Mexico Guatemala: t. 5. 1838.
This is a species from South America not yet recorded in Panama.
- Cyrtopodium punctatum* (L.) Lindl., Gen. Sp. Orchid. Pl.: 188. 1833.
According to Romero-González & Carnevali-Fernández (1999) the correct name for the Panamanian populations is *Cyrtopodium macrobulbon*.
- Dichaea brachypoda* Rchb.f., Beitr. Orchid.-K. C. Amer.: 78. 1866.

This species is a synonym of *Dichaea panamensis* Lindl.. Other specimens in herbaria correspond to *D. elliptica* Dressler & Folsom (Correa *et al.* 2004).

Dichaea graminoides (Sw.) Lindl., Gen. Sp. Orchid. Pl.: 209. 1833.

We have not seen specimens in herbaria from Panama.

Dichaea tenuifolia Schltr., Repert. Spec. Nov. Regni Veg. Beih. 7: 203. 1920.

This is a poorly known species distributed from Colombia to Ecuador (Pupulin 2005a, 2007). Costa Rican populations of *Dichaea* with undulate, thin-textured leaves and smooth ovary were recognized as distinct from South American material and, thus, described as *D. viridula* (Pupulin 2005a). We have not yet seen specimens of this group from Panama.

Dressleria dilecta (Rchb.f.) Dodson, Selbyana 1: 132. 1975.

According to Hills (2012), this species is endemic to Costa Rica.

Dressleria eburnea (Rolfe) Dodson, Selbyana 1: 132. 1975. = ***Dressleria suavis*** (Ames & C.Schweinf.) Dodson

According to Hills (2012), this species ranges from Nicaragua to Costa Rica.

Dressleria helleri Dodson, Selbyana 1: 132. 1975.

This species is native to Nicaragua and Costa Rica. It has not yet been recorded in Panama.

Dryadella linearifolia (Ames) Luer, Selbyana 2(2-3): 208. 1978.

A species from Guatemala not yet recorded in Panama.

Dryadella pusiola (Rchb. f.) Luer, Selbyana 2(2/3): 209. 1978.

A species from South America not yet recorded in Panama.

Dryadella simula (Rchb.f.) Luer, Selbyana 2: 209. 1978.

This species is distributed from Colombia to Peru. It has not yet been reported from Panama.

Elleanthus capitatus (Poepp. & Endl.) Rchb.f., in W.G.Walpers, Ann. Bot. Syst. 6: 475. 1862.

This is a species from the Antilles. The name has been applied to specimens of *E. cynarocephalus* (Rchb.f.) Rchb.f. in Panama.

Elleanthus linifolius C.Presl, Reliq. Haenk. 1: 97. 1827.

The name was applied to *E. graminifolius* (Barb.Rodr.) Lojtnant.

Elleanthus robustus (Rchb.f.) Rchb.f., in W.G.Walpers, Ann. Bot. Syst. 6: 474. 1862.

A species from South America not yet recorded in Panama.

Encyclia gravida (Lindl.) Schltr., Beih. Bot. Centralbl. 36(2): 472. 1918.

This name must be applied with some prudence because the paucity specimens examined in Costa Rica and in literature (Pupulin & Bogarín 2011, 2012) seem to correspond to self-pollinating forms of different taxa. This phenomenon is common within the species complex close to *E. ceratistes*, *E. chloroleuca* and other “greenish” *Encyclias*. Thus, *E. gravida* might not be considered strictly as a distinct species. This name has been erroneously applied to some fruiting specimens of *E. stellata* (Correa *et al.* 2004).

Epidendrum bangii Rolfe, Bull. New York Bot. Gard. 4: 451. 1907.

According to Hágsater (2013) this species is found in the Andean region of Colombia and Ecuador.

Epidendrum blepharistes Barker ex Lindl., Edwards’s Bot. Reg. 30(Misc.): 20. 1844.

Although this species most likely occur in Panama, no voucher exists from Panama (Hágsater 2008).

Epidendrum carpophorum Barb.Rodr., Gen. Spec. Orchid. 2: 148. 1882.

According to Hágsater (2010) this species is restricted to Venezuela, Guyanas and Brazil. It has been confused with *Epidendrum angustilobum*, which is found in Costa Rica and Panama and in the Pacific coast of Colombia and Venezuela.

Epidendrum concavilabium C.Schweinf., Bot. Mus. Leaf. 4: 118. 1937.

This species has been traditionally treated as synonym of *E. circinatum* (Hágsater *et al.* 2003). According to Karremans *et al.* (2012), both species are distinct, with *E. circinatum* restricted to the middle elevations areas of Valle Central in Costa Rica, while *E. circinatum* is distributed along the Caribbean lowlands of Nicaragua, Costa Rica and Panama. The Panamanian voucher studied corresponds to *E. circinatum* (S. Laube *et al.* 590, PMA).

Epidendrum congestum Rolfe, Bull. Misc. Inform. Kew 1913: 29. 1913.

According to Hágsater (2007) this species is restricted to Costa Rica.

Epidendrum crescentilobum Ames, Schedul. Orchid. 4: 38. 1923.

This species is endemic to Costa Rica (Hágsater & Sánchez-Saldaña 2006).

Epidendrum difforme Jacq., Enum. Syst. Pl.: 29. 1760.

This is a species from the Antilles. It is not recorded in Panama.

Epidendrum ibaguense Kunth in F.W.H.von Humboldt, A.J.A.Bonpland & C.S.Kunth, Nov. Gen. Sp. 1: 352. 1816.

A species from South America not yet recorded in Panama.

Epidendrum microphyllum Lindl., J. Bot. (Hooker) 3: 85. 1841.

This species is restricted to South America.

Epidendrum obliquifolium Ames, F.T.Hubb. & C.Schweinf., Bot. Mus. Leaf. 3: 73. 1935.

According to Hágsater (1999), the voucher Dressler 5535 (PMA) determined as *E. obliquifolium* is *E. plagiophyllum*. Thus, this species is at the present only found in Costa Rica.

Epidendrum paniculatum Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil.: 243. 1798.

A species from South America. It has not yet been recorded in Panama.

Epidendrum peperomia Rchb.f., Bonplandia (Hannover) 2: 20. 1854.

This species is only found in Colombia and Venezuela. The name has been used in Panama for specimens that correspond to *E. porpax*.

Epidendrum polyanthum Lindl., Gen. Sp. Orchid. Pl.: 106. 1831.

According to Hágsater (2008), this species ranges from Mexico to Honduras.

Epidendrum ramonianum Schltr., Repert. Spec. Nov. Regni Veg. Beih. 19: 217. 1923.

According to Hágsater (2003) this species is endemic to Costa Rica.

Epidendrum repens Cogn., Repert. Spec. Nov. Regni Veg. 7: 122. 1909.

Although widely distributed in the Neotropics, Hágsater & Sánchez-Saldaña (2006) did not record this species in Panama.

Epidendrum schumannianum Schltr., Repert. Spec. Nov. Regni Veg. 9: 215. 1911.

An endemic species to Costa Rica. It has not yet been recorded in Panama. Its sister species is *Epidendrum pseudoschumannianum*, an endemic to Panama.

Epidendrum smaragdinum Lindl., Edwards's Bot. Reg. 24(Misc.): 32. 1838.

This is a South American species not found in Panama (Hágsater & Sánchez-Saldaña 2006).

Erycina glossomystax (Rchb.f.) N.H.Williams & M.W.Chase, Lindleyana 16: 136. 2001.

Widely distributed in South America; however, we have not seen vouchers from Panama.

Galeandra batemannii Rolfe, Gard. Chron., ser. 3, 12: 431. 1892.

This is a species from Mexico. It has not yet been recorded in Panama.

Galeandra bauerii Lindl., in F.A.Bauer, Ill. Orch. Pl.: t. 8. 1830.

This is a species from Guyana. It has not yet been recorded in Panama.

Galeandra styllomisantha (Vell.) Hoehne, Arq. Bot. Estado São Paulo, n.s., f.m., 2: 146. 1952.

This is a South American species. The Panamanian specimen corresponds to *G. arundinis* (Garay & G.A.Romero 2005).

Gomphichis hetaeroides Schltr., Repert. Spec. Nov. Regni Veg. Beih. 7: 54. 1920.

This species ranges from Colombia to Ecuador. The correct name for the populations from western Panama is *G. adnata* (Dressler 2003c).

Gongora charontis Rchb.f., Linnaea 41: 110. 1876.

This species is from Colombia. We have not seen vouchers of this species based on Panamanian material.

Gongora claviodora Dressler, Orquideologia 7: 75. 1972.

According to Dressler (2003c), this species ranges from Nicaragua to Costa Rica. No vouchers of this species have been seen from Panama.

Gongora maculata Lindl., Edwards's Bot. Reg. 19: t. 1616. 1833.

A species from South America. It has not yet been recorded in Panama.

Gongora quinquenervis Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil.: 227. 1798.

A species from South America. It has not yet been recorded in Panama.

Goodyera bradeorum Schltr., Repert. Spec. Nov. Regni Veg. Beih. 19: 88. 1923.

The type material of *G. bradeorum* is lost, and the application of this concept is still uncertain (Dressler 2003c).

Goodyera striata Rchb.f., Linnaea 18: 409. 1845.

This species is recorded from Mexico to Nicaragua

(Govaerts 2003).

Govenia liliacea (Lex.) Lindl., Edwards's Bot. Reg. 21: t. 1795. 1835.

A species from northern Mesoamerica. It has not yet been recorded in Panama.

Guarianthe deckeri (Klotzsch) Roeth, Orchidee (Hamburg) 57: 612. 2006.

Specimens collected in Panama correspond to *Guarianthe patinii* (Cogn.) Dressler & W.E.Higgins.

Habenaria bractescens Lindl., Gen. Sp. Orchid. Pl.: 308. 1835.

This species has not yet been recorded in Panama.

Habenaria entomantha (Lex.) Lindl., Gen. Sp. Orchid. Pl.: 311. 1835.

This species has not yet been recorded in Panama.

Habenaria floribunda Lindl., Gen. Sp. Orchid. Pl.: 316. 1835.

This species has not yet been recorded in Panama.

Habenaria quinqueseta (Michx.) Eaton, Man. Bot., ed. 5: 235. 1829.

This species has not yet been recorded in Panama.

Huntleya meleagris Lindl., Edwards's Bot. Reg. 23: t. 1991. 1837.

The specimen cited in Flora of Panama (Williams & Allen 1980) corresponds to *H. burtii* (Endrés & Rchb.f.) Pfitzer (Correa *et al.* 2004).

Isochilus major Cham. & Schltdl., Linnaea 6: 60. 1831.

This species was described from Mexico. We were unable to locate or identify Panamanian specimens of this species.

Kefersteinia microcharis Schltr., Repert. Spec. Nov. Regni Veg. Beih. 19: 300. 1923.

According to Pupulin (2001) this species is endemic to Costa Rica.

Kegeliella houtteana (Rchb.f.) L.O.Williams, Ann. Missouri Bot. Gard. 29: 347. 1942.

This name has been erroneously applied to specimens of *K. atropilosa* L.O. Williams & A.H. Heller.

Laelia rubescens Lindl., Edwards's Bot. Reg. 26(Misc.): 20. 1840.

The voucher quoted by Williams & Allen (1980) comes from a cultivated plant from C.W. Powell apparently collected in the Chiriquí province, near the border with Costa Rica close to Golfo Dulce. However, this area is outside of the natural distribution of the species which ranges from Mexico to the Central Pacific of

Costa Rica. In Costa Rica, we have not seen specimens along the southern Pacific coast (from Carara to Burica) towards Panama. No collections appeared in Panama other than the voucher cited.

Laelia undulata (Lindl.) L.O. Williams, Darwiniana 5: 76. 1941.

This species is known from South America (Dressler 2003). We have not been able to see specimens from Panama.

Lankesteriana barbulata (Lindl.) Karremans, Lankesteriana 13(3): 326. 2014.

Although widely distributed through Central and South America, we have not seen vouchers from Panama. Luer (2006) did not cite any collection for the country. It is expected to be found in Panama.

Lepanthes pristidis Rchb.f., Linnaea 22: 820. 1850.

This species was described from Mexico. Its is considered a synonym of *L. disticha* (Luer 2003a).

Liparis nervosa (Thunb.) Lindl., Gen. Sp. Orchid. Pl.: 26. 1830.

Specimens from Costa Rica and Panama (Dressler 1993) correspond to *L. elata* (Dressler 2003c).

Lycaste xytriophora Linden & Rchb.f. in W.W.Saunders, Refug. Bot. 2: t. 131. 1872.

Although it has been recorded from Costa Rica and Panama, this species is restricted to South America (Dressler 2003c). No vouchers of this species have been seen from Panama.

Malaxis excavata (Lindl.) Kuntze, Revis. Gen. Pl. 2: 673. 1891.

This species was described from Mexico. In Costa Rica and Panama the name was applied to populations of *M. hastilabia*, which is considered a distinct species (Dressler 2003c).

Malaxis fastigiata (Rchb.f.) Kuntze, Revis. Gen. Pl. 2: 673. 1891.

This name was misapplied to specimens of *M. brachyrrhynchos* (Dressler 2003c).

Malaxis parthoni C.Morren, Bull. Acad. Roy. Sci. Bruxelles 5: 485. 1839.

This species is from Brazil. The name has been erroneously applied to specimens of *M. histionantha* (Link) Garay & Dunst.

Maxillariella caespitifica (Rchb.f.) M.A.Blanco & Carnevali, Lankesteriana 7: 528. 2007.

This species ranges from Nicaragua to Costa Rica. It has not yet been recorded in Panama (Atwood 2003).

- Maxillaria luteoalba*** Lindl., Orchid. Linden.: 20. 1846.
A species from South America. It has not yet been recorded in Panama.
- Maxillaria meridensis*** Lindl., Orchid. Linden.: 19. 1846.
This species known from Costa Rica, Venezuela, Colombia, Ecuador and Bolivia has not yet been recorded in Panama.
- Maxillaria speciosa*** Rchb.f., Gard. Chron., n.s., 6: 197. 1876.
This species is known from Colombia and Ecuador.
- Maxillaria splendens*** Poepp. & Endl., Nov. Gen. Sp. Pl. 1: 38. 1836.
This species is known from Colombia and Venezuela to Peru and Brazil.
- Mormodes atropurpurea*** Lindl., Intr. Nat. Syst. Bot., ed. 2: 446. 1836.
A species from South America and has not yet been recorded in Panama. The name has been erroneously applied to specimens of *M. lobulata* Schltr.
- Mormodes cartonii*** Hook., Bot. Mag. 72: t. 4214. 1846.
This is a species from Sierra Nevada de Santa Marta Colombia. No vouchers have been seen from Panama.
- Mormodes ignea*** Lindl. & Paxton, Paxton's Fl. Gard. 3: 97. 1852.
A species from South America. It has not yet been recorded in Panama. The name has been erroneously applied to specimens of *M. fractiflexa* Rchb.f.
- Mormodes punctata*** Rolfe, Gard. Chron., ser. 3, 10: 696. 1891.
This name was published based on a plant of unknown origin. We have not seen the type specimen at K. The application of this name is obscure and its presence in Panama is uncertain.
- Mormolyca rufescens*** (Lindl.) M.A.Blanco, Lankesteriana 7: 531. 2007.
A species from South America. It has not yet been recorded in Panama.
- Muscarella zephyrina*** (Rchb.f.) Luer, Monogr. Syst. Bot. Missouri Bot. Gard. 105: 124. 2006.
This species is widely distributed in South America but it has not yet been recorded in Panama (Luer 2006).
- Myoxanthus exasperatus*** (Lindl.) Luer, Selbyana 7: 36. 1982.
This species is only known from South America (Luer 1997a).
- Notylia barkeri*** Lindl., Edwards's Bot. Reg. 24(Misc.): 90. 1838.
This species ranges from Mexico to Honduras. No specimens were found in herbaria from Panama.
- Notylia lankesteri*** Ames, Schedul. Orchid. 5: 34. 1923.
This is an endemic species to Costa Rica. It has not yet been recorded in Panama.
- Oncidium abortivum*** Rchb.f., Linnaea 22: 847. 1850.
This species is restricted to South America (Govaerts 2003).
- Oncidium baueri*** Lindl., Gen. Sp. Orchid. Pl.: 200. 1833.
No vouchers of this species has been seen from Panama. The species is restricted to South America.
- Oncidium heteranthum*** Poepp. & Endl., Nov. Gen. Sp. Pl. 1: 34. 1836.
This species is restricted to South America. The name was misapplied to specimens of *O. bryolophotum* (Dressler 2003c).
- Oncidium hymenanthum*** (Schltr.) M.W.Chase & N.H.Williams, Lindleyana 21(3): 25. 2008.
This is an enigmatic endemic species from Costa Rica. The specimens that we studied from Panama fit better with the concept of *Oncidium integrilabre* = *Sigmatostalix integrilabris* proposed by Pupulin (2003).
- Oncidium ornithorhynchum*** Kunth in F.W.H.von Humboldt, A.J.A.Bonpland & C.S.Kunth, Nov. Gen. Sp. 1: 345. 1816.
According to Jiménez & Hágsater (2010), this species is from South America and the name was misapplied to the populations of Mexico and Central America. The correct name for this species in Panama is *O. sotoanum*.
- Oncidium planilabre*** Lindl., J. Hort. Soc. London 6: 59. 1851.
This species is restricted to South America (Govaerts 2003).
- Oncidium stenoglossum*** (Schltr.) Dressler & N.H.Williams, Orquídea (Mexico City), n.s., 4: 339. 1975.
This species ranges from Mexico to Costa Rica (Dressler 2003c). It is likely found in western Panama but no herbarium vouchers have been seen.
- Ornithidium aureum*** Poepp. & Endl., Nov. Gen. Sp. Pl. 1: 57. 1836.
This species is restricted to South America (Govaerts 2003).

- Ornithocephalus gladiatus*** Hook., Exot. Fl. 2: t. 127. 1824.
This species is species from Trinidad and South America. The name has been applied to several specimens along the Neotropics. We have not seen Panamanian material regarding this species.
- Pabstiella uniflora*** (Lindl.) Luer, Monogr. Syst. Bot. Missouri Bot. Gard. 112: 121. 2007.
This species is restricted to South America and it is not recorded in Panama (Luer 1998b).
- Palmorchis sylvicola*** L.O.Williams, Fieldiana, Bot. 32: 199. 1970.
Specimens treated under this name correspond to *P. trinotata* Dressler.
- Paphinia clausula*** Dressler, Taxon 15: 242. 1966.
The specimens recorded in Panama under this name correspond to *P. subclausa* Dressler.
- Phloeophila peperomioides*** (Ames) Garay, Orquideologia 9: 118. 1974.
This species has been recorded only from Belize, Honduras and Costa Rica (Luer 2006). It has not been yet recorded from Panama. A voucher is cited in TROPICOS database (*J.P. Folsom 1496A*, MO); however, we were not able to study it.
- Phragmipedium caudatum*** (Lindl.) Rolfe, Orchid Rev. 4: 332. 1896.
This is a South American species. The name has been misapplied to specimens of *Phragmipedium humboldtii* (Warsz.) J.T.Atwood & Dressler (Atwood & Dressler 1998).
- Platythelys querceticola*** (Lindl.) Garay, Bradea 2: 197. 1977.
Although widely distributed in the Neotropics, Ormerod (2013) did not cite any specimen from Panama. We were unable to locate Panamanian specimens in the field or in herbaria.
- Platystele lancilabris*** (Rchb.f.) Schltr., Repert. Spec. Nov. Regni Veg. Beih. 19: 102. 1923.
This species is endemic to Costa Rica (Luer 1990).
- Pleurothallis crenata*** Lindl., Gard. Chron. 1846: 207. 1846.
This is a species from Mexico. This species was cited erroneously in Flora of Panama (Williams & Allen 1908, Correa *et al.* 2004).
- Pleurothallis luctuosa*** Rchb.f., Linnaea 41: 48. 1876.
Though no herbarium vouchers have been seen for Panama, it is expected to be found in the country (Luer 2003b, Pupulin *et al.* 2010a).
- Pleurothallis monocardia*** Rchb.f., Bonplandia (Hannover) 3: 72. 1855.
This species ranges from Colombia to Ecuador. It is not present in Panama (Govaerts 2003).
- Pleurothallis platysepala*** Schltr., Repert. Spec. Nov. Regni Veg. Beih. 7: 111. 1920.
This species is found in Colombia and it has not yet been recorded in Panama (Govaerts 2003).
- Polycynis lehmanni*** Rolfe, Bull. Misc. Inform. Kew 365. 1894.
This species is known from Colombia. It has not been recorded in Panama (Gerlach 2004).
- Polycynis muscifera*** (Lindl. & Paxton) Rchb. f., Bonplandia 3(15–16): 218. 1855.
This species is known from Venezuela, Colombia and Bolivia. It has not been recorded in Panama (Gerlach 2004).
- Polystachya cerea*** Lindl., Edwards's Bot. Reg. 26(Misc.): 86. 1840.
This species has not yet been recorded in Panama.
- Ponthieva ephippium*** Rchb.f., Linnaea 28: 382. 1857.
This species was described from Mexico and it is also present in Guatemala and Honduras (Govaerts 2003). Specimens from Panama may correspond to *P. racemosa*.
- Ponthieva maculata*** Lindl., Ann. Mag. Nat. Hist. 15: 385. 1845.
According to Dressler (2003c), this name based on Colombian material has been wrongly applied to Central American populations of *P. brenesii* Schltr. and *P. formosa* Schltr.
- Prescottia cordifolia*** Rchb.f., Bonplandia (Hannover) 3: 66. 1855.
The taxonomy of this genus in Panama is still unclear. This species is recorded from Colombia to Ecuador. We were unable to identify specimens in herbaria corresponding to this concept.
- Prosthechea vespa*** (Vell.) W.E.Higgins, Phytologia 82: 381.[1998].
The species complex related to *P. vespa* is still in need of a taxonomic revision. We have observed several specimens of this complex in the field with highly morphological variation in Panama. Some authors suggest the name *P. crassilabia* for the Central American species (Carnevali & Ramírez-Morillo 2003).
- Rhynchostele stellata*** (Lindl.) Soto Arenas & Salazar, Orquidea (Mexico City), n.s., 13: 151. 1993.

A species from Mexico, Guatemala, Honduras and El Salvador. A record from Costa Rica is dubious (Hágsater & Soto-Arenas 2003). No herbarium records from Panama were found for this species.

Sarcoglottis acaulis (Sm.) Schltr., Repert. Spec. Nov. Regni Veg. Beih. 6: 53. 1919.

In Costa Rica and Panama, some specimens have been treated erroneously as *Sarcoglottis acaulis* (J. E. Sm.) Schltr., a species from South America no longer considered to occur in Mesoamerica (Christenson 1991c).

Scaphyglottis graminifolia (Ruiz & Pav.) Poepp. & Endl., Nov. Gen. Sp. Pl. 1: 59. 1836.

A species from South America. It has not yet been recorded in Panama.

Sigmatostalix picta Rchb.f. in W.G. Walpers, Ann. Bot. Syst. 5: 859. 1864.

A species from South America. It has not yet been recorded in Panama.

Sobralia candida (Poepp. & Endl.) Rchb.f., Fl. Serres Jard. Eur. 8: 247. 1853.

A species from Venezuela, Colombia, Ecuador and Peru not yet found in Panama (Govaerts 2003).

Sobralia decora Bateman, Orchid. Mexico Guatemala: t. 26. 1841.

According to Dressler (2012), *S. decora* is a species restricted to southern Mexico, Belize, Guatemala and northern Honduras, whereas the material identified as *S. decora* in Nicaragua, Costa Rica and Panama better correspond to *S. feniziana*.

Specklinia alexii (A.H. Heller) Pridgeon & M.W. Chase, Lindleyana 16: 256. 2001.

This species is only known from Nicaragua (Luer 2006).

Specklinia endotrachys (Rchb.f.) Pridgeon & M.W. Chase, Lindleyana 16: 257. 2001.

The *S. endotrachys* complex was revised by Pupulin *et al.* (2013). *Specklinia endotrachys* is an endemic species to Costa Rica. Although *S. endotrachys* is not recorded in Panama, three species previously treated under that name are recognized: *S. pfavii*, *S. remotiflora* and *S. spectabilis*.

Specklinia lanceola (Sw.) Lindl., Gen. Sp. Orchid. Pl.: 8. 1830.

This species has been recorded from Mexico, Jamaica and Costa Rica (Luer 2006). No vouchers from Panama have been found.

Stanhopea graveolens Lindl., Edwards's Bot. Reg. 26(Misc.): 59. 1840.

This is a species distributed from Mexico to Honduras (Govaerts 2003).

Stanhopea oculata (Lodd.) Lindl., Gen. Sp. Orchid. Pl.: 158. 1832.

This species ranges from Mexico to northern Nicaragua (Hágsater & Soto-Arenas 2003). We have not seen specimens in herbaria of *S. oculata*. It was cited by Williams & Whitten (1988) in the key to the species of *Stanhopea* from Panama; however, no voucher was cited.

Stelis aprica Lindl., Companion Bot. Mag. 2: 353. 1837.

This is a South American species not found in Panama (Govaerts 2003).

Stelis alajuelensis Pridgeon & M.W. Chase, Lindleyana 17(2): 98. 2002.

According to Karremans (2012), several specimens in herbaria have been erroneously identified as *S. alajuelensis* (= *D. ramonensis*), an endemic species to Costa Rica. At the moment, no specimens referable to this concept have been found in Panama.

Stelis cooperi Schltr., Repert. Spec. Nov. Regni Veg. 3: 276. 1907.

This species is endemic to Costa Rica (Luer 2003c).

Stelis janetiae (Luer) Pridgeon & M.W. Chase, Lindleyana 16: 264. 2001.

This species is endemic to Costa Rica. It is likely found in Panama as the type specimen was collected in the southern region of Costa Rica near the border with Panama. It is related to the Panamanian endemic *S. guttata*.

Stelis maxima Lindl., Ann. Mag. Nat. Hist. 15: 106. 1845.

A South American species not recorded in Panama (Govaerts 2003).

Stelis rodrigo (Luer) Pridgeon & M.W. Chase, Lindleyana 16: 266. 2001.

Specimens from Panama correspond to *S. furculifera* (Dressler & Bogarin 2007a). No vouchers of *S. rodrigo* have been seen from Panama.

Stelis sclerophylla (Lindl.) Karremans, Lankesteriana 13(3): 330. 2014.

According to Luer (2003c) this name was applied erroneously in Costa Rica and Panama for specimens that correspond to *P. dolichopus* = *Stelis lamprophylla*.

- Stelis velaticaulis*** (Rchb.f.) Pridgeon & M.W.Chase, Lindleyana 16: 267. 2001.
This is a South American species not yet recorded in Panama (Luer 1998a).
- Telipogon dendriticus*** Rchb.f., Otia Bot. Hamburg.: 6. 1878.
A species from South America. It has not yet been recorded in Panama.
- Telipogon minutiflorus*** Kraenzl., Ann. Naturhist. Mus. Wien 33: 14. 1920.
This species is endemic to Costa Rica (Dressler 2003c).
- Telipogon radiatus*** Rchb.f., Linnaea 41: 70. 1876.
A species from South America. It has not yet been recorded in Panama.
- Trichocentrum carthagenense*** (Jacq.) M.W.Chase & N.H.Williams, Lindleyana 16: 137. 2001.
This is a species from the Pacific coast of Colombia and Venezuela. Panamanian specimens correspond to *Trichocentrum crispiflorum* (Schltr.) Bogarín.
- Trichosalpinx ciliaris*** (Lindl.) Luer, Phytologia 54: 395. 1983.
This species ranges from Mexico to Costa Rica. It has not been recorded in Panama (Luer 1997a).
- Trichosalpinx intricata*** (Lindl.) Luer, Phytologia 54: 396. 1983.
This species is restricted to South America. Luer (1997a) did not record specimens from Panama.
- Triphora trianthophora*** subsp. *mexicana* (S.Watson) Medley, Selbyana 12: 102. 1991.
The genus *Triphora* is poorly known in Panama. This species has been recorded in the country (Correa *et al.* 2004) as *T. mexicana*; however, we were unable to study specimens in herbaria that fit with this concept. Goaverts (2003) accepted this species as *T. trianthophora* subsp. *mexicana*. Dressler (2003c) treated the Costa Rican vouchers of *T. trianthophora* subsp. *mexicana* (Pupulin 2002) as *T. debilis*.
- Trevoria glumacea*** Garay, Orquideologia 5: 8. 1970.
García-Castro *et al.* (1993) and Correa *et al.* (2004) recorded this species from Panama; however, no vouchers were cited. We have not found specimens in herbaria. Dressler (2003c) cited *T. glumacea* only from Nicaragua to Costa Rica. Although the genus is likely to be found in Panama it is excluded in absence of herbarium vouchers.
- Trevoria zahlbruckneriana*** (Schltr.) Garay, Orquideología 5: 8. 1970.
Dressler (2003c) cited *T. zahlbruckneriana* only from Nicaragua to Costa Rica. See the above discussion.
- Vanilla insignis*** Ames, Bot. Mus. Leaflet 2: 101. 1934.
This species ranges from Mexico, Belize, Guatemala and Honduras. It was recorded from Panama (Dressler 2003c, Correa *et al.* 2004); however, the report may correspond to *V. dressleri* (Soto-Arenas & Dressler 2010).
- Warczewiczella marginata*** Rchb.f., Bot. Zeitung (Berlin) 10: 636. 1852.
Warczewiczella marginata is a species found in Colombia and Venezuela. It has not yet recorded in Panama. Specimens of *W. lipscombiae* from Panama were erroneously treated under *W. marginata* (D'Arcy 1987, Correa *et al.* 2004).
- Zootrophion atropurpureum*** (Lindl.) Luer, Selbyana 7: 80. 1982.
According to (Luer 2004), this species is recorded from Jamaica, Cuba, Haiti, Dominican Republic and Brazil. It has not been recorded in Central America and Panama.
- Zootrophion hypodiscus*** (Rchb.f.) Luer, Selbyana 7: 84. 1982.
This species is known from Colombia and Ecuador. It has not been recorded in Panama (Luer 2004).