

NEOTROPICAL ORCHID MISCELLANEA 2

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Abstract. Literature and herbarium studies of various orchid taxa that occur in the New World lead to the recognition of two new species and five new synonyms, and the transfer of two names. Thus two transfers are proposed, *Bifrenaria parthonii* and *Ida insolita*, and two new species are proposed, *Microchilus croatii* and *M. topoensis*.

Keywords: Neotropics, orchids, *Bifrenaria*, *Ida*, *Microchilus*

This paper is a continuation of previous research (Ormerod, 2016) that deals with various problems that the author encountered during studies of Neotropical orchids.

Bifrenaria Lindl., Gen. Sp. Orch. Pl.: 152. 1832.

Type species: *Maxillaria atropurpurea* Lindl.

A genus of 18–20 species mostly confined to Brazil, with a few outliers reaching north to Venezuela, and south to Argentina. The genus was effectively revised by Koehler and Amaral (2004) with a seemingly sound taxonomic approach, but curiously they omitted several synonyms and quoted incorrect types for a number of names.

Bifrenaria parthonii (Dumort.) Ormerod, *comb. nov.*

Basionym: *Maxillaria parthonii* Dumort., Hort. Belg. 2: 245. 1834.

TYPE: BRAZIL. Without locality, *cult. L.B.vanHoutte s.n.* (Holotype: lost).

Heterotypic synonyms: *Bifrenaria clavigera* Rchb.f., Hamb. Gartenz. 21: 296. 1865 *syn. nov.*

TYPE: BRAZIL. Without locality, *cult. Blunt for H.Low s.n.* (Syntype: W-R, not seen); 1864, *cult. J.Stone for J.Day s.n.* (Syntype: W-R 42636, image seen).

Stenocoryne clavigera (Rchb.f.) Kraenzl., Xenia Orch. 3: 142. 1896.

Adipe clavigera (Rchb.f.) M. Wolff, Orchidee (Hamb.) 41, 2: 36. 1990.

Stenocoryne wendlandiana Kraenzl., Xenia Orch. 3: 154. 1896.

TYPE: BRAZIL. Without locality, *cult. H.Wendland s.n.* (Holotype: lost). Lectotype (Koehler and Amaral 2004: 325): t. 289, in *Xenia Orch.* 3, 1896.

Bifrenaria wendlandiana (Kraenzl.) Cogn., in Martius, Fl. Bras. 3, 5: 489. 1902.

Adipe wendlandiana (Kraenzl.) M. Wolff, Orchidee (Hamb.) 41, 2: 37. 1990.

Distribution: Brazil.

After analysis of the protologue of *Maxillaria parthonii* I conclude it is the earlier name for *Bifrenaria clavigera*. Dumortier notes the compressed, unifoliate pseudobulbs, multiflorous inflorescence, rose-gray petals, lateral sepals

forming a mentum, unlobed labellum with denticulate margins, inside with carmine points, and a medial citron yellow spot. A good image exemplifying these characters has been published by Chiron and Bolsanello (2014) as *B. clavigera*.

Ida A. Ryan & Oakley, Orch. Digest 67, 1: 9. 2003.

Type species: *Lycaste locusta* Rchb.f.

A genus of 40–45 large-flowered species occurring in the Caribbean and South America. It has until recently been known as *Sudamerlycaste* Archila until Pupulin and Karremans (2017) showed that *Ida* was the oldest name, and that the publication dates of the former were erroneous. In a recent treatment (Ormerod, 2018) of *Xylobium* Lindl., an excluded species (*X. insolitum*) was transferred to the younger name; this is here corrected.

Ida insolita (Szlach. & Kolan.) Ormerod, *comb. nov.*

Basionym: *Xylobium insolitum* Szlach. & Kolan., Phytion (Horn) 54, 1: 73. 2014.

TYPE: COLOMBIA. Norte de Santander: Municipio de Playa de Belen, Quebrada la Teneria, Area Natural Unica los Estoraques, 1600 m, 14 April 2002, *R.Galindo-Tarazone 805* (Holotype: COL; Isotype: UIS, images seen).

Homotypic synonym: *Sudamerlycaste insolita* (Szlach. & Kolan.) Ormerod, Harvard Pap. Bot. 23, 1: 74. 2018.

Distribution: Colombia.

Microchilus Presl, Reliq. Haenk. 1, 2: 94. 1827.

Lectotype species (Ormerod 2002: 214): *Microchilus minor* Presl

A genus of Goodyerinae with about 145–150 species confined to the New World, distributed from Mexico and the Caribbean to Argentina and Paraguay. It is particularly well represented in the Andes of Colombia, where about half the species occur. Apart from the two new species described here, it is necessary to propose some new synonymy.

Microchilus capitatus Ormerod, Harvard Pap. Bot. 9, 2: 400. 2005.

TYPE: PERU. Cuzco: Prov. Urubamba, ruins of Machu Pichu, 2100 m, 28 July 1966, *C.Vargas C. 17638* (Holotype:

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AMES; Isotype: CUZ [photograph seen], NY).

Heterotypic synonym: *Microchilus peruvianus* Szlach. & Kolan., *Phyton* (Horn) 56, 2: 257. 2016 *syn. nov.*

TYPE: PERU. Cuzco: Prov. La Convencion, Distrito Quellouno, road to Lacco, 1000–2100 m, 27 August 2007, *L.Valenzuela, A.Carazas, B.Rado & S.Flores 10223* (Holotype: MO).

Distribution: Peru.

Additional specimen examined: PERU. Cuzco: Prov. Urubamba, Machu Pichu, 500 m N of Sayacmarca and Ayobamba Rivers, 2405 m, 12 October 1982, *B.Peyton & S.TilneyPeyton 1481* (MO).

Examination of the holotype of *Microchilus peruvianus* reveals no characters that distinguish this entity from *M. capitatus*. Critical characters such as the densely congested rachis, smallish flowers (sepals 4.2–5.2 mm long), truncate-subbilobulate petals, apically clawed hypochile, obliquely spatulate-cuneate epichile lobules, and short column (2.0–2.4 mm long) are all found in the material at hand.

Microchilus croatii Ormerod, *sp. nov.*

TYPE: ECUADOR. Zamora-Chinchipe: along road between Zumba and Vilcabamba, 74.5 km N of Zumba, 44.3 km S of Yangana, 1233 m, 28 July 2004, *T.B.Croat 92514* (Holotype: SEL; Isotype: MO, not seen). Fig. 1.

Similar to *Microchilus viridissimus* Ormerod but the flowers with a lunate-anchoriform (vs. transversely oblong) labellum epichile, and a stouter (vs. slender) column.

Terrestrial herb, to 62.5 cm tall in flower. *Rhizome* not seen. *Stem* with lower part decumbent, upper part erect, terete, subclaxly 4- to 5-leaved, 15.2 × 0.4–0.6 cm; internodes 3.35–6.30 cm long. *Leaves* mostly damaged in the type, only intact one obliquely elliptic, subacuminate, 11.0 × 4.8 cm; petiole and sheath 3.0–4.8 cm long. *Inflorescence* pubescent, 47.3 cm long; peduncle 34.3 cm long; sheathing bracts lax, 7, 1.45–2.60 cm long; rachis subsecundly and subdensely many-flowered, ca. 13 cm long; floral bracts ovate-lanceolate, subacuminate, to 1.1 cm long. *Flowers* white, externally laxly pubescent. *Pedicel with ovary* fusiform, laxly pubescent, 5–6 mm long. *Dorsal sepal* oblong-lanceolate, obtuse, forming with the petals a galea, 4.0 × 1.6 mm. *Lateral sepals* obliquely oblong, obtuse, 4.7–5.0 × 1.3–1.4 mm. *Petals* obliquely ligulate-oblong, apex shallowly bilobed-obtuse, lower apical margin minutely dentate to ciliate, 4.0–4.2 × 1.1–1.2 mm. *Labellum* spurred, trilobed, joined to the column for 1 mm; spur oblongoid-ellipsoid, obtuse, 1.8 mm long, 1.0–1.1 mm wide laterally; hypochile oblong, 2.8 × 1.6 mm; epichile lunate-anchoriform, shortly and broadly apiculate, papillose-pubescent, ca. 0.9 × 4.0 mm (2.8 mm unspread); lobules oblong, obtuse, subfalcate, ca. 1.4 × 0.4 mm. *Column* stout, 2.7 mm long.

Distribution: Ecuador.

Etymology: named after Thomas B. Croat (1938–), specialist in Aroids, and collector of the type.

This taxon appears similar to its Ecuadorian congener *Microchilus viridissimus* Ormerod, having flowers about the same size; however, it differs in having a lunate-anchoriform

(vs. transversely oblong) labellum epichile with half as wide (0.4 vs. 0.9 mm) lobules, and a much stouter column.

Microchilus maasii Ormerod, *Harvard Pap. Bot.* 11, 2: 161. 2007.

TYPE: COSTA RICA. Cartago: Rio Atirro, La Esperanza, 800 m, 8 October 1974, *P.J.M.Maas 1171* (Holotype: F; Isotype: MO).

Heterotypic synonyms: *Microchilus campanensis* Kolan., *Pol. Bot. J.* 59, 2: 185. 2014 *nom. illeg., syn. nov.* (*non* Ormerod 2009).

TYPE: PANAMA. Prov. de Panama: Distrito de Capira, Cerro Campana, 700–1000 m, 12 January 1995, *C.Galdames 1877 & C.Guerrera* (Holotype: PMA, image seen).

Microchilus dressleri Kolan., *Phytotaxa* 208, 2: 182. 2015.

Distribution: Costa Rica; Panama.

Specimens from Panama tend to have flowers at the lower end of floral size (sepals ca. 6 mm long) but otherwise do not differ from Costa Rican plants. In this regard I find no characters that justify the separation of *Microchilus campanensis* Kolan., which agrees in all features with the numerous examples already studied (see Ormerod, 2007, for specimen citation).

Microchilus nigrescens (Schltr.) Ormerod, *Lindleyana* 17, 4: 219. 2002.

Basionym: *Physurus nigrescens* Schltr., *Beih. Bot. Centralbl.* 36: 380. 1918.

TYPE: COSTA RICA. Without locality, *F.C.Lehmann s.n.* (Holotype: B, destroyed; drawing AMES).

Homotypic synonym: *Erythrodes nigrescens* (Schltr.) Ames, *Orch.* 7: 74. 1922.

Heterotypic synonyms: *Erythrodes killipii* Ames, *Proc. Biol. Soc. Wash.* 34: 150. 1921.

TYPE: PANAMA. Chiriqui: Valley of the Rio Caldero, from El Boquete to the Cordillera, 1400–1600 m, 1 February 1918, *E.P.Killip 3561* (Holotype: AMES; Isotypes: GH; BH, NY, images seen).

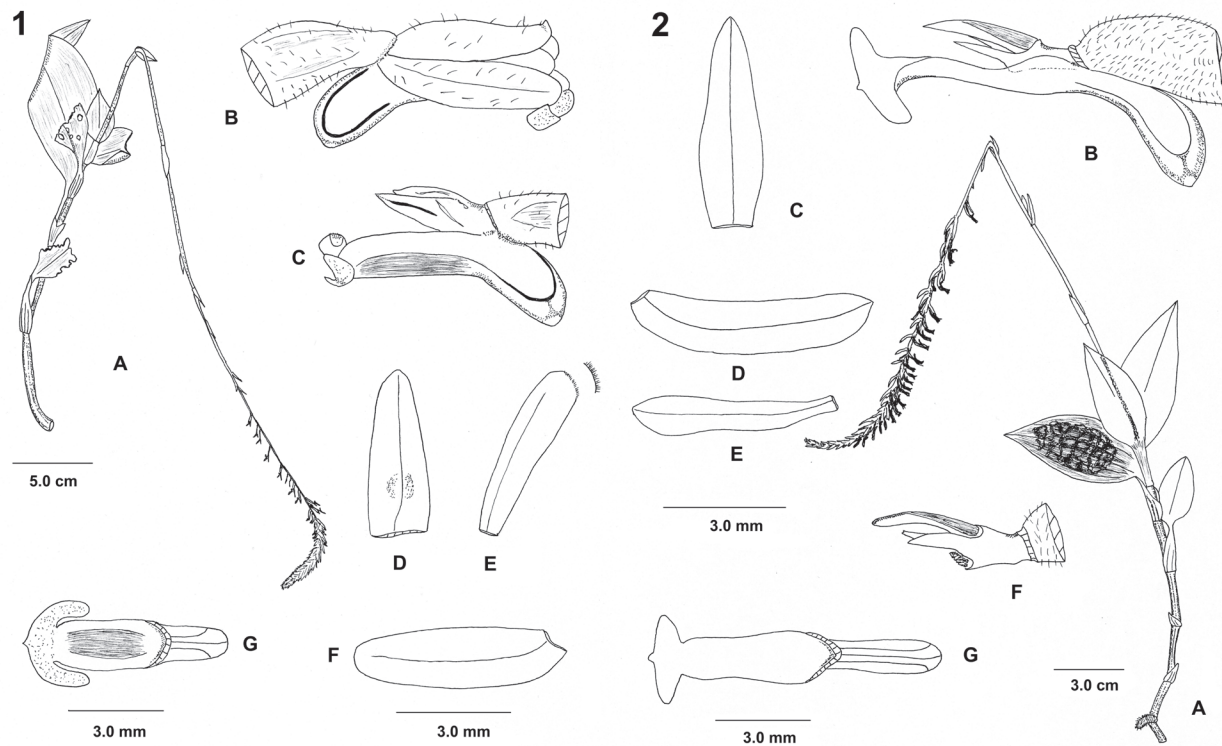
Microchilus killipii (Ames) Ormerod, *Lindleyana* 17, 4: 217. 2002.

Microchilus atwoodii Szlach. & Kolan., *Phyton* (Horn) 56, 2: 261. 2016 *syn. nov.*

TYPE: COSTA RICA. Puntarenas: Monteverde, in cloud forest owned by Campbell family, 1575 m, 2 March 1989, *J.T.Atwood 89-10* (Holotype: MO; Isotypes: F, GH, K, 2 sheets).

Distribution: Costa Rica; Panama.

Additional specimens examined: COSTA RICA. Cartago: Cerro de La Carpintera, 1500–1850 m, February 1924, *P.C.Standley 35677* (US); same data, *P.C.Standley 35614* (US); same data, *P.C.Standley 35581* (US); Carpintera Mountains, 1800 m, *leg. C.Horich s.n., Univ. Calif. Berkeley 59.319* (US); same data, *Univ. Calif. Berkeley 59.319-1* (MO); Eastward trail into mountains from road into Tapanti Reserve, ca. 1 km S of junction of Quebrada Salto and Rio Grande de Orosi, 1500–1800 m, 1 February 1986, *M.H.Grayum, P.Sleeper, J.Dickie,*



FIGURES 1–2. 1. *Microchilus croatii* Ormerod. **A**, plant; **B**, flower; **C**, flower minus tepals; **D**, dorsal sepal; **E**, petal; **F**, lateral sepal; **G**, labellum and spur. Drawn from holotype. 2. *Microchilus topoensis* Ormerod. **A**, plant; **B**, flower minus tepals; **C**, dorsal sepal; **D**, lateral sepal; **E**, petal; **F**, column; **G**, labellum and spur. Drawn from holotype.

A.R.Smith & T.Beliz 6282 (MO); Hacienda Queveri, Rio Mache de Paraiso, along road leading to Rio Blanco, 1630 m, 15 July 1984, *M.H.Grayum* 3491 (MO); Estrella to Santa Maria road, 2135 m, 21 April 1928, *H.E.Stork* 1508 (MO). Guanacaste: Canton de Abangares, 5 km N of Monteverde at the Rio Negro on road to Finca San Bosco, Atlantic slope, 1300 m, 2 February 1989, *W.Haber* 9086 & *W.Zuchowski* (MO). Puntarenas: near Monteverde, in Cordillera de Tilaran, 1500 m, 8 May 1971, *F.Almeda & J.Utley* 679 (DUKE); ca. 2 km SE of Monteverde, 1500–1550 m, 18–21 March 1973, *W.C.Burger & J.L.Gentry Jr.* 8543 (F, MO). Cascajal, [received at K July 1919], *C.H.Lankester* 57 (K); Varablanca, April 1925, *C.H.Lankester* 1482 (K); San Luis de Zarcero, 1310 m, 15 February 1938, *A.Smith* H 335 (F). PANAMA. Prov. Chiriqui: above Boquete on trail to Bocas del Toro, along Rio Caldera, 1550 m, 8 February 1986, *G.McPherson & M.Morello* 8348 (MO); upper Caldera River, near Camp I, Holcomb's Trail, above El Boquete, 1450–1650 m, 22–24 March 1911, *W.R.Maxon* 5570 (US); Bajo Chono, 1830 m, 24 February 1938, *M.E.Davidson* 317 (F, US).

For a long time, most herbarium material of relatively robust Central American *Microchilus* bore the name *Erythrodes killipii*. Nonetheless, a critical examination of the specimens showed that three species were actually confounded, the other two being *M. maasii* and *M. panamanicus*. Furthermore, study of a sketch of the type

of *Physurus nigrescens* in AMES revealed this entity to be the older name for *Erythrodes killipii*. From the other two taxa (*M. maasii* and *M. panamanicus*) one can recognize *M. nigrescens* by its smaller (sepals to 6.5 mm long), more ovoid (vs. tubular, campanulate) flowers, shorter spur (3 mm long), and very stout column. There are no characters to separate *M. atwoodii*, though the rachis is somewhat laxer in the holotype than most in specimens, but the isotypes have subdensely flowered inflorescences just like the other material.

Microchilus panamanicus Ormerod, Harvard Pap. Bot. 9, 2: 414. 2005.

TYPE: PANAMA. Prov. de Panama: Cerro Trinidad, 800–1000 m, 20 October 1946, *P.H.Allen* 3768 (Holotype: AMES; Isotype: F).

Microchilus folsomii Szlach. & Kolan., Phytion (Horn) 56, 2: 262. 2016 *syn. nov.*

TYPE: PANAMA. Prov. Darien: Cerro Pirre, ridgetop and slope from Rancho Frio to Rancho Plastico, 800–1200 m, 10–20 July 1977, *J.P.Folsom* 4199 (Holotype: MO 2622087, MO 3493352).

Distribution: Panama.

Additional specimens examined: PANAMA. Prov. Chiriqui: E of the Fortuna Dam main campsite, 1200–1600 m, 12 September 1977, *J.P.Folsom & R.Dressler* 5287 (MO); Campamento de Fortuna, site of the dam of Trocha 3 de November, between Santa Maria and Pinola, 1000–1200

m, 26 September 1976, *M.D. Correa, R. Dressler, N. Salazar, J. Mendieta, C. Garibaldi, F. Farnum & T. Beliz* 2933 (MO). Prov. de Panama: high ridges of the Serrania de Maje, S of Ipeti Village, ca. 5 hours walk from village, 650–800 m, 31 March 1982, *M. Huft, S. Knapp, R. Foster & J. Mallett* 1676 (MO). Prov. Darien: Rancho Frio (500 m) to summit of Cerro Pirre (1140 m), 30 March 1985, *W.G.D'Arcy & G. McPherson* 16189 (MO); summit of Cerro Pirre, 1000–1400 m, 29 December 1972, *A. Gentry & A. Clewell* 7083 (MO); Cerro Pirre, valley between Cerro Pirre and next most southerly peak, 10–20 July 1977, *J.P. Folsom* 4453 (MO, 2 sheets); Cerro Pirre, 11 April 1967, *N. Britan* 609 (MO); N slope of Cerro Pirre, 700–950 m, 7 April 1975, *S. Mori & J. Kallunki* 5495 (MO); NE slope of Cerro Sapo summit, approach from Garachine, 975 m, 8 May 1979, *B. Hammel* 7241 (MO); Comarca de San Blas, Cerro Brewster, 800–850 m, 20 November 1985, *G. de Nevers, A. Henderson, H. Herrera, G. McPherson & L. Brako* 6296 (MO).

Examination of the type material of *Microchilus folsomii* reveals no characters distinguishing this entity from *M. panamanicus*. Re-examination of the original flowers used in the description of *M. panamanicus* shows that the fleshy labellum hypochile has split in the example used for the illustration in the protologue. Thus the hypochile is shown to be too broad in the lower half. The labellum hypochile varies from oblong-lanceolate to oblong-rectangular to oblong-oblancheolate. The latter shape is most apparent when one cannot flatten down the rigid sides of the hypochile, which is fleshiest in the lower half.

Microchilus panamanicus is a member of the *M. major* Presl complex, recognizable by the robust plants, paleaceous floral bracts, and large labellar spur (ca. 4–5 mm long).

Microchilus topoensis Ormerod, *sp. nov.*

TYPE: ECUADOR. Tungurahua: 2 km E of Rio Topo, 31 km E of Banos on road to Puyo, 1250–1450 m, 4 June 1985, *B.A. Stein* 2983 (Holotype: MO). Fig. 2.

Usage synonym: *Erythrodes anchorifera* auct. non (Schltr.) Garay: Dodson, *Icon. Pl. Trop.* s. 2: t. 494. 1989; Dodson, *Nat. Ecuad. Orch.* 2: 305, fig. 622. 2001.

Similar to *Microchilus anchorifer* (Schltr.) Ormerod but the flowers with narrower (1.00 vs. 1.50–2.15 mm) petals, longer (3.2 vs. 1.9–2.0 mm) spur, and a longer (2.9 vs. 2.0–2.2 mm) column.

Terrestrial herb, to 43 cm tall in flower. *Rhizome* not seen. *Stem* erect, terete, 4-leaved in upper half, 10.5 × 0.25–0.30 cm. *Leaves* obliquely ovate-lanceolate to ovate-elliptic, acute to subacuminate, transversely mottled dark green, 2.90–7.00 × 1.45–2.65 cm; petiole and sheath 1.7–2.1 cm long. *Inflorescence* pubescent, to 33.1 cm long; peduncles 19.1 cm long; sheathing bracts 7, lax, 1.1–1.9 cm long; rachis subdensely and subsecundly many-flowered, 14 cm long; floral bracts ovate-lanceolate, acute, to 9.0 × 2.5 mm. *Flowers* white, green basally, externally pubescent. *Pedicel with ovary* clavate, pubescent, 7 mm long. *Dorsal sepal* oblong-lanceolate, acute, 4.9 × 1.5–1.6 mm. *Lateral sepals* obliquely oblong-ligulate, subacute, 5.9–6.0 × 1.3–1.5 mm. *Petals* obliquely ligulate-oblancheolate, obtuse, 4.9 × 1.0 mm. *Labellum* spurred, joined to column for 1.0–1.2 mm; spur obliquely clavate, obtuse, 3.2 mm long; hypochile narrowly cuneate-oblong, ca. 3.8 mm long, base 1.6 mm wide, subapical area 1.3 mm wide; epichile transversely oblong-rhombic, 0.9–1.0 × 2.9 mm, lobules ovate, obtuse, 0.7–0.8 mm wide. *Column* 2.9 mm long to tips of brachia, 3.5–3.6 mm long to tip of anther cap.

Distribution: Ecuador.

Habitat and ecology: slightly disturbed wet montane forest, 1250–1450 m.

Etymology: named after the Rio Topo, which is near the type locality.

This species is superficially similar to *Microchilus anchorifer* (Schltr.) Ormerod in having leaves with dark green markings, but the petals are narrower, the spur longer, and the column longer.

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