STUDIES OF NEOTROPICAL GOODYERINAE (ORCHIDACEAE) 5

PAUL ORMEROD

Abstract. Continuing studies of neotropical Goodyerinae reveal new distributional records for Aspidogyne umbraticola and Microchilus familiaris. The synonymy of Aspidogyne querceticola is elaborated upon. One new combination, Aspidogyne clavigera var. rhodostachys is proposed, as well as four new species of Microchilus, viz. M. boyacanus, M. callejasii, M. quetamensis, and M. schneideri. Physurus debilis and Spiranthes pedicellata are lectotypified.

Keywords: Aspidogyne, Microchilus

This paper is a continuation of previous studies of neotropical Goodyerinae (Ormerod 2005, 2007, 2008, 2009a, b). Currently about 234 species (this paper included) in 4 genera (prior to 2005 about 120 species in 8 genera) may be recognised as occurring in the New World.

Meneguzzo (2012) merged Ligeophila Garay and Platythelys Garay into Aspidogyne Garay. One’s first instinct is that such a broadly defined Aspidogyne is a conglomeration of three different groups. However the only diagnostic character of Ligeophila is its flexible rostellum, a character found in the Peruvian Aspidogyne miser (Ormerod) Ormerod.

The genus Platythelys seems to possess a distinct floral facies, such as oblong lateral sepals, an oblongoid-ellipsoid to obovoid spur and a stout, shortly stalked to sessile column. In Aspidogyne the flowers generally have oblanceolate lateral sepals, a terete to narrowly clavate spur, and a slender, long-stalked column. The two genera however share a few characters too, such as a rounded-concave to cochleate labellum hypochile, and an entire rostellum that either ruptures apically or allows the pollinarium to slough off.

The problems with the above definitions of Platythelys and Aspidogyne are intermediate taxa such as Aspidogyne grayum (Ormerod), A. roseoalba (Dressler) Ormerod, and A. rotundifolia (Ormerod) Ormerod. These three taxa have relatively shortly stalked columns and oblongoid to obovoid spurs. Furthermore, seemingly deviant taxa such as A. grandis (Ormerod), A. mosaica Ormerod and A. vesiculosa Ormerod show that Aspidogyne is quite a diverse genus.

Aspidogyne clavigera (Rchb.f.) Meneguzzo, Orquidario 26, 3: 89, 2012.

Synonyms: Erythrodes clavigera (Rchb.f.) Ames, Orch. 7: 70, 1922.

Distribution: Mexico, Nicaragua, and Costa Rica.

Specimens examined: MEXICO. Chiapas: Municipio de Ocosingo, ca. 2 km NE del Crucero San Javier, 355 m, 26 November 2002, G. Aguilar M. 4396 (K); ca. 1.2 km to S del Crucero San Javier, 390 m, 9 October 2002, G. Aguilar M. 3187 (K). NICARAGUA. Greytown, R. Tate 485 (313) (K); Chontales,
I wish to thank herbarium and library staff at BM, K and the Harvard University Herbaria (A, AMES, GH) for their help and hospitality during visits. DUKE, E, F, G, GB, MO NY, P, S, SEL, US and Z kindly loaned material for study. Also I wish to extend my gratitude to Leonid Averyanov for sending images of LE material; to Leslie A. Garay for images of types and copies of original literature; and to Dariusz Szlachetko for sending analytical drawings of Spiranthes pedicellata in BR. Denis Vaslet generously sent images of Microchilus familiaris and M. hirtellus, as well as a reprint of his paper on these taxa.

1 P.O. Box 8210, Cairns 4870, Queensland, Australia; wsandave1@bigpond.com

Aspidogyne clavigera (Rchb.f.) Meneguzzo var. 

rhodostachys (Ormerod) Ormerod, comb. nov. 

Basionym: Ligeophila clavigera (Rchb.f.) Garay 


**Distribution:** Peru, Colombia, Venezuela, Brazil, Guyana, and Surinam.

Further synonymy (e.g., Physurus peterianus Rchb.f.) and collections referable to this variety are cited in Ormerod (2009b), aside from those specimens already listed with the protologue. This rather robust species (to ca. 80 cm tall) and its variety may be recognised by the rather large (sepals ca. 10 mm long) flowers, slenderly clavate spur about 15 mm long, and shortly clawed, transversely rhombic labellum epichile.

Aspidogyne debilis (Lindl.) Meneguzzo, Orquidario 26, 3: 89, 2012.


Synonyms: Microchilus debilis (Lindl.) D. Dietr., Syn. Pl. 5: 166, 1852. 

Erythrodes debilis (Lindl.) Ames, Orch. 7: 70, 1922. 


**Distribution:** Bolivia; Brazil; Paraguay; Argentina.


**Habitat:** Very wet or flooded ground, also in “floating fens” (“embalsadas”) (Pedersen 13394); on floating mats of Oxycaryum cubense (Ritter & Crow 2266).

Aspidogyne debilis appears to be unique amongst neotropical Goodyerinae in that it has been found growing on floating vegetation (two examples noted by collectors are cited above). It also grows terrestrially like most other species of Goodyerinae. The species is often confused with its close relative A. schlechteriana (Hoehne) Meneguzzo but tends to have more ovate (often suborbicular) leaves that are not so sharply pointed, and flowers in which the subquadrate epichile has two low keels.

British merchant John Prescott obtained the lectotype of Physurus debilis during his travels.
in Russia, presumably from material now kept in Saint Petersburg (Leningrad). There is a possibility that the collection Langsdorff & Riedel 624 (LE) from “Brasilia” is an isotype of Physurus debilis, since the same locality is written on the lectotype. However further studies of the sheets held in LE will be necessary before any specimen can be determined as an isolectotype. The lectotype sheet in K-L also has a collection by George Gardner (no. 5196) mounted on it, this is however referable to A. schlechteriana.

A record of Physurus debilis from Colombia by Kraenzlin in 1899 represents Microchilus constrictus Ormerod (Ormerod, 2008). Duenas-Gómez & Fernández-Alonso (2007) list Platythelys debilis from Colombia citing Triana 1547 (COL) but this specimen is an isotype of Microchilus trianae Ormerod. Aspidogyne debilis does not occur in Colombia.

Aspidogyne pedicellata (Cogn.) Meneguzzo, Orquidario 26, 3: 90, 2012.
Distribution: Brazil.

This taxon is the only “leafless” (the leaves are reduced to small scales) species of Goodyerinae in the Americas.

Aspidogyne querceticola (Lindl.) Meneguzzo, Orquidario 26, 3: 90, 2012.
Orchideas querceticola (Lindl.) Kuntze, Rev. Gen. Pl. 2: 675, 1891 as “quercitobum”.
Erythrodes querceticola (Lindl.) Ames, Orch. 5: 29, 1915.
Erythrodes vaginata (W.J. Hook.) Ames, Orch. 5: 29, 1915.
Aspidogyne vaginata (W.J. Hook.) Meneguzzo, Orquidario 26, 3: 91, 2012.
Erythrodes sagreanus (A. Rich.) Ames, Orch. 5: 29, 1915.
Erythrodes maculata (W.J. Hook.) Ames, Orch. 7: 72, 1922.
Aspidogyne maculata (W.J. Hook.) Meneguzzo, Orquidario 26, 3: 90, 2012.
Erythrodes mayoriana (Krzl.) Ames, Orch. 7: 72, 1922.
Aspidogyne mayoriana (Krzl.) Meneguzzo, Orquidario 26, 3: 90, 2012.
Erythrodes trinitatis Ames, Orch. 7: 76, 1922. TYPE: TRINIDAD. St. Anne’s, 1888, W.E. Broadway s.n. (Holotype: NY, not seen; drawing AMES).
Satyrium latifolium L., Fl. Jam.: 20, 1760 nom. nud.


**Distribution:** SE United States of America; Caribbean Islands; Mesoamerica to Ecuador; Venezuela; Trinidad; French Guiana.

I have compared specimens from throughout the range of this orchid and cannot find characters that would break it up into species (Figure 1 compares floral parts of plants from Florida and Ecuador). There do seem to be some distinct populations or races which are probably maintained by either apomixis or a form of self-fertilization. For example one can observe a type form (Louisiana, C & N Florida) and a Caribbean form (Caribbean Islands, S Florida) (see Brown, 2002). None of these plants has maculated leaves. However in Mesoamerica and South America forms with maculated leaves may be observed. Plain leaved plants are also found throughout the range of the latter. A plain leaved plant collected from the Mexican State of Tamaulipas (a State that borders Texas, U.S.A.) is an interesting isolated record and gives credence to the possibility that the species might occur in Texas. Thus as here defined A. querceticola can have plain or maculated leaves, flowers with an obovoid spur, a hypochile in which the sides are angled towards the base of the epichile, and a transversely elliptic, trilobulate epichile.

Some nomenclatural investigation is required into the synonymy of A. querceticola. The name Goodyera querceticola was first coined by Lindley in 1839 (Bot. Reg. 25, misc. 20 sub Cheirostylis parvifolia Lindl.), but he supplied no description. The combination Anoectochilus querceticola I have accredited to Rollisson in 1876–1878 but there is likely an earlier transfer. I am uncertain about the status of the citation Anoectochilus querceticola Veitch ex R. Hogg, Gard. Year Book: 64, 1862 since I have not seen the publication.

The collector of the Jamaican specimen that is the basis for the name Satyrium latifolium is simply cited as Brown. It is unknown if this is Patrick Browne who also collected in Jamaica prior to 1759.

Aspidogyne umbraticola (Garay) Meneguzzo, Orquidario 26, 3: 90, 2012.


Distribution: Colombia; Peru; Bolivia.

Specimens examined: PERU. Loreto: Río Yuveneto, a tributary of the Río Putumayo, Secoya Indian’s territory, old meander lake of the Río Yuveneto, 500 m S of the left hand river bank, upstream of Bellavista Village, 8 January 1978, S. Barrier 301 (P). BOLIVIA. Pando, Madre de Dios, Jatata, 130 m, 26 July 1992, R. Rueda 932 (MO).

The specimens from Bolivia and Peru appear to represent new records for those countries. Aspidogyne umbraticola will probably also be found in Amazonian Brazil and Ecuador.

Microchilus boyacanus Ormerod, sp. nov.

TYPE: COLOMBIA. Boyacá: without locality, A.E. Lawrance 324 (Holotype: AMES). Fig. 2.

Affinis M. campanulatus Ormerod sed sepalis dorsalis angustioribus (1.4 vs. 2.0 mm) et columna brevioribus (2.3–2.6 vs. 2.8–3.5 mm) differt.

Erect herb. Rhizome creeping, apical quarter ascendant, terete, rooting at nodes, 12.5 cm long, 0.15–0.40 cm thick; internodes 1.5–3.0 cm long. Stem terete, 5 leaved, 12 cm long, 0.3–0.4 cm thick; internodes 1.8–3.3 cm long. Leaves narrowly elliptic to obovate-elliptic,
Figure 1. *Aspidogyne querceticola* (Lindl.) Meneguzzo. A, flower minus tepals; B, flower; C–D, labella; E, J, lateral sepals; F, H, dorsal sepals; G, I, petals; K, column. A, C, E, F–G, K drawn from Abbott 17366 (SEL), B, D, H–J from Dodson 6015 (SEL).

Figure 2. *Microchilus boyacanus* Ormerod. A, plant; B, flower; C, flower minus tepals; D, dorsal sepal; E, petal; F, lateral sepal; G, labellum and spur. Drawn from holotype.

Figure 3. *Microchilus callejasii* Ormerod. A, plant; B, flower; C, flower minus tepals; D, dorsal sepal; E, petal; F, lateral sepal; G, column; H, labellum and spur. Drawn from holotype.

Figure 4. *Microchilus quetamensis* Ormerod. A, plant; B, flower; C, dorsal sepal; D, lateral sepal; E, petal; F, column; G, labellum and spur. Drawn from holotype.
subacuminate, 8.9–11.7 cm long, 3.95–4.70 cm wide; petiole and sheath 3.2–4.5 cm long. Inflorescence pubescent, 45 cm long; peduncle 23.3 cm long; sheathing bracts 6, 1.1–3.2 cm long; racis subdensely many flowered, 21.7 cm long; floral bracts ovate-lanceolate, acute, to 8.5 mm long, 1.5–2.0 mm wide. Pedicellate ovary subcylindric, pubescent, 5.5 mm long. Flowers externally pubescent, color unknown. Dorsal sepal oblong-lanceolate, obtuse, 4.5 mm long, 1.4 mm wide. Lateral sepals obliquely oblong, obtuse, 5 mm long, 1.4 mm wide. Petals ligulate-oblanceolate, subacute, 4.4 mm long, 0.95 mm wide. Labellum spurred, trilobed, joined to column for ca. 1 mm; spur oblongoid, obtuse, ca. 2.8 mm long; hypochile rectangular-subpandurate, somewhat fleshy in basal half, ca. 2.9 mm long, 1.75 mm wide basally, 1.4 mm wide medially, 1.5 mm wide subapically, 0.8 mm wide apically; epichile transversely oblong-ligulate, papillose-pubescent, 0.8–0.9 mm long, 2.8 mm wide; lobules oblong, obtuse, 0.6–0.7 mm wide. Column 2.3 mm long to tips of brachia, 2.6 mm long to tips of pollinia.

**Distribution:** Colombia.

**Etymology:** Named after the place of origin, Boyaca State, Colombia.

This species is probably related to the Venezuelan and Guyanese *M. campanulatus* Ormerod but differs from it in having a narrower (1.4 vs. 2.0 mm) dorsal sepal, narrower (0.6–0.7 vs. 1.0–1.2 mm) epichile lobules and a shorter (2.3–2.6 vs. 2.8–3.5 mm) column.

**Microchilus callejasii** Ormerod, *sp. nov.*

**TYPE:** COLOMBIA. Antioquia: Municipio Sonsón, via Sonsón to La Soledad, 1.1 km on the main road, toward Manzanares, 2800 m, 8 April 1988, R. Callejas, J.L. Luteyn & J. Betancur 6357 (Holotype: GH). Fig. 3.

**Affinis M. dolichostachys (Schltr.) Ormerod sed epichilo labello latioribus (2.60 vs. 2.25 mm) et hypochilo latioribus (2 vs. 1 mm) differt.**

Occasional, shade loving, terrestrial herb. Rhizome creeping, terete, rooting at nodes, fragment ca. 6.5 cm long, 0.25–0.45 cm thick; internodes to 3.5 cm long. Stem erect, terete, 5 leaved (with 1–2 leaves displaced on peduncle), lowest internode occasionally rooting, 11.5–19.5 cm long, 0.20–0.45 cm thick; internodes 1.5–4.0 cm long. Leaves obliquely oblong to ovate-lanceolate, subacuminate, 5.2–8.2 cm long, 2.1–2.9 cm wide; petiole and sheath 1.0–2.9 cm long. Inflorescence pubescent, 37.5–43.4 cm long; peduncle 22.3–25.5 cm long; sheathing bracts lax, 4–5, lowest one subfoliaceous (to 2.80 × 0.85 cm, to 1.2 cm wide), rest 1.0–2.2 cm long; racis laxly to sublaxly many flowered, 15.2–17.9 cm long; floral bracts ovate-lanceolate, acute, to 7.5 mm long, 3 mm wide. Pedicellate ovary clavate, pubescent, ca. 6.5 mm long. Flowers white, externally pubescent. Dorsal sepal oblong-lanceolate, obtuse, apex minutely ciliate, 4.4 mm long, 1.6 mm wide. Lateral sepals obliquely oblong-lanceolate, obtuse, apex minutely ciliate, 4.9 mm long, 1.25 mm wide. Petals ligulate-oblanceolate, subacute, apex minutely ciliate, 4.3 mm long, 0.93 mm wide. Labellum spurred, trilobed, joined to column ca. 1.5 mm; spur oblongoid, obtuse, 1.5 mm long, 0.9 mm wide laterally; hypochile elliptic, ca. 3 mm long, 2 mm wide, apical constricted area ca. 0.5 mm long, 0.9 mm wide; epichile minutely papillose-pubescent, 0.8 mm long, 2.6 mm wide, lobules oblong, falcate, truncate to obtuse, ca. 1 mm long, 0.6 mm wide. Column slender, ca. 2.8 mm long (to tip of anther cap).

**Distribution:** Colombia.

**Eponymy:** Named after Ricardo Callejas Posada, significant contributor to the flora of Colombia (especially Antioquia) and co-collector of the type.

This species appears to be a close relative of its Colombian congener *M. dolichostachys* (Schltr.) Ormerod but differs from it in having flowers with a wider (2.60 vs. 2.25 mm) epichile with falcate (not straight) lobules, and a wider (2 vs. 1 mm) hypochile.


**TYPE:** CUBA. Oriente: Sierra Maestra, Río Oro, 600 m, 28 March 1915, E.L. Ekman 5103 (Holotype: S).

**Distribution:** Cuba, Dominica, Dominican Republic, Guadeloupe, Haiti, Martinique, Montserrat, Puerto Rico, Saint Lucia, and Saint Vincent.


The above collections are in addition to those cited in the protologue. Feldmann (2011) and Vaslet & Feldmann (2012) provide photographs of the habitat and close-up images of the flowers of M. familiaris and its ally M. hirtellus (Sw.) D. Dietr.

Microchilus quetamensis Ormerod, sp. nov.

TYPE: COLOMBIA. Cundinamarca: Municipio de Quetame, Corregimiento o Vereda de Guayabetal, 1550 m, 15 December 1947, M. Schneider 415 (Holotype: AMES; Isotypes: AMES, 3 sheets). Fig. 4.

Affinis M. libanoensis Ormerod sed lobulis epichilo ovato-falcatis (non recto-ellipticos), hypochilo bicarinatis (non ecarinatis) et columna longioribus (3.9 vs. 3.0 mm) differt.

Terrestrial herb. Rhizome creeping, terete, rooting at nodes, occasionally bearing one leaf, 12–35 cm long, 0.2–0.7 cm thick; internodes 1.0–5.5 cm long. Stem erect, terete, 5–9 leaved, at least 13 cm long, 0.45–0.85 cm thick; internodes 2.2–5.0 cm long. Leaves obliquely elliptic, sub acuminate, 6.5–14.2 cm long, 2.85–5.95 cm wide; petiole and sheath 2.1–4.0 cm long. Inflorescence pubescent, 20.7 cm long; peduncle 12.2 cm long; sheathing bracts lax, 4–5, lowest one subfoliaceous (to 3.4 × 1.3 cm, petiole and sheath 2.8 cm long), 1.5–3.4 cm long; rachis densely flowered, 8.5 cm long; floral bracts somewhat sheath-like at first, to 22 mm long, upper ‘normal’ bracts broadly ovate, sub acuminate, to 15 mm long, 6 mm wide. Pedicellate ovary sub cylindric, densely pubescent, ca. 6.2 mm long. Flowers brownish green, externally pubescent. Dorsal sepal lanceolate, obtuse, 7.4 mm long, 2.1 mm wide. Lateral sepals obliquely oblong-lanceolate, obtuse, 7.5–7.6 mm long, 1.95–2.00 mm wide. Petals obliquely ligulate, subacute, 7.4 mm long, 1.5 mm wide. Labellum spurred, trilobed, joined to column for 1.5 mm; spur clavate- oblongoid, subacute, 4 mm long, 1.4 mm wide laterally, ca. 1 mm wide dorsally; hypochile rectangular, basal half with two thick keels that meet basally in a V, 5.3–5.4 mm long, 1.9 mm wide basally, 1.6 mm wide apically; epichile ca. 1 mm long, 2.6 mm wide, lobules ovate, obtuse to subacute, weakly falcate, papillose-pubescent, ca. 1 mm long, 0.7 mm wide basally, narrowing to ca. 0.4 mm wide subapically. Column stout, ca. 3.9 mm long.

Distribution: Colombia.

Habitat: Shadowy, rather moist wood, 1550 m.

Etymology: Named after the type locality, Municipio de Quetame.

This species appears to be a close relative of its Colombian congener M. libanoensis Ormerod but differs from it in having flowers with ovate, weakly falcate (vs. straight, elliptic, obtuse) epichile lobules, a thickly bicarinate (vs. ecarinate) hypochile and a longer (3.9 vs. 3.0 mm) column.

Microchilus schneideri Ormerod, sp. nov.

TYPE: COLOMBIA. Cundinamarca: Municipio de Quetame, Corregimiento o Vereda de Guayabetal, Finca la Teresita, 1650 m, 15 December 1948, M. Schneider 430 (Holotype: AMES). Fig. 5.

Species nova subsimilis M. kuduyariensis Ormerod sed epichilo angustioribus (3.7 vs. 6.0 mm), calcar ellipsoideis (vs. anguste oblongoideis) et columna brevioribus (2.6 vs. 3.0 mm) differt.

Terrestrial herb. Rhizome creeping, terete, rooting at nodes, 4.3–4.5 cm long, 0.30–0.45 cm thick; internodes 0.45–1.15 cm long. Stem erect, terete, laxly 4–6 leaved, 4.9–9.0 cm long, 0.30–0.45 cm thick; internodes 0.9–1.9 cm long. Leaves lanceolate to ovate-lanceolate, acute,
Figure 5. *Microchilus schneideri* Ormerod. A, plant; B, flower; C, flower minus tepals; D, dorsal sepal; E, petal; F, lateral sepal; G, column; H, labellum and spur. Drawn from holotype.
possibly with a whitish centre stripe, 5–7 cm long, 1.30–1.95 cm wide; petiole and sheath 1.6–2.2 cm long. Inflorescence pubescent, 19.0–25.5 cm long; peduncle 13–17 cm long; sheathing bracts lax, 3, 1.85–2.20 cm long; rachis laxly flowered, 6.0–8.5 cm long; floral bracts broadly lanceolate, acute, 8–9 mm long, 3 mm wide. Pedicellate ovary clavate to subterete-fusiform, pubescent, 5.0–7.5 mm long. Flower color unknown, laxly pubescent externally. Dorsal sepal oblong-lanceolate, obtuse, 4 mm long, 1.7 mm wide. Lateral sepals obliquely oblong, obtuse, to 4.8 mm long basally, 4.0–4.2 mm long medially, 1.2 mm wide. Petals obliquely ligulate-oblanco-lolate, subacute-obtuse, apical margin minutely papillose, 3.95 mm long, 1.1 mm wide. Labellum spurred, trilobed, joined to column and ovary for 2 mm; spur ellipsoid, obtuse, 2.5 mm long, 1.4 mm wide laterally; hypochile rectangular, 2 mm long, 1 mm wide; epichile transversely ligulate, minutely papillose-pubescent, more so centrally, 0.9 mm long, 3.7 mm wide, lobules rectangular, weakly falcate, obtuse to truncate, ca. 1.70 mm long, 0.75 mm wide. Column 2.6 mm long.

**Distribution:** Colombia.

**Habitat:** Shadowy wood, 1650 m.

**Eponymy:** Named after Martin Schneider, collector of the type.

This species is a member of the *M. arietinus* (Rchb.f. & Warming) Ormerod complex, a rare group in Colombia. It is perhaps most similar to *M. kuduyariensis* Ormerod from the lowlands of Amazonian Colombia but differs from that in having flowers with a narrower (3.7 vs. 6.0 mm) epichile, a broader, ellipsoid (vs. narrower, narrowly oblongoid) spur and a shorter (2.6 vs. 3.0 mm) column.

**Literature Cited**


