

EPIPHYTIC ANGIOSPERMS OF CUBA

LUCIA HECHAVARRÍA SCHWESINGER* AND RAMONA OVIEDO PRIETO

Instituto de Ecología y Sistemática, Ministerio de Ciencia Tecnología y Medio Ambiente, Carretera de Varona, Km 3.5 Capdevila, Boyeros, AP 8029, CP 10800, Ciudad Habana, Cuba.

BRUCE K. HOLST

Marie Selby Botanical Gardens, 811 South Palm Avenue, Sarasota, FL 34236-7726 USA.

ABSTRACT. A survey of epiphytic angiosperms in Cuba provides an overview of the composition and distribution of these plants based on literature, herbarium specimens, field observations, and personal communication with specialists. Information gathered included endemism, geographic distribution in Cuba, distribution in major vegetation types, and types of epiphyte growth habits. A total of 319 species of epiphytic angiosperms were recorded, representing 14 families. The Orchidaceae was the most species-rich epiphyte family, with 214 species, followed by Bromeliaceae and Piperaceae. Orchidaceae also had the highest percentage of epiphytic species, followed by Piperaceae. All of the major epiphyte growth habits are found among the Cuban epiphytes.

Keywords: epiphytes, diversity, angiosperms, endemism, Cuba

INTRODUCTION

A diverse tropical flora is characteristic of the neotropics, and epiphytes contribute significantly to that diversity (Gentry & Dodson 1987). Kress (1986) estimated that 10% of worldwide vascular plant species are epiphytes. Although the role of angiosperms in epiphytism is well known, as they constitute ca. 90% of epiphyte species, no work on this subject has been conducted in Cuba. The inventory of Cuban epiphytic angiosperms presented here provides an overview of their composition and distribution on the Cuban archipelago.

MATERIALS AND METHODS

The selection of Cuban epiphytic angiosperm genera was based on the list of epiphytic taxa published by Kress (1986) and on the list of orchid epiphytic genera published by Atwood (1986).

Taxonomic literature, herbarium specimens, and field observations were used to revise species registered on the study list. As part of the revision, the authors analyzed such aspects as nomenclature, distribution in Cuba, endemism, and epiphytic growth habits.

Distribution of species in Cuba follows the 1975 Cuban Political-Administrative Division. Ecological distribution of the principal epiphyte genera follows the classification of Cuban vegetation units by Capote and Berazaín (1984).

RESULTS AND DISCUSSION

Species Richness

According to Kress (1986), a total of 20,859 epiphytic angiosperms have been identified

worldwide. Cuba has 319 known epiphytic species, or 1.5% of the world total, and 96 endemic epiphyte species (APPENDIX). Of the 6025 Cuban angiosperms (Vales et al. 1998), epiphytes constitute 5.3% of all Cuban angiosperms distributed in 14 families and 82 genera. The major epiphytic angiosperm families in Cuba are Orchidaceae with ca. 67% of total epiphyte angiosperm species, Bromeliaceae with ca. 16%, and Piperaceae (*Peperomia*) with ca. 5%.

Orchidaceae has the greatest number of epiphytic members, with 214 species and 55 genera (TABLE 1). An analysis of total species per family, however, reveals that Bromeliaceae could be considered the epiphytic family par excellence, with 83.6% of its species epiphytic, followed by Marcgraviaceae with 75% and Orchidaceae with 71.1%. Rubiaceae, the largest family of angiosperms in Cuba, has only 1.3% of its species epiphytic, and the Bignoniaceae and Urticaceae show similar percentages.

Endemism

The 88 endemic epiphytic angiosperms in Cuba represent ca. 3% of all endemic Cuban angiosperms and total 3409 (Vales et al. 1998). Orchidaceae has the largest number of endemic epiphytic angiosperm species (*Pleurothallis*, *Leptanthes*, and *Encyclia*), among which most endemic epiphytic species are found (TABLE 2). *Pinguicula* (Lentibulariaceae) has 35 species worldwide, of which only three are epiphytic (Kress 1986). One of them, *Pinguicula lignicola* Barnh., is endemic to eastern Cuba. This percentage is significant because epiphytes, excepting some genera of Orchidaceae, do not show high values of endemism (Ibisch et al. 1996).

* Corresponding author.

TABLE 1. Vascular plant families in Cuba containing epiphytic species, with total numbers of genera and species in the country, total number of epiphytic genera and species, and percent epiphytism per family.

Family	Genera		Species		
	Total	No. epiphytes	Total	No. epiphytes	% Epiphytes
Orchidaceae	88	55	301	214	71.1
Bromeliaceae	12	9	61	51	83.6
Piperaceae	4	1	80	16	20.0
Araceae	5	2	25	9	36.0
Cactaceae	19	4	51	7	13.7
Rubiaceae	75	3	389	5	1.3
Moraceae	10	1	33	4	12.1
Marcgraviaceae	1	1	4	3	75.0
Begoniaceae	1	1	14	2	14.3
Clusiaceae	5	1	19	2	10.5
Gesneriaceae	7	1	50	2	4.0
Urticaceae	9	1	78	2	2.6
Bignoniaceae	18	1	87	1	1.1
Lentibulariaceae	3	1	27	1	3.7
Total	257	82	1219	319	26.2

Epiphytic Growth Habits

The main types of epiphytic growth habits in Cuban epiphytic families are presented in TABLE 3. Orchidaceae display all variations of epiphytism except hemiepiphytism. Holoepiphytism and casual epiphytism are the most common types of epiphytism among the Orchidaceae. Bromeliaceae display a similar pattern, though with the addition of semiepiphytism.

Epiphytism in the Rubiaceae is unusual (TABLE 1), but in this plant family (the third largest in Cuba, Vales et al. 1998), three of the four epiphytic growth habits are found (APPENDIX). Primary hemiepiphytism is common in *Ficus* (Moraceae) and *Clusia* (Clusiaceae). Secondary hemiepiphytism is found mainly in the Cactaceae (*Selenicereus* and *Hylocereus*). Semiepiphytic climbers are common mainly in the Araceae and Marcgraviaceae.

Little is known about the epiphytic growth habits of *Pilea* (Urticaceae) in the Cuban archi-

pelago, despite its high number of endemic species. The problem with *Pilea* and species of *Gesneria*, *Rhytidophyllum* (Gesneriaceae), and *Peperomia* (Piperaceae) is that they are commonly found as saxicoles. Species in these genera develop roots that grow where soil reserves are abundant, frequently in rock holes where organic material has accumulated. Occasionally they colonize humus-filled cavities of trees, thus displaying an epiphytic habit (Putz & Holbrook 1986).

Distribution in Broad Vegetation Categories

A summary of the main genera of epiphytes and the broad vegetation type in which they can be found is presented in TABLE 4. *Tillandsia* (Bromeliaceae) species are found from sea level to the highest point in Cuba, as are species of *Encyclia* (Orchidaceae).

Epiphytic species of Bromeliaceae, Orchidaceae, Moraceae, and Clusiaceae are found in most Cuban vegetation types and at all eleva-

TABLE 2. Ten largest genera of epiphytic angiosperms in Cuba, with number of endemic species.

Genus	Family	No. epiphyte species in Cuba	No. epiphyte species endemic to Cuba
<i>Pleurothallis</i>	Orchidaceae	36	18
<i>Tillandsia</i>	Bromeliaceae	27	2
<i>Lepanthes</i>	Orchidaceae	25	23
<i>Epidendrum</i>	Orchidaceae	20	3
<i>Peperomia</i>	Piperaceae	16	2
<i>Encyclia</i>	Orchidaceae	15	8
<i>Tolumnia</i>	Orchidaceae	12	4
<i>Vanilla</i>	Orchidaceae	9	0
<i>Maxillaria</i>	Orchidaceae	7	0
<i>Prosthechea</i>	Orchidaceae	7	1

TABLE 3. Epiphyte growth habits of families displaying epiphytism in Cuba.

Family	Holo-epiphyte	Hemiepi-phyte		Casual-epiphyte	Semiepi-phyte (climbers)
		1°	2°		
Araceae	x	x			x
Begoniaceae					x
Bignoniaceae					x
Bromeliaceae	x			x	
Cactaceae	x		x	x	
Clusiaceae		x			
Gesneriaceae	x				x
Lentibulariaceae	x				
Marcgraviaceae					x
Moraceae					
Orchidaceae	x	x		x	x
Piperaceae				x	
Rubiaceae	x			x	
Urticaceae	x			x	x

tions. Rubiaceae (*Hillia*, *Schradera*, and *Psychotria*), Gesneriaceae (*Columnnea*), Bignoniaceae (*Schlegelia*), Urticaceae (*Pilea*), and Lentibulariaceae (*Pinguicula*) share the same distribution pattern. Epiphytes of these families are confined to the higher elevations of eastern Cuba, and their non-epiphytic members are found widespread throughout Cuba.

The greatest diversity and degree of endemism of the epiphytic angiosperms in Cuba can be found above 600 m elevation, associated with the main types of forest in eastern Cuba (wet forest, rain forest, and montane shrubland). Species of Orchidaceae contribute most to this diversity.

CONCLUSION

The 319 epiphytic angiosperms in Cuba are distributed in 14 families and 82 genera, primarily in the Orchidaceae, Bromeliaceae, Piperaceae (*Peperomia*), Cactaceae, and Araceae. These five families contribute heavily to the diversity of Cuban epiphytic angiosperms, which make up 5% of all Cuban angiosperms. This diversity is manifested in taxonomic representation, variety of epiphytic growth habits, and variety of vegetation types colonized by epiphytes. The highest epiphyte species richness and endemism of Cuban epiphytic angiosperms are found in eastern Cuba, following the same pattern as terrestrial species.

Although epiphytes are not recognized as a group with a high degree of endemism, in Cuba they represent 3% of all endemic angiosperms. The genera richest in epiphytic species are *Pleurothallis*, *Lepanthes*, and *Encyclia* (all Orchidaceae).

The Bromeliaceae may be considered the best

representation of an epiphyte family in Cuba, with the highest percentage of species being epiphytes and occurring broadly throughout elevation and geographical ranges of the archipelago.

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LITERATURE CITED

- Atwood, J.T. 1986. The size of the Orchidaceae and the systematic distribution of epiphytic orchids. *Selbyana* 9: 171–186.
- Capote, R.L. and R. Berazaín. 1984. Clasificación de las formaciones vegetales de Cuba. *Rev. Jar. Bot. Nac. Univ. Habana* 5(2): 27–75.
- Gentry, A.H. and C.H. Dodson. 1987. Diversity and biogeography of neotropical vascular epiphytes. *Ann. Missouri Bot. Gar.* 74: 205–233.
- Kress, J.W. 1986. The systematic distribution of vascular epiphytes. An update. *Selbyana* 9: 2–22.
- Ibsch, L.I., A. Boegner, J. Nieder and W. Barthlott. 1996. How diverse are neotropical epiphytes? An analysis based on the "Catalogue of the Flowering Plants and Gymnosperms of Peru." *Ecotropica* 2: 13–28.
- Putz, F.E. and N.M. Holbrook. 1986. Notes on the natural history of hemi-epiphytes. *Selbyana* 9: 61–69.
- Vales, M., A. Alvarez, L. Montes and A. Ávila. 1998. Estudio Nacional sobre la Diversidad Biológica en la República de Cuba. Programa de las Naciones Unidas para el Medio Ambiente (PNUMA). Centro Nacional de Biodiversidad del Instituto de Ecología y Sistemática (CENBIO, IES). Agencia de Medio Ambiente, Ministerio de Ciencia, Tecnología y Medio Ambiente (CITMA). CESYTA. Madrid.

TAXONOMIC LITERATURE CONSULTED

ARACEAE

- Arias Granda, I. 1998. Araceae in Flora de la República de Cuba. Series A. Plantas vasculares, 1(1). Königstein.
- León. 1946. Flora de Cuba. 1. Gimnospermas. Monocotiledóneas. *Contr. Ocas. Mus. Hist. Nat. Colegio "De La Salle"* 8.

BEGONIACEAE

- Sierra Calzado, J. "Revisión taxonómica del género *Begonia* L. en Cuba." Tesis Univ. La Habana, Resumen. La Habana, 1989.
- . 1989. Estudios taxonómicos del género *Begonia* L. en Cuba (I). *Revista Jard. Bot. Nac. Univ. Habana* 9(2): 3–9.
- . 1990. Estudios taxonómicos del género *Be-*

TABLE 4. Distribution by major vegetation type of principal epiphytic angiosperm genera in Cuba.

Vegetation type	Elevation (m above sea level)	Epiphyte genera
Mangroves and their variants	0–30	<i>Catopsis</i> & <i>Tillandsia</i> (Bromeliaceae), <i>Selenicereus</i> (Cactaceae); <i>Broughtonia</i> , <i>Encyclia</i> & <i>Tolumnia</i> (Orchidaceae)
Sandy beaches and coastal rock pavement vegetation	0–10	<i>Tillandsia</i> (Bromeliaceae); <i>Selenicereus</i> (Cactaceae); <i>Vanilla</i> (Orchidaceae)
Semideciduous forests, evergreen forests, and their variants	0–600	<i>Anthurium</i> & <i>Philodendron</i> (Araceae); <i>Catopsis</i> , <i>Guzmania</i> , <i>Hohenbergia</i> & <i>Tillandsia</i> (Bromeliaceae); <i>Selenicereus</i> & <i>Rhipsalis</i> (Cactaceae); <i>Clusia</i> (Clusiaceae); <i>Ficus</i> (Moraceae); <i>Cyrtopodium</i> , <i>Encyclia</i> , <i>Epidendrum</i> , <i>Ionopsis</i> , <i>Oncidium</i> , <i>Polystachya</i> , <i>Tolumnia</i> & <i>Vanilla</i> (Orchidaceae); <i>Peperomia</i> (Piperaceae)
Coniferous forests	0–600	<i>Tillandsia</i> & <i>Catopsis</i> (Bromeliaceae); <i>Tolumnia</i> & <i>Vanilla</i> (Orchidaceae)
Savannas at sea level	0–600	<i>Anthurium</i> (Araceae); <i>Tillandsia</i> (Bromeliaceae); <i>Clusia</i> (Clusiaceae); <i>Ficus</i> (Moraceae); <i>Encyclia</i> (Orchidaceae)
“Mogote” vegetation and their variants	0–900	<i>Anthurium</i> (Araceae); <i>Hohenbergia</i> , <i>Racinaea</i> , <i>Tillandsia</i> & <i>Vriesea</i> , (Bromeliaceae); <i>Selenicereus</i> (Cactaceae); <i>Coelia</i> , <i>Domingoa</i> , <i>Encyclia</i> , <i>Epidendrum</i> & <i>Pleurothallis</i> (Orchidaceae); <i>Peperomia</i> (Piperaceae)
Dry thorny and semi-thorny serpentine shrublands	0–600	<i>Catopsis</i> & <i>Tillandsia</i> (Bromeliaceae); <i>Broughtonia</i> , <i>Encyclia</i> , <i>Epidendrum</i> & <i>Vanilla</i> (Orchidaceae)
Montane rain forest, cloud forests, wet montane forests, and montane shrublands	500–1974	<i>Anthurium</i> & <i>Philodendron</i> (Araceae); <i>Begonia</i> (Begoniaceae); <i>Schlegelia</i> (Bignoniaceae); <i>Aechmea</i> , <i>Catopsis</i> , <i>Tillandsia</i> & <i>Vriesea</i> (Bromeliaceae); <i>Clusia</i> (Clusiaceae); <i>Columnnea</i> (Gesneriaceae); <i>Pinguicula</i> (Lentibulariaceae); <i>Marcgravia</i> (Marcgraviaceae); <i>Campylocentrum</i> , <i>Dichaea</i> , <i>Dilomilis</i> , <i>Encyclia</i> , <i>Epidendrum</i> , <i>Lepanthes</i> , <i>Lepanthopsis</i> , <i>Maxillaria</i> & <i>Pleurothallis</i> , (Orchidaceae); <i>Peperomia</i> (Piperaceae); <i>Ficus</i> (Moraceae); <i>Hillia</i> , <i>Psychotria</i> & <i>Schraderia</i> (Rubiaceae); <i>Pilea</i> (Urticaceae)

gonia L. en Cuba (II). Revista Jard. Bot. Nac. Univ. Habana 10: 11–16.

———. 1990. Estudios taxonómicos del género *Begonia* L. en Cuba (III). Revista Jard. Bot. Nac. Univ. Habana 10: 17–24.

———. 1990. Estudios taxonómicos del género *Begonia* L. en Cuba (IV). Revista Jard. Bot. Nac. Univ. Habana 10: 103–107.

———. 1998. Nuevo tratamiento taxonómico de la familia Begoniaceae C.A. Agard en Cuba. Revista Jard. Bot. Nac. Univ. Habana 19: 9–14.

BROMELIACEAE

Carabia, J. 1940. Las Bromeliáceas de Cuba. Mem. Soc. Cubana Hist. Nat. XIV: 329–348.

———. 1941. Las Bromeliáceas de Cuba. Mem. Soc. Cubana Hist. Nat. XV: 245–258, 265–280, 359–374.

León. 1946. Flora de Cuba. 1. Gimnospermas. Monocotiledóneas. Contr. Ocas. Mus. Hist. Nat. Colegio “De La Salle” 8.

Luther, H. and E. Sieff. 1994. De Rebus Bromeliacearum I. Selbyana 15: 9–93.

———. 1997. De Rebus Bromeliacearum II. Selbyana 18(1): 103–140.

Smith, L.B. and R.J. Downs. 1977. Tillandsioideae (Bromeliaceae). Fl. Neotropica Monogr. 14(2). Hafner Press, New York.

BIGNONIACEAE

Alain. 1957. Flora de Cuba, 4. Dicotiledóneas: Melastomataceae a Plantaginaceae. Contr. Ocas. Mus. Hist. Nat. Colegio “De La Salle” 16.

CACTACEAE AND CLUSIACEAE

Alain. 1953. Flora de Cuba, 3. Dicotiledóneas: Malpighiaceae a Myrtaceae. Contr. Ocas. Mus. Hist. Nat. Colegio “De La Salle” 13.

GESNERIACEAE AND LENTIBULARIACEAE

- Alain. 1957. Flora de Cuba, 4. Dicotiledóneas: Melastomataceae a Plantaginaceae. Contr. Ocas. Mus. Hist. Nat. Colegio "De La Salle" 16.

MARCRAVIACEAE

- Alain. 1953. Flora de Cuba, 3. Dicotiledóneas: Malpighiaceae a Myrtaceae. Contr. Ocas. Mus. Hist. Nat. Colegio "De La Salle" 13.
- Dressler, S. 1997. Lectotypification of *Marcgravia reciflora* (Marcgraviaceae). Taxon 46: 109–110.

MORACEAE

- León and Alain. 1951. Flora de Cuba 2. Dicotiledóneas: Casuarinaceas a Meliaceas. Contr. Ocas. Mus. Hist. Nat. Colegio "De La Salle" 10.

ORCHIDACEAE

- Ackerman, J.D. 1997. The Orchid flora of the Caribbean: new records and combinations, Lindleyana 12: 149–152.
- . 1995. An Orchid Flora of Puerto Rico and The Virgin Islands. Mem. New York Bot. Gard. Volume 73.
- Acuña, J. (B. Galé). 1939 ["1938"]. Catálogo descriptivo de las orquídeas Cubanas. Bol. Estac. Exp. Agron. Santiago de las Vegas 60. 5 Jun 1939.
- Alain. 1969. Flora de Cuba. Suplemento. Caracas.
- Díaz Dumas, M.A. 1987. Una nueva subespecie de orquídeas de Cuba oriental. Revista Jard. Bot. Nac. Univ. Habana 8(2): 17–20.
- . 1995. Avances en el estudio de orquídeas antillanas: *Cattleyopsis* Lemaire, *Lealiopsis* Lindley y *Broughtonia* R. Brown. P. 23 in V. Encuentro de Botánica. "Johannes Bisse in Memoriam." Camagüey.
- . 1998. Revisión de los géneros antillanos *Broughtonia* R. Brown, *Cattleyopsis* Lemaire y *Laaliopsis* Lindley (Orchidaceae). Revista Jard. Bot. Nac. Univ. Habana 17–18: 9–16.
- . 1998. Análisis fenológico de las especies del género antillano *Broughtonia* R. Brown (Orchidaceae). Revista Jard. Bot. Nac. Univ. Habana 17–18: 85–86.
- . 1998. Orquídeas cubanas: análisis del estado actual de su revisión. Revista Jard. Bot. Nac. Univ. Habana 19: 49–51.
- Díaz Dumas, M.A., J.A. Cabrera and Pérez. 1986. El primer reporte de *Catasetum* L.C. Rich. (Orchidaceae) para las Antillas: *Catasetum* cf. *integerimum* Hook. Revista Jard. Bot. Nac. Univ. Habana 6(2): 12–19.
- Dietrich, H. 1984. Vorläufiges Gattungs und Artenverzeichnis cubanischer Orchidaceae. Wiss. Z. Friedrich-Schiller-Univ. Jena, Naturwiss. R. 33: 707–721.
- . 1992. Orchidaceae cubanae novae VII: *Epidendrum secundum* Jacq. ssp. *biegeri* H. Dietrich.—Beitr. Phytotax. (Jena) 15: 123–126.
- . 1989a. Interessante kubanische Orchideen: *Bulbophyllum pachyrhachis* (A. Rich.) Griseb.

und *B. aristatum* (Rchb. f.) Hemsl. Orchideen, Z. Fachgr. Interessengem. 21: 104–105.

- . 1989b. Orchidaceae cubanae novae VI. *Lepanthes silvae* H. Dietr. Orchideen, Z. Fachgr. Interessengem. 22: 3–5.
- Dietrich, H. and M.A. Díaz Dumas. 1986. *Campylocentrum fasciola* (Lindl.) Cogn.—neu für Cuba.—Orchidee (Hamburg) 37: 250–252.
- Hernández, J.A. and M.A. Díaz Dumas. 2000. A new species of *Tetramicra* (Orchidaceae) from Eastern Cuba. Harv. Pap. Bot. 5(1): 189–192.
- Hespenheide, H.A. 1973. A revision of the West Indian species of *Lepanthes* (Orchidaceae). III. Cuba. Brittonia 25: 257–283.
- Higgins, W. 1997. A reconsideration of the genus *Prosthechea* (Orchidaceae). Phytologia 82(5): 370–383.
- León. 1946. Flora de Cuba. 1. Gimnospermas. Monocotiledóneas. Contr. Ocas. Mus. Hist. Nat. Colegio "De La Salle" 8.
- Luer, C.A. 1991. Icones Pleurothallidarum VIII. Systematics of *Lepanthopsis*, *Restrepiella*, *Restrepiopsis*, *Salpistele* and *Teagueia*. Monogr. Syst. Bot. Missouri Bot. Gard. 39: 1–78.
- . 1997. Icones Pleurothallidarum XV. Systematics of *Trichosalpinx*. Monogr. Syst. Bot. Missouri Bot. Gard. 64: 1–136.
- . 1998. New species of orchids from Cuba. Lindleyana 13(3): 138–147.
- . 1999. New species of *Pleurothallis* from Cuba and Hispaniola. Lindleyana 14(2): 106–121.
- . 2000. Icones Pleurothallidarum XX. Systematics of *Jostia*, *Andina*, *Barbosella*, *Barbrodria*, *Pleurothallis*. Monogr. Syst. Bot. Missouri Bot. Gard. 79: 1–140.
- . 2001. Miscellaneous new species in the Pleurothallidinae. Rev. Soc. Boliviana Bot. 3(1–2): 37–63.
- Stenzel, H. 2001. New species of Orchidaceae subtribe Pleurothallidinae from Cuba. Lindleyana 16(1): 26–30.
- . (in press). New species of *Pleurothallis* and *Lepanthopsis* (Orchidaceae) from Cuba. Willdenowia.

PIPERACEAE

- León and Alain. 1951. Flora de Cuba 2. Dicotiledóneas: Casuarinaceas a Meliaceas. Contr. Ocas. Mus. Hist. Nat. Colegio "De La Salle" 10.
- Alain. 1969. Flora de Cuba. Suplemento. Caracas.

RUBIACEAE

- Alain. 1962. Flora de Cuba, 5. Rubiales—Valerianales—Cucurbitales—Campanulales—Asterales. Rio Piedras.
- . 1969. Flora de Cuba. Suplemento. Caracas.

URTICACEAE

- León and Alain. 1951. Flora de Cuba 2. Dicotiledóneas: Casuarinaceas a Meliaceas. Contr. Ocas. Mus. Hist. Nat. Colegio "De La Salle" 10.
- Alain. 1969. Flora de Cuba. Suplemento. Caracas.

APPENDIX. Checklist of epiphytic angiosperms of Cuba, with distribution within Cuba, epiphyte growth habit, and voucher source.

Taxon (Species and infraspecies in bold are endemic to Cuba.)	Distribution within Cuba	Epiphyte growth habit (ca = casual epiphyte; ho = holoeiphyte; se = semieiphyte; he = hemieiphyte)	Voucher specimens/literature reference (Herbarium acronyms follow <i>Index Herbariorum</i> , New York Botanical Garden.)
ARACEAE			
<i>Anthurium</i> Schott: 4 spp., 2 endemic			
<i>cubense</i> Engl.	Eastern	ca	<i>León</i> 4233 (LS); <i>Acuña</i> 18351 (SV); <i>Alain et al.</i> 7394 (LS); <i>Clemente</i> 6311 (LS).
<i>gymnopus</i> Griseb.	Western, Central & Eastern	ho	<i>Acuña</i> 14314 (SV); <i>Acuña & Pujols</i> 49111 (SV); <i>León</i> 18919 (LS); <i>León & A. Loustalot</i> 11348 (LS).
<i>scandens</i> (Aubl.) Engl.	Eastern	se (climber)	<i>Alain et al.</i> 7431 (LS); <i>Clemente & Crisógono</i> 6474 (LS); <i>Casas</i> 17431 (SV); <i>L. Figueiras</i> 2968 (LS).
<i>thompsonii</i> I. Arias	Eastern	ca	<i>L. Figueiras</i> 463 (LS).
<i>Philodendron</i> Schott: 5 spp., 0 endemic			
<i>consanguineum</i> Schott	Western, Central & Eastern	se (climber)	<i>Acuña & Roig</i> 14685 (SV); <i>Alain</i> 6269 (LS); <i>Luna</i> 578 (LS); <i>Casas</i> 6408 (LS).
<i>fragantissimum</i> Kunth	Western	1° he	<i>Acuña</i> 13976 (SV).
<i>hederaceum</i> (Jack.) Schott	Western, Central & Eastern	se (climber)	<i>HAC</i> 13829
<i>lacerum</i> (Jack.) Schott	Western, Central & Eastern	se (climber)	<i>Acuña</i> 23531 (SV); <i>Alain</i> 6153 (LS); <i>Fernando</i> 147 (LS); <i>Groudzinskaya & Imhanitzkaya</i> 32315 (HAC); <i>Hioram</i> 2241 (LS).
<i>scandens</i> K. Koch & Sello [subsp. <i>cubense</i> (Engl.) I Arias]	Western, Central & Eastern	se (climber)	<i>Alain</i> 6154 (LS); <i>Groudzinskaya & Imhanitzkaya</i> 32363 (HAC); <i>Cañizares</i> 23529 (HAC)
BEGONIACEAE			
<i>Begonia</i> L.: 2 spp., 1 endemic			
<i>banaoensis</i> J. Sierra	Central	ca	<i>León & Gustavo</i> 4014 (LS); <i>E. del Risco & A. López</i> 27330 (SV); <i>León & Roca</i> 7999 (LS); <i>León & Jack</i> 13952 (LS); <i>Yero</i> 25924 (SV).
<i>glabra</i> Aubl. [var. <i>glabra</i>]	Western, Central & Eastern	ca	<i>Alain</i> 767 (LS); <i>Alain</i> 2702 (LS); <i>Cañizares</i> 11145 (SV).
BIGNONIACEAE			
<i>Schlegelia</i> Miq.: 1 sp., 0 endemic			
<i>brachyantha</i> Griseb.	Eastern	se (climber)	<i>Wright</i> 434 (NY) [from New York Bot. Gard. database].
BROMELIACEAE			
<i>Aechmea</i> Ruiz & Pav.: 1 sp., endemic			
<i>nudicaulis</i> (L.) Griseb.	Western, Central & Eastern	ca	<i>León</i> 6189 (LS); <i>Acuña</i> 15054 (SV); <i>León & Victorin</i> 17338 (LS); <i>Acuña & Correl</i> 18698 (SV); <i>R. Oviedo et al.</i> 30481 (HAC).
<i>Catopsis</i> Griseb.: 6 spp., 0 endemic			
<i>berteroniana</i> (Schult.) Mez	Western, Central & Eastern	ho	<i>Acuña</i> 11130 (SV); <i>Van Hermann</i> 3323 (LS); <i>Vales et al.</i> 35523 (HAC); <i>León & Fortuny</i> 8584 (LS).
<i>floribunda</i> L.B. Sm.	Western, Central & Eastern	ho	<i>Buck et al.</i> 5622 (HAC); <i>Alain</i> 6213 (LS); <i>León et al.</i> 9988 (LS); <i>León</i> 18292 (LS).

Taxon (Species and infraspecies in bold are endemic to Cuba.)	Distribution within Cuba	Epiphyte growth habit (ca = casual epiphyte; ho = holoeiphyte; se = semieiphyte; he = hemieiphyte)	Voucher specimens/literature reference (Herbarium acronyms follow <i>Index Herbariorum</i> , New York Botanical Garden.)
<i>montana</i> L.B. Sm.	Western	ho	<i>Ekman 16555</i> (GH, S).
<i>nitida</i> (Hook.) Griseb.	Central & Eastern	ho	<i>León & Clemente 15658</i> (LS); <i>Acuña 15055, 11129</i> (SV).
<i>nutans</i> (Sw.) Griseb. [var. <i>nutans</i>]	Central & Eastern	ho	<i>Acuña & Alain 15658</i> (SV); <i>Acuña 11074, 11138</i> (SV); <i>Gómez 26597</i> (SV).
<i>sessiliflora</i> (Ruiz & Pav.) Mez	Eastern	ho	<i>Clemente et al. 6708</i> (LS).
<i>Guzmania</i> Ruiz & Pav.: 3 spp., 0 endemic			
<i>erythrolepis</i> Brongn. ex Planch.	Eastern	ho	<i>Alain & L. Figueiras 7181</i> (LS); <i>L. Figueiras 2429</i> (UO); <i>Van Hermann 3258</i> (SV); <i>Alain et al. s.n.</i> (SV); <i>León et al. 10578</i> (LS).
<i>lingulata</i> (L.) Mez [var. <i>lingulata</i> & var. <i>splendens</i> (Planch.) Mez]	Western, Central & Eastern	ho	<i>León & Clemente 5381</i> (LS); <i>León 3932</i> (LS); <i>Alain et al. 5716</i> (LS); <i>Acuña & Alain 18650</i> (SV); <i>Acuña 15060</i> (SV).
<i>monostachia</i> (L.) Rusby ex Mez [var. <i>monostachia</i> & var. <i>variegata</i> Hort. ex Nash]	Western, Central & Eastern	ca (rare)	<i>Acuña 11126</i> (SV); <i>Acuña & Alain 18539</i> (SV); <i>Crisógono 7368</i> (SC); <i>León et al. 9974</i> (LS).
<i>Hohenbergia</i> Bak.: 1 sp., 0 endemic			
<i>penduliflora</i> (A. Rich.) Mez	Western, Central & Eastern	ca	<i>Wilson 1134</i> (SV); <i>Van Hermann 3517</i> (SV); <i>Hioram & Maurel 2567</i> (SC); <i>Acuña & Correll 18699</i> (SV); <i>Catasús 40911</i> (HAC).
<i>Mezobromelia</i> L.B. Sm.: 1 sp., 0 endemic			
<i>capituligera</i> (Griseb.) J.R. Grant	Eastern	ho	<i>Hioram 5042</i> (LS); <i>Alain et al. 5510, 7464</i> (LS); <i>Acuña 15061</i> (SV); <i>León et al. 10282</i> (LS).
<i>Racinaea</i> M.A. Spencer: 3 spp., 0 endemic			
<i>jenmanii</i> (Baker) Spencer & L.B. Sm.	Eastern	ho	<i>Acuña & Zayas 19622</i> (SV); <i>Varonov & Alonso 26476</i> (SV).
<i>spiculosa</i> (Griseb) Spencer & L.B. Sm.	Eastern	ho	<i>Acuña 14058</i> (SV); <i>Alain et al. 5481</i> (LS); <i>León 11064</i> (LS); <i>León et al. 10159</i> (LS).
<i>tetrantha</i> [var. <i>caribaea</i> (Ruiz & Pav.) Spencer & L.B. Sm.]	Eastern	ho	<i>León 10857</i> (LS); <i>Acuña 26476</i> (SV).
<i>Tillandsia</i> L.: 27 spp., 2 endemic			
<i>argentea</i> Griseb.	Eastern	ho	<i>León 18971</i> (LS); <i>P. Herrera & O. Cano 34465</i> (HAC); <i>Carabia 17099</i> (LS); <i>L. Figueiras 2289</i> ; <i>Acuña 9502</i> (SV).
<i>balbisiana</i> Schult. f.	Western, Central & Eastern	ho	<i>León 8759</i> (LS); <i>R. Oviedo 33078</i> (HAC); <i>Abarca 4560</i> (SV); <i>Roig et al. 13940</i> (SV); <i>Roig & Ferns 22928</i> (SV).
<i>bulbosa</i> Hook.	Western, Central & Eastern	ho	<i>León & Roca 8076</i> (LS); <i>León & Cazañas 5961</i> (LS); <i>Martínez 36131</i> (HAJB); <i>Acuña 22930</i> (SV); <i>Alonso 16013</i> (SV).

APPENDIX. Continued.

Taxon (Species and infraspecies in bold are endemic to Cuba.)	Distribution within Cuba	Epiphyte growth habit (ca = casual epiphyte; ho = holoeipiphyte; se = semieipiphyte; he = hemieipiphyte)	Voucher specimens/literature reference (Herbarium acronyms follow <i>Index Herbariorum</i> , New York Botanical Garden.)
<i>canescens</i> Sw.	Western	ca	<i>Acuña 10730</i> (SV); <i>Alain & Acuña 3011</i> (LS); <i>Alain 578</i> (LS); <i>Acuña & Alain 18534</i> (SV).
<i>capitata</i> Griseb.	Western & Central	ca	<i>K. Takeuchi 20639</i> (SV).
<i>compacta</i> Griseb. [var. <i>compacta</i>]	Eastern	ho	<i>Acuña 15064</i> (SV); <i>León 11069</i> (LS); No Collector 27139 (SV).
<i>complanata</i> Benth.	Eastern	ho	<i>Acuña 15062</i> (SV).
<i>deppeana</i> Steud.	Central	ho	<i>Acuña 11124</i> (SV); <i>Alain 6725</i> (LS).
<i>excelsa</i> Griseb.	Eastern	ho	<i>Acuña et al. 21099</i> (SV); <i>Acuña 15067</i> (SV); <i>L. Figueiras 2430</i> (UO); <i>Hioram & Maurel s.n.</i> (SC).
<i>fasciculata</i> Sw. [var. <i>fasciculata</i> , var. <i>clavispica</i> Mez, var. <i>laxispica</i> Mez, var. <i>uncispica</i> Mez & var. <i>venospica</i> Mez]	Western, Central & Eastern	ho	<i>Hioram 16644</i> (LS); <i>Carabia 55, 157</i> (LS); <i>L. Figueiras 1704</i> (LS).
<i>fendleri</i> Griseb.	Western & Central	ca	<i>Acuña 9996</i> (SV); <i>Areas 25890</i> (SV); <i>León et al. 10135</i> (LS); <i>León et al. 20039</i> (LS).
<i>festucoides</i> Brongn.	Western, Central & Eastern	ho	<i>Killip 43869</i> (LS); <i>Alain et al. 5757</i> (LS); <i>León & Alain 19351</i> (LS); <i>L. Figueiras 1848</i> (LS); <i>Hioram 4137</i> (LS).
<i>flexuosa</i> Sw.	Western, Central & Eastern	ho	<i>Alain 1661</i> (LS); <i>Jack 6636</i> (LS); <i>Killip 44016</i> (LS); <i>León & Roca 8138</i> (LS); <i>Ávilla & Enríquez 39959</i> (HAC).
<i>hotteana</i> Urban	Eastern	ho	<i>Alain et al. 5704</i> (LS); <i>Acuña 15066</i> (SV); <i>León 11061</i> (LS).
<i>juncea</i> (Ruiz & Pav.) Poiret	Central & Eastern	ca	<i>Clemente & Crisógono 6421</i> (LS); <i>L. Figueiras 806</i> (UO); <i>León 18429</i> (LS).
<i>paucifolia</i> Baker	Western, Central & Eastern	ho	<i>Van Hermann 917</i> (SV); <i>Acuña 10680</i> (SV); <i>Killip 44015</i> (LS); <i>Carabia 18972</i> (LS); <i>León 18126</i> (LS).
<i>polystachia</i> (L.) L.	Western, Central & Eastern	ho	<i>Acuña 10966, 11120, 19590</i> (SV); <i>Jack 6385</i> (LS); <i>Alonso 16012</i> (SV); <i>Acuña & Roig 16787</i> (SV).
<i>praschekii</i> Ehlers & Willinger	Western	ca	<i>Acuña & Correll 22934</i> (SV); <i>Roig & Zúñiga 8020</i> (SV); <i>Alain 1300</i> (LS).
<i>pruinosa</i> Sw.	Western, Central & Eastern	ho	<i>Areces et al. 28130</i> (HAC); <i>Clemente 4881</i> (LS); <i>Alain et al. 5864</i> (LS); <i>Clemente 181</i> (LS).
<i>recurvata</i> (L.) L.	Western, Central & Eastern	ca	<i>Clemente & Crisógono 7100</i> (SC); <i>Van Hermann 2198</i> (SV); <i>Acuña 9503, 22938</i> (SV); <i>Chiappy & González 36680, 36393</i> (HAC).
<i>schiedeana</i> Steud.	Western, Central & Eastern	ho	<i>Hioram 5152</i> (LS); <i>Clemente 2466</i> (LS); <i>Acuña 10958</i> (SV); <i>Acuña & Roig 22939</i> (SV); <i>León & Carabia 17097</i> (LS).
<i>setacea</i> Sw.	Western, Central & Eastern	ho	<i>Van Hermann 3946</i> (SV); <i>Acuña & Roig 10848</i> (SV); <i>R. Oviedo et al. 32288</i> (HAC); <i>León & Loustalot 9468</i> (LS); <i>Jack 6873</i> (LS).

Taxon (Species and infraspecies in bold are endemic to Cuba.)	Distribution within Cuba	Epiphyte growth habit (ca = casual epiphyte; ho = holoeiphyte; se = semieiphyte; he = hemieiphyte)	Voucher specimens/literature reference (Herbarium acronyms follow <i>Index Herbariorum</i> , New York Botanical Garden.)
<i>tenuifolia</i> L.	Central & Eastern	ho	<i>Yero & Acuña 917</i> (SV); <i>Alain et al. 7429</i> (LS); <i>Clemente 205</i> (LS); <i>León 18442</i> (LS); <i>Crisógono 5147</i> (LS).
<i>turquinensis</i> Willinger & Michálek	Eastern	ho	<i>Acuña 27145</i> (SV); <i>García et al. 33077, 33100</i> (HAC); <i>L. Figueiras 899</i> (LS).
<i>usneoides</i> L.	Western, Central & Eastern	ho	<i>Wilson 1059</i> (SV); <i>León 3163, 7349</i> (LS); <i>Acuña & Roig 22, 944</i> (SV); <i>Pérez et al. 40739</i> (HAC).
<i>utriculata</i> L. [var. <i>utriculata</i>]	Western, Central & Eastern	ho	<i>Acuña 11123</i> (SV); <i>Misión rusa s.n.</i> (SV); <i>Van Hermann 5114</i> (SV); <i>P. Herrera & O. Cano 33722</i> (HAC); <i>Alain 6545</i> (LS).
<i>variabilis</i> Schlecht.	Western, Central & Eastern	ho	<i>Acuña & Morton 20089</i> (SV); <i>Acuña 22945</i> (SV); <i>León 3933</i> (LS).
<i>Vriesea</i> Lindl.: 5 spp., 1 endemic			
<i>didistichoides</i> (Mez) L.B. Sm.	Eastern	ca	<i>Alain et al. 5388, 7468</i> (LS); <i>Acuña & Zayas 19623</i> (SV); <i>Acuña 15068</i> (SV).
<i>dissitiflora</i> (Wr.) Mez	Western	ca	<i>Alain & Acuña 3017</i> (LS), <i>18535</i> (SV).
<i>incurva</i> (Griseb.) R.W. Read	Eastern	ca	<i>Acuña 15063</i> (SV); <i>Veroslav 25983</i> (SV).
<i>machrostachya</i> (Bello) Mez	Eastern	ca	See Taxonomic Literature Consulted.
<i>platynema</i> Gaudich [var. <i>platynema</i> & var. <i>wrightii</i> (L.B. Sm.) L.B. Sm.]	Eastern	ca	<i>León et al. 9972</i> (LS); <i>Acuña et al. 21100</i> (SV); <i>León & Alain 19349</i> (LS).
<i>Werauhia</i> J.R. Grant: 4 spp., 1 endemic			
<i>haplostachya</i> (C. Wright) J.R. Grant	Eastern	ca	<i>Alain 3663</i> (LS); <i>Gómez 26600</i> (SV).
<i>ringens</i> (Griseb) J.R. Grant	Central & Eastern	ca	<i>Alain et al. 7469</i> (LS); <i>León & Alain 19348</i> (LS); <i>León 6593</i> (LS); <i>L. Figueiras 2221</i> (UO); <i>Acuña 13021</i> (SV).
<i>sanguinolenta</i> (Linden ex Cogn. & Marshall) J.R. Grant	Eastern	ca	See Taxonomic Literature Consulted.
<i>sintensisii</i> (Baker) J.R. Grant	Eastern	ca	<i>León et al. 10577</i> (LS); <i>Acuña 10638, 15059</i> ; <i>Alain et al. 7463</i> (LS).
CACTACEAE			
<i>Epiphyllum</i> Haworth: 1 sp., 0 endemic			
<i>phyllanthus</i> (L.) Haw.	Eastern	ho	<i>León 22895</i> (LS); <i>Barrios 8497</i> (SV); <i>Alain 1658</i> ; <i>Clemente & Crisógono 6177</i> (LS).
<i>Hylocereus</i> Britt. & Rose: 1 sp., 0 endemic			
<i>undatus</i> (Haw.) Britt. & Rose	Western & Eastern	2° he	<i>León 14555</i> (LS); <i>Alain 21040</i> (LS); <i>Acuña 13905, 20015</i> (SV); <i>Calvino 8292</i> (SV).
<i>Rhipsalis</i> Gaertner: 1 sp., 0 endemic			
<i>baccifera</i> (Mill.) Stearn [subsp. <i>baccifera</i>]	Western, Central & Eastern	ho	<i>Roig 8304</i> (SV); <i>27588</i> (SV); <i>León 2527</i> (LS); <i>Fortún 6933</i> (SV); <i>Acuña 23918</i> (SV).
<i>Selenicereus</i> Britt. & Rose: 4 spp., 1 endemic			
<i>boeckmannii</i> (Otto) Britt. & Rose	Western, Central & Eastern	2° he	<i>Maxon 4508</i> (LS); <i>Crisógono 3678</i> (SC); <i>León 2909</i> (LS); <i>E. del Rio 36107</i> (HAC); <i>León 18014</i> (LS).

APPENDIX. Continued.

Taxon (Species and infraspecies in bold are endemic to Cuba.)	Distribution within Cuba	Epiphyte growth habit (ca = casual epiphyte; ho = holoeipiphyte; se = semieipiphyte; he = hemieipiphyte)	Voucher specimens/literature reference (Herbarium acronyms follow <i>Index Herbariorum</i> , New York Botanical Garden.)
<i>brevispinus</i> Britt. & Rose	Central	2° he	<i>León 15569, 16904, 16933</i> (LS).
<i>grandiflorus</i> (L.) Britt. & Rose	Western & Central	2° he	<i>Matos 19017</i> (LS); <i>León 9761, 13774, 16767, 18016, 19017</i> (LS).
<i>urbanianus</i> (Gurke & Weingart.) Britt. & Rose	Western & Central	2° he	<i>Yero 651</i> (SV); <i>León s.n. 16635, 16739</i> (LS); <i>Acuña 25519</i> (SV).
CLUSIACEAE			
<i>Clusia</i> L.: 2 spp., 0 endemic			
<i>minor</i> L.	Western, Central & Eastern	1° he	<i>Roig & Chrysler 8584</i> (SV); <i>Fernández Casas 19748; Brohidi et al. 38981</i> (HAC); <i>León & Seifriz 18494</i> (LS); <i>Roig 6490</i> (SV).
<i>rosea</i> Jack.	Western, Central & Eastern	1° he	<i>Earle 1982</i> (SV); <i>Fernando 467</i> (LS); <i>Van Hermann 3944</i> (SV); <i>Clemente s.n.</i> (SC).
GESNERIACEAE			
<i>Columnnea</i> L.: 2 spp., 2 endemic			
<i>cubensis</i> (Urb.) Britt.	Eastern	ho	<i>León et al. 18657</i> (LS); <i>Hioram 1567</i> (SC); <i>Alain et al. 5528</i> (LS); <i>L. Figueiras 2051</i> (LS).
<i>tincta</i> Griseb.	Eastern	se (climber)	<i>Hioram 4252</i> (LS); <i>Kuban-Dtsch A. v. Humboldt Expedition 1186; Alain & L. Figueiras 7210</i> (LS).
LENTIBULARIACEAE			
<i>Pinguicula</i> L.: 1 sp., 1 endemic			
<i>lignicola</i> Barnh.	Eastern	ho	<i>Shafer 4031</i> (NY) [from New York Bot. Gard. database].
MARCRAVIACEAE			
<i>Marcgravia</i> L.: 3 spp., 1 endemic			
<i>evenia</i> Krug & Urb.	Eastern	se (climber)	<i>Clemente & Crisógono 4979</i> (SC); <i>Borhidi & Muñtz 28404</i> (HAC); <i>Alain 7709</i> (LS); <i>Alain et al. 5484</i> (LS).
<i>oligandra</i> C. Wright	Eastern	se (climber)	<i>I. Groudzinskaya & Imhanitzkaja 28484</i> (HAC); <i>Acuña 23925</i> (SV).
<i>rectiflora</i> Tr. & Pl.	Central & Eastern	se (climber)	<i>Alain 6337</i> (LS); <i>Clemente & Crisógono 4855</i> (LS); <i>Roig 6239</i> (SV); <i>L. Figueiras 585, 2432</i> (UO).
MORACEAE			
<i>Ficus</i> L.: 4 spp., 0 endemic			
<i>americana</i> (L.) Aubl.	Western, Central & Eastern	1° he	<i>P. Herrera & N. Imhanitzkaja 34802</i> (HAC)
<i>aurea</i> Nutt	Western, Central & Eastern	1° he	<i>León & Roca 6261</i> (LS); <i>Baker 4550</i> (SV); <i>Van Hermann 2644</i> (SV); <i>León & Victorin 20507</i> (LS); <i>Scaramuzza 22826</i> (SV).
<i>citrifolia</i> P. Mill.	Western & Eastern	1° he	<i>Roig & Acuña 22794</i> (SV); <i>Acuña 22795</i> (SV).
<i>trigonata</i> L.	Western & Central	1° he	<i>R. Oviedo & E. del Risco 33745</i> (HAC).

Taxon (Species and infraspecies in bold are endemic to Cuba.)	Distribution within Cuba	Epiphyte growth habit (ca = casual epiphyte; ho = holoeiphyte; se = semieiphyte; he = hemieiphyte)	Voucher specimens/literature reference (Herbarium acronyms follow <i>Index Herbariorum</i> , New York Botanical Garden.)
ORCHIDACEAE			
<i>Antillanorchis</i> Garay: 1 sp., 0 endemic			
<i>gundlachii</i> (C. Wright ex Griseb.) Garay & Stacy	Western	ca	See Taxonomic Literature Consulted.
<i>Barbosella</i> Schltr.: 1 sp., 0 endemic			
<i>dussii</i> (Cogn.) Dod	Eastern	ho	See Taxonomic Literature Consulted.
<i>Brassia</i> R. Br.: 1 sp., 0 endemic			
<i>caudata</i> (L.) Lindl.	Central & Eastern	ca	<i>Acuña 10500</i> (SV).
<i>Brachionidium</i> Lindl.: 1 sp., 0 endemic			
<i>parvum</i> Cogn.	Eastern	ho	<i>Acuña 10006</i> (SV); <i>Alain et al. 5610</i> (LS).
<i>Broughtonia</i> R. Br.: 3 spp., 2 endemic			
<i>cubensis</i> (Lindl.) Cogn.	Western	ho	See Taxonomic Literature Consulted.
<i>lindenii</i> (Lindl.) Dressler	Western, Central & Eastern	ho	<i>León et al. 15729</i> (NY) [from New York Bot. Gard. database].
<i>ortgiesiana</i> (Rchb. f.) Dressler	Western, Central & Eastern	ho	<i>Acuña 17478</i> (SV).
<i>Bulbophyllum</i> Thouars: 2 spp., 0 endemic			
<i>aristatum</i> (Rchb. f.) Hemsl.	Western & Eastern	ho	See Taxonomic Literature Consulted.
<i>pachyrachis</i> (A. Rich.) Griseb.	Western, Central & Eastern	ca	<i>Sagra s.n.</i> (P).
<i>Campylocentrum</i> Benth.: 6 spp., 1 endemic			
<i>fasciola</i> (Lindl.) Cogn.	Western, Central & Eastern	ho	See Taxonomic Literature Consulted.
<i>filiforme</i> (Sw.) Cogn.	Western	ho	See Taxonomic Literature Consulted.
<i>micranthum</i> (Lindl.) Maury	Eastern	ho	See Taxonomic Literature Consulted.
<i>pachyrrhizum</i> (Rchb. F.) Rolfe	Western & Central	ho	See Taxonomic Literature Consulted.
<i>poepigii</i> (Rchb. f.) Rolfe	Western, Central & Eastern	ho	<i>Alain et al. 5928</i> (LS).
<i>porrectum</i> (Rchb. f.) Rolfe	Eastern	ho	<i>Roig et al. 13880</i> (SV).
<i>Catasetum</i> Rich. ex Kunth: 1 sp., 0 endemic			
<i>integerrimum</i> Hook.	Western	ho	See Taxonomic Literature Consulted.
<i>Cochleanthes</i> Raf.: 1 sp., 0 endemic			
<i>flabelliformis</i> (Sw.) R.E. Schult. & Garay	Western, Central & Eastern	ho	<i>León & Acuña 16163</i> (LS).
<i>Coelia</i> Lindl.: 1 sp., 0 endemic			
<i>triptera</i> (Smith) G. Don ex Steud	Western, Central & Eastern	ho	<i>Clement 628</i> (NY) [from New York Bot. Gard. database].
<i>Comparettia</i> Poepp. & Endl.: 1 sp., 0 endemic			
<i>falcata</i> Poepp. & Endl.	Eastern	ca	<i>Acuña 9770, 15069</i> (SV); <i>Morton & Acuña 12306</i> (SV); <i>Alain et al. 21356</i> (SV).

APPENDIX. Continued.

Taxon (Species and infraspecies in bold are endemic to Cuba.)	Distribution within Cuba	Epiphyte growth habit (ca = casual epiphyte; ho = holoeipiphyte; se = semieipiphyte; he = hemieipiphyte)	Voucher specimens/literature reference (Herbarium acronyms follow <i>Index Herbariorum</i> , New York Botanical Garden.)
<i>Cyrtopodium</i> R. Br.: 1 sp., 0 endemic <i>punctatum</i> (L.) Lindl.	Western, Central & Eastern	ho	<i>Shafer 310</i> (NY) [from New York Bot. Gard. database].
<i>Dendrophylax</i> Rchb. f.: 3 spp., 1 endemic <i>gracilis</i> (Cogn.) Garay <i>lindenii</i> Hort. ex Ames & Nash <i>varius</i> Urb.	Western, Central & Eastern Western, Central & Eastern Central & Eastern	ho ho ho	See Taxonomic Literature Consulted. <i>Taylor 259</i> (NY) [from New York Bot. Gard. database]. <i>Acuña 13489, 20030</i> (SV).
<i>Dichaea</i> Lindl.: 7 spp., 0 endemic <i>glauca</i> (Sw.) Lindl.	Eastern	ho	<i>Acuña & K. Takeuchi 21237</i> (SV); <i>Morton & Acuña 12308</i> (SV); <i>Acuña 9769</i> (SV).
<i>brasminoides</i> (Sw.) Lindl. <i>hystricina</i> Rchb. f.	Eastern Eastern	ca ho	<i>Acuña 15070</i> (SV); <i>Roig et al. 9515</i> (SV). <i>Morton & Acuña 12307</i> (SV); <i>Acuña 13038</i> (SV); <i>Acuña & Zayas 19625</i> (SV); <i>Alain et al. 5556</i> (LS); <i>Alain et al. 20260</i> (SV).
<i>morrisii</i> Fawc. & Rendle <i>muricata</i> (Sw.) Lindl. <i>pendula</i> Cogn. <i>trichocarpa</i> (Sw.) Lindl.	Eastern Eastern Eastern Eastern	ho ho ho ca	<i>Hioram & Maurel 4906</i> (NY) [from New York Bot. Gard. database]. <i>Acuña 9768, 13895</i> (SV). <i>Roig & Acuña 9513</i> (SV). <i>Acuña 9516, 22964</i> (SV).
<i>Dilomilis</i> Raf.: 4 spp., 2 endemic <i>bissei</i> H.A. Dietr. <i>elata</i> (Benth. & Hook.) Summerh. <i>montana</i> (Sw.) Summerh. <i>oligophylla</i> (Schltr.) Summerh.	Eastern Eastern Eastern Eastern	ca ca ca ca	<i>Shafer 4007</i> (NY) [from New York Bot. Gard. database]. <i>Alain et al. 5706</i> (LS); <i>E. del Risco et al. 27439</i> (SV). <i>Roig et al. 9532</i> (SV); <i>Acuña 15078</i> (SV). <i>Alain et al. 5707</i> (LS); <i>Acuña 13047</i> (SV).
<i>Dinema</i> Lindl.: 1 sp., 1 endemic <i>cubincola</i> (Borhidi) A. Dietr.	Eastern	ho	<i>Acuña et al. 21104</i> (SV); <i>Alain et al. 5656</i> (LS); <i>Roig et al. 9530</i> (SV); <i>Acuña 9784</i> (SV).
<i>Domingoa</i> Schltr.: 1 sp., 0 endemic <i>haematochila</i> (Rchb. f.) Carabia	Western	ho	<i>Alain & Clemente 1005</i> (LS); <i>Alain 2896, 4338</i> (LS); <i>León 5135</i> (LS); <i>Paterson 10537</i> (SV).
<i>Elleanthus</i> Presl.: 2 spp., 0 endemic <i>cephallotus</i> Garay & Sweet <i>cordidactylus</i> Ackerman	Eastern Eastern	ca ca	<i>Roig et al. 9517</i> (SV). <i>Acuña 9999, 15071, 22965</i> (SV); <i>Borhidi et al. 28322</i> (HAC).

Taxon (Species and infraspecies in bold are endemic to Cuba.)	Distribution within Cuba	Epiphyte growth habit (ca = casual epiphyte; ho = holoeiphyte; se = semieiphyte; he = hemieiphyte)	Voucher specimens/literature reference (Herbarium acronyms follow <i>Index Herbariorum</i> , New York Botanical Garden.)
<i>Encyclia</i> Hook.: 15 spp., 8 endemic			
<i>acutifolia</i> Schltr.	Eastern	ho	See Taxonomic Literature Consulted.
<i>bipapularis</i> (Rchb. f.) Acuña	Western	ho	Wright 3328.
<i>brevifolia</i> (Jennings) M.A. Díaz & Ackerman	Western	ho	Acuña 17602, 17603, 17604, 17605 (SV).
<i>fucata</i> (Lindl.) Britt. & Millsp	Western, Central & Eastern	ho	Acuña 15626, 20444, 22969, 25395 (SV).
<i>gravida</i> (Lindl.) Schltr.	Eastern	ho	Acuña 9772 (SV).
<i>hodgeana</i> (Hawkes) Beckner	Eastern	ho	See Taxonomic Literature Consulted.
<i>howardii</i> (Ames & Correll) A. Dietr.	Eastern	ho	Acuña & Zayas 19629 (SV).
<i>isochila</i> (Rchb. f.) Dod	Eastern	ho	See Taxonomic Literature Consulted.
<i>moebusii</i> H.A. Dietr.	Eastern	ca	Dietrich s.n. (JE).
<i>nematocaulon</i> (A. Rich.) Acuña	Eastern	ho	Sagra s.n. (P).
<i>oxypetala</i> Schltr.	Western & Eastern	ho	See Taxonomic Literature Consulted.
<i>phoenicia</i> (Lindl.) Schltr.	Western, Central & Eastern	ca	Acuña 22680 (SV); Acuña & Zayaz 19854, 19855 (SV); Yero 1151 (SV); Morton & Acuña 12315 (SV).
<i>plicata</i> (Lindl.) Britt. & Millsp	Western, Central & Eastern	ho	Acuña & Zayas 19856 (SV); Acuña 13041, 15625 (SV); Acuña & Alain 15798 (SV); Acuña & Torres 16868 (SV).
<i>rufa</i> (Lindl.) Britt. & Millsp.		ho	Hioram 2103 (NY); [from New York Bot. Gard. database].
<i>triangulifera</i> (Rchb. f.) Acuña	Eastern	ho	Acuña 20290 (SV); Alain et al. 16171 (SV); Alain & Acuña 14050 (LS).
<i>Epidendrum</i> L.: 20 spp., 3 endemic			
<i>acunae</i> Dressler	Central & Eastern	ho	Acuña & Correll 18647 (SV); León & Acuña 16164 (LS); Acuña 12906 (SV).
<i>anceps</i> Jacq.	Western, Central & Eastern	ca	See Taxonomic Literature Consulted.
<i>antillanum</i> Ackerman & Hágsater	Eastern	ho	See Taxonomic Literature Consulted.
<i>difforme</i> Jacq.	Central & Eastern	ho	Acuña 9793, 9930, 13481 (SV); Roig et al. 13891 (SV); Acuña & K. Takeuchi 21254 (SV).
<i>diffusum</i> Sw.	Central & Eastern	ho	Acuña 13889, 20018 (SV).
<i>floridense</i> Hágsater	Western, Central & Eastern	ho	See Taxonomic Literature Consulted.
<i>hiorami</i> Acuña & Alain	Eastern	ho	Alain et al. 5358 (LS); Alain & Acuña 7955, 8349 (LS); Acuña & Zayas 19628 (SV); Acuña 13042 (SV).
<i>jaimacense</i> Lindl.	Eastern	ca	See Taxonomic Literature Consulted.
<i>latifolium</i> (Lindl.) Garay & Sweet	Eastern	ca	Roig et al. 9509 (SV); Acuña 13044, 16369 (SV).
<i>nocturnum</i> Jacq.	Western, Central & Eastern	ho	Acuña 13482 (SV); Yero s.n. (SV).
<i>neoporpax</i> Ames	Eastern	ho	Acuña 10000 (SV).
<i>orientale</i> Hágsater & M.A. Díaz	Eastern	ho	See Taxonomic Literature Consulted.

APPENDIX. Continued.

Taxon (Species and infraspecies in bold are endemic to Cuba.)	Distribution within Cuba	Epiphyte growth habit (ca = casual epiphyte; ho = holoeipiphyte; se = semieipiphyte; he = hemieipiphyte)	Voucher specimens/literature reference (Herbarium acronyms follow <i>Index Herbariorum</i> , New York Botanical Garden.)
<i>ramosum</i> Jacq.	Central & Eastern	ho	<i>Acuña</i> 9766, 20010 (SV); <i>Roig et al.</i> 9545 (SV); <i>Alain et al.</i> 5524, 7434 (LS).
<i>repens</i> Cogn.	Eastern	ho	<i>Acuña</i> 22973 (SV); <i>Morton & Acuña</i> 12312 (SV); <i>Roig & Acuña</i> 9546 (SV).
<i>rigidum</i> Jacq.	Eastern	ho	<i>Alain et al.</i> 5823 (LS); <i>Acuña</i> 13483 (SV).
<i>rivulare</i> Lindl.	Eastern	ho	<i>Acuña</i> 9799, 13034, 13893, 22970 (SV); <i>Roig & Acuña</i> 9510 (SV).
<i>secundum</i> Jacq.	Eastern	ho	<i>Yero</i> 1148, 1157 (SV); <i>Alain et al.</i> 7433 (LS); <i>Acuña</i> 22967 (SV).
<i>strobiliferum</i> Rchb. f.	Eastern	ca	<i>Alain et al.</i> 5929 (LS).
<i>umbellatum</i> Buch.-Ham. ex Lindl.	Eastern	ca	<i>Morton & Acuña</i> 12311 (SV).
<i>wrightii</i> Lindl.	Central & Eastern	ca	<i>Acuña</i> 13484 (SV).
<i>Eurystyles</i> Wawra: 1 sp., 0 endemic			
<i>ananassocomos</i> (Rchb. f.) Schltr.	Eastern	ho	See Taxonomic Literature Consulted.
<i>Homalopetalum</i> Rolfe: 1 sp., 0 endemic			
<i>vomeriforme</i> (Sw.) Fawc. & Rendle	Eastern	ho	<i>Acuña</i> 10987 (SV).
<i>Ionopsis</i> H.B.K.: 2 spp., 0 endemic			
<i>satyrioides</i> (Sw.) Rchb. f.	Eastern	ho	See Taxonomic Literature Consulted.
<i>utricularioides</i> (Sw.) Lindl.	Western, Central & Eastern	ho	<i>Acuña</i> 15073, 17581 (SV); <i>Acuña & Bucher</i> 22980 (SV).
<i>Isochilus</i> R. Br.: 1 sp., 0 endemic			
<i>linearis</i> (Jacq.) R. Br.	Central & Eastern	ca	<i>Acuña</i> 9775, 13888, 20012 (SV); <i>Acuña et al.</i> 21105 (SV).
<i>Jacquiniella</i> Schltr.: 2 spp., 0 endemic			
<i>globosa</i> (Jacq.) Schltr.	Central & Eastern	ca	<i>Acuña</i> 9771, 11284 (SV); <i>Alain & Acuña</i> 7832 (LS); <i>Alain et al.</i> 5533 (LS); <i>Acuña & Zayas</i> 19632 (SV).
<i>teretifolia</i> (Sw.) Schltr.	Central & Eastern	ho	<i>Roig & Mesa</i> 6613 (NY) [from New York Bot. Gard. database].
<i>Lankesterella</i> Ames: 1 sp., 0 endemic			
<i>alainii</i> Nir	Eastern	ho	See Taxonomic Literature Consulted.
<i>Leochilus</i> Knowls & Wescott: 2 spp., 0 endemic			
<i>labiatus</i> (Sw.) O. Kuntze	Western & Eastern	ho	<i>Acuña</i> 11276, 11279 (SV).
<i>scriptus</i> (Scheidw.) Rchb. f.	Cuba	ho	See Taxonomic Literature Consulted.
<i>Lepanthes</i> Sw.: 25 spp., 23 endemic			
<i>acunae</i> Hespennh.	Eastern	ho	<i>Morton & Acuña</i> 375 (US) [from New York Bot. Gard. database].
<i>blepharanta</i> Schltr.	Eastern	ho	<i>Acuña</i> 10008, 15074 (SV); <i>Acuña & Morton</i> 12319 (SV); <i>Roig et al.</i> 9522 (SV).

Taxon (Species and infraspecies in bold are endemic to Cuba.)	Distribution within Cuba	Epiphyte growth habit (ca = casual epiphyte; ho = holoeipiphyte; se = semieipiphyte; he = hemieipiphyte)	Voucher specimens/literature reference (Herbarium acronyms follow <i>Index Herbariorum</i> , New York Botanical Garden.)
blepharophylla (Griseb.) Hespennh.	Eastern	ho	<i>Wright 1508</i> (MO) [from Missouri Bot. Gard. database].
comadresina Luer	Eastern	ho	<i>Luer et al. 18650</i> (HAJB) [from Missouri Bot. Gard. database].
cubensis Hespennh.	Eastern	ho	<i>Acuña 9790</i> (SV).
chrysostigma Lindl.	Eastern	ho	See Taxonomic Literature Consulted.
diaziae Luer	Eastern	ho	<i>Luer et al. 19622</i> (HAJB) [from Missouri Bot. Gard. database].
dorsalis Lindl.	Eastern	ca	See Taxonomic Literature Consulted.
dressleri Hespennh.	Western & Eastern	ho	<i>Dressler 1341</i> (US) [from Gray Card Index].
ekmanii Schltr.	Eastern	ho	<i>Alain et al. 5536</i> (LS); <i>Acuña 9521, 9524, 10564, 10565</i> (SV).
fractiflexa Ames & C. Schweinf.	Eastern	ca	<i>Acuña 10014, 10563, 10566</i> (SV).
fulva Lindl.	Eastern	ca	<i>Acuña 11287</i> (SV).
grisebachiana Hespennh.	Eastern	?	<i>Wright 1510</i> (PH) [from Gray Card Index].
llamachoi Luer	Eastern	ho	<i>Luer et al. 18651</i> (HAJB) [from Gray Card Index].
melanocaulon Schltr.	Eastern	ho	<i>Acuña & Alain 18532</i> (SV), <i>3006</i> (LS); <i>Alain et al. 5754</i> (LS)
minima-mundana Luer	Eastern	ho	<i>Luer et al. 18661</i> (HAJB) [from Gray Card Index].
obliquiloba Hespennh.	Central	ho	<i>Dressler 1333</i> (US) [from Gray Card Index].
obliquipetala Hespennh.	Central	ca	<i>Acuña 10567</i> (SV).
palpebralis Luer	Eastern	ho	<i>Luer et al. 18658</i> (HAJB) [from Gray Card Index].
pergracilis Schltr.	Eastern	ho	<i>Morton & Acuña 12318</i> (SV).
silvae H. Dietr.	Eastern	ho	See Taxonomic Literature Consulted.
trichodactyla Lindl.	Central & Eastern	ca	<i>Roig et al. 9523, 13883</i> (SV); <i>Alain et al. 5616</i> (LS).
turquinoensis Schltr.	Eastern	ca	<i>Acuña 15076</i> (SV).
woodfredensis Luer	Eastern	ho	<i>Luer et al. 18623</i> (HAJB) [from Gray Card Index].
wrightii Rchb. f.	Eastern	ca	See Taxonomic Literature Consulted.
<i>Lepanthopsis</i> Ames: 4 spp., 0 endemic			
anthoctenium (Rchb. f.) Ames	Eastern	ca	See Taxonomic Literature Consulted.
melanantha (Rchb. f.) Ames	Cuba	ca	<i>Acuña 10004</i> (SV); <i>Alain et al. 7430</i> (LS).
microlepanthes (Griseb.) Ames	Eastern	ho	<i>Acuña et al. 21106</i> (SV); <i>Acuña 10734</i> (SV).
pygmaea C. Schweinf.	Cuba	ho	See Taxonomic Literature Consulted.
<i>Leucohyle</i> Klotzsch: 1 sp., 0 endemic			
subulata (Sw.) Schltr.	Eastern	ho	See Taxonomic Literature Consulted.
<i>Lycaste</i> Lindl.: 1 sp., 0 endemic			
barringtoniae (J.E. Smith) Lindl.	Eastern	se (climber)	<i>Alain et al. 5511</i> (LS); <i>Alain & Acuña 7731</i> (LS); <i>Acuña 10001, 15077</i> (SV).
<i>Macradenia</i> R. Br.: 1 sp., 0 endemic			
lutescens R. Br.	Western, Central & Eastern	ho	<i>Acuña 12321, 22984</i> (SV).

APPENDIX. Continued.

Taxon (Species and infraspecies in bold are endemic to Cuba.)	Distribution within Cuba	Epiphyte growth habit (ca = casual epiphyte; ho = holoeiphyte; se = semieiphyte; he = hemieiphyte)	Voucher specimens/literature reference (Herbarium acronyms follow <i>Index Herbariorum</i> , New York Botanical Garden.)
<i>Maxillaria</i> Ruiz & Pav.: 7 spp., 0 endemic			
<i>adendrobium</i> (Rchb. f.) Dressler	Eastern	ho	<i>Alain et al.</i> 5520 (LS); <i>Acuña</i> 10003 (SV); <i>Acuña & Zayas</i> 19634 (SV).
<i>alba</i> (Hook.) Lindl.	Eastern	ca	<i>Alain et al.</i> 5713, 7432 (LS); <i>Morton & Acuña</i> 12323 (SV); <i>Roig et al.</i> 9528, 13885 (SV).
<i>crassifolia</i> (Lindl.) Rchb. f.	Western, Central & Eastern	ho	<i>Alain et al.</i> 5549 (LS); <i>Acuña</i> 22987 (SV).
<i>parviflora</i> (Poepp. & Endl.) Garay	Central & Eastern	ho	<i>Shafer</i> 8565 (NY) [from New York Bot. Gard. database].
<i>purpurea</i> (Spreng.) Ames & Correll	Western, Central & Eastern	ho	See Taxonomic Literature Consulted.
<i>rufescens</i> Lindl.	Eastern	ho	<i>Alain et al.</i> 5714 (LS); <i>Morton & Acuña</i> 12324 (SV); <i>Roig et al.</i> 9528 (SV).
<i>valenzuelana</i> (A. Rich.) Garay	Western & Central	ho	<i>Acuña</i> 22988 (SV).
<i>Nidema</i> Britton & Millsp.: 1 sp., 0 endemic			
<i>ottonis</i> (Rchb. f.) Britt. & Millsp.	Western & Eastern	ca	<i>Acuña</i> 9783 (LS), 22972 (SV); <i>Acuña & Alain</i> 22971 (SV); <i>Alain et al.</i> 5744 (LS).
<i>Octomeria</i> R. Br.: 3 spp., 2 endemic			
<i>prostrata</i> H. Stenzel	Eastern	ho	<i>Alain et al.</i> 5604 (LS).
<i>tridentata</i> Lindl.	Eastern	ca	<i>León et al.</i> 10304 (NY) [from New York Bot. Gard. database].
<i>ventii</i> H. Dietr.	Eastern	ho	<i>Dietrich s.n.</i> (JE) [from Gray Card Index].
<i>Oerstedella</i> Rchb. f.: 1 sp., 0 endemic			
<i>verrucosa</i> (Sw.) Hamer & Garay	Cuba	?	See Taxonomic Literature Consulted.
<i>Oncidium</i> Sw.: 2 spp., 0 endemic			
<i>floridanum</i> Ames	Eastern	ca	<i>Acuña</i> 20014 (SV).
<i>undulatum</i> Lindl.	Western, Central & Eastern	ca	See Taxonomic Literature Consulted.
<i>Physinga</i> Lindl.: 1 sp., 1 endemic			
<i>polygonata</i> (Lindl.) H. Dietr.	Eastern	ho	<i>Shafer</i> 8009 (NY) [from New York Bot. Gard. database].
<i>Pinelia</i> Lindl.: 1 sp., 0 endemic			
<i>leochilus</i> (Rchb. f.) Garay & H.R. Sweet	Eastern	ho	See Taxonomic Literature Consulted.
<i>Platystele</i> Schltr.: 1 sp., 0 endemic			
<i>ovalifolia</i> (Focke) Garay & Dunsterv.	Eastern	ho	<i>Alain & Acuña</i> 7904 (LS).
<i>Pleuranthium</i> Benth.: 1 sp., 1 endemic			
<i>scalpelligerum</i> (Rchb. f.) Cogn.	Eastern	ho	<i>Shafer</i> 8648 (NY) [from New York Bot. Gard. database].
<i>Pleurothallis</i> R. Br.: 36 spp., 18 endemic			
<i>appendiculata</i> Cogn.	Eastern	ho	See Taxonomic Literature Consulted.
<i>aristata</i> Hook.	Eastern	ho	<i>Acuña</i> 9133 (SV).

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<i>brighami</i> S. Wats.	Eastern		<i>Alain 5715, 5735, 5756, 7443</i> (LS).
<i>caymanensis</i> C.D. Adams	Western	ho	See Taxonomic Literature Consulted.
<i>corniculata</i> (Sw.) Lindl.	Eastern	ca	<i>Alain et al. 5715, 5735, 5930</i> (LS); <i>Acuña 9920</i> (SV); <i>Acuña & Alain 18533</i> (SV); <i>Morton & Acuña 12326</i> (SV).
<i>denticulata</i> Cogn.	Eastern	ho	See Taxonomic Literature Consulted.
<i>domingensis</i> Cogn.	Eastern		<i>Alain et al. 5643</i> (LS); <i>Roig & Acuña 9541</i> (SV); <i>Morton & Acuña 12329</i> (SV).
<i>ekmanii</i> Schltr.	Eastern	ho	See Taxonomic Literature Consulted.
<i>excentrica</i> (Luer) Luer	Eastern	ho	<i>Alain et al. 8115</i> (LS).
<i>gelida</i> Lindl.	Western, Central & Eastern	ca	<i>León et al. 9981</i> (NY) [from New York Bot. Gard. database].
<i>gemina</i> H. Stenzel	Eastern	ho	<i>Stenzel & Viñales 452</i> (HAJB) [from Gray Card Index].
<i>grisebachiana</i> Cogn.	Western & Eastern	ca	<i>Alain et al. 7836, 7837, 7861, 7867</i> (LS); <i>Morton & Acuña 12325</i> (SV).
<i>helenae</i> Fawcett & Rendle	Eastern	ho	<i>Acuña 9742, 11285</i> (LS).
<i>longilabris</i> Lindl.	Eastern	ho	<i>Alain et al. 5360, 5363, 5476</i> (LS).
<i>llamachoi</i> Luer	Eastern	ho	<i>Alain 7836</i> (LS).
<i>mucronata</i> Lindl.	Eastern	ho	See Taxonomic Literature Consulted.
<i>murex</i> Rchb. f.	Eastern	ho	<i>Acuña 10009</i> (SV).
<i>nummularia</i> Rchb. f.	Eastern	ho	See Taxonomic Literature Consulted.
<i>obliquipetala</i> Acuña & C. Schweinf.	Eastern	ho	<i>Acuña 9540</i> (SV).
<i>obovata</i> Lindl.	Eastern	ca	<i>Alain et al. 7465</i> (LS); <i>Acuña 22944</i> (SV).
<i>odontopetala</i> Rchb. f.	Eastern	ho	<i>Acuña 22991</i> (SV).
<i>papulifolia</i> C.A. Luer	Eastern	ho	<i>Paufet & Silva s.n.</i> (HAJB) [from Gray Card Index].
<i>pruinosa</i> Lindl.	Eastern	ho	<i>Acuña & Casas 17429</i> (SV); <i>Alain et al. 5470</i> (LS).
<i>racemiflora</i> (Sw.) Lindl.	Eastern	ho	<i>Morton & Acuña 12328</i> (SV).
<i>quadrifida</i> (Llave & Lex.) Lindl.	Eastern	ho	<i>Acuña & Zayas 19243</i> (SV).
<i>rubroviridis</i> Lindl.	Eastern	ho	See Taxonomic Literature Consulted.
<i>ruscifolia</i> (Jacq.) R. Br.	Eastern	ca	<i>Morton & Acuña 12327</i> (SV); <i>Acuña 9791, 10643</i> (SV).
<i>sertularioides</i> (Sw.) Spreng.	Central & Eastern	ca	<i>Alain et al. 5932</i> (LS); <i>Morton & Acuña 12332</i> (SV); <i>Acuña 13900</i> (SV).
<i>shaferi</i> Ames	Eastern	ho	<i>Alain et al. 5534</i> (LS); <i>Alain & Acuña 7873</i> (LS); <i>Acuña 9743</i> (SV).
<i>testifolia</i> (Sw.) Lindl.	Eastern	ho	<i>Morton & Acuña 12331</i> (SV).
<i>tribuloides</i> (Sw.) Lindl.	Western, Central & Eastern	ho	<i>Alain et al. 5604</i> (LS); <i>Acuña 9931, 9789</i> (SV).
<i>trichophora</i> Lindl.	Eastern	ho	<i>Acuña et al. 21107</i> (SV).
<i>trichyphis</i> Rchb. f.	Eastern	ho	<i>Wright 3345</i> (MO) [from Missouri Bot. Gard. database].
<i>velaticaulis</i> Rchb. f.	Eastern	ho	<i>León et al. 10305</i> (NY) [from New York Bot. Gard. database].
<i>wilsoni</i> Lindl.	Central & Eastern	ca	<i>Alain et al. 7466</i> (LS); <i>Acuña 20016</i> (SV).
<i>wrightii</i> Rchb. f.	Eastern	ho	See Taxonomic Literature Consulted.

APPENDIX. Continued.

Taxon (Species and infraspecies in bold are endemic to Cuba.)	Distribution within Cuba	Epiphyte growth habit (ca = casual epiphyte; ho = holoeipiphyte; se = semieipiphyte; he = hemieipiphyte)	Voucher specimens/literature reference (Herbarium acronyms follow <i>Index Herbariorum</i> , New York Botanical Garden.)
<i>Polyrrhiza</i> Pfitzer: 2 spp., 1 endemic			
gracilis Cogn.	Cuba	ho	<i>Alain et al.</i> 5380 (LS); <i>Acuña & Zayas</i> 19637 (SV).
<i>lindenii</i> (Lindl.) Cogn.	Eastern	ho	<i>Acuña s.n.</i> (SV).
<i>Polystachya</i> Hook.: 2 spp., 1 endemic			
<i>concreta</i> (Jacq.) Garay & H.R. Sweet	Western, Central & Eastern	ho	<i>Alain et al.</i> 5717 (LS); <i>Alain & Acuña</i> 2320 (LS); <i>Morton & Acuña</i> 12334 (SV); <i>Acuña</i> 12389, 13490 (SV).
<i>foliosa</i> (Hook.) Rchb. f. ex Walp.	Western & Eastern	ca	<i>Morton & Acuña</i> 12333 (SV); <i>Alain & Acuña</i> 7261, 7380 (LS); <i>Alain et al.</i> 7621 (LS); <i>Acuña</i> 9792 (SV).
<i>Prosthechea</i> Knowles & Westc.: 7 spp., 1 endemic			
<i>boothiana</i> (Lindl.) W.E. Higgins	Western, Central & Eastern	ho	<i>Hioram</i> 2117 (NY) [from New York Bot. Gard. database].
<i>cochleata</i> (L.) W.E. Higgins [subsp. <i>triandra</i> (Ames) Dressler]	Western & Central	ca	<i>Yero</i> 1150 (SV); <i>Alain & Acuña</i> 7971 (LS); <i>Morton & Acuña</i> 12310 (SV); <i>Acuña</i> 13480 (SV).
<i>fragans</i> (Sw.) Lemée	Eastern	ca	<i>Alain et al.</i> 5763, 20261 (LS); <i>Acuña</i> 13043 (SV).
grisebachiana (Cogn.) W.E. Higgins	Western	ho	<i>Alain & Acuña</i> 1247 (LS); <i>Acuña & Alain</i> 15796 (SV).
<i>pygmaea</i> (Hook.) W.E. Higgins	Central & Eastern	ca	<i>Alain & Acuña</i> 3015 (SV); <i>Roig & Acuña</i> 9518 (SV); <i>Roig et al.</i> 13886 (SV).
<i>serrulata</i> (Sw.) W.E. Higgins	Eastern	ho	<i>Roig et al.</i> 9536 (SV); <i>Acuña</i> 10007, 13892 (SV).
<i>vespa</i> (Vell.) W.E. Higgins	Central & Eastern	ho	<i>Acuña</i> 13894, 15072 (SV); <i>Roig & Acuña</i> 9511 (SV); <i>Acuña & Zayas</i> 19627 (SV).
<i>Reichenbachanthus</i> Rodrig.: 1 sp., 0 endemic			
<i>emarginatus</i> (Rchb. f.) Garay	Eastern	ho	<i>Alain et al.</i> 5529 (LS).
<i>Schomburgkia</i> Lindl.: 1 sp., 0 endemic			
<i>lyonsii</i> Lindl.	Eastern	ho	<i>Alain et al.</i> 5826 (LS).
<i>Stelis</i> Sw.: 5 spp., 3 endemic			
crystalensis H. Dietr.	Eastern	ho	<i>Bisse et al.</i> 45254 (HAJB) [from Gray Card Index].
cubensis Schltr.	Eastern	ho	<i>Acuña</i> 9548 (SV).
ekmanii Schltr.	Eastern	ho	<i>Alain et al.</i> 5531 (LS).
<i>ophioglossoides</i> (Jacq.) Sw.	Eastern	ca	<i>Roig et al.</i> 9549 (SV); <i>Morton & Acuña</i> 12387 (SV); <i>Alain et al.</i> 7880 (LS).
<i>pygmaea</i> Cogn.	Eastern		See Taxonomic Literature Consulted.
<i>Tetramicra</i> Lindl.: 1 sp., 1 endemic			
malpighiarum J. A. Hern. & M.A. Díaz	Central & Eastern	ho	<i>Hernández</i> 41199 (HAC) [from Gray Card Index].

Taxon (Species and infraspecies in bold are endemic to Cuba.)	Distribution within Cuba	Epiphyte growth habit (ca = casual epiphyte; ho = holoeiphyte; se = semieiphyte; he = hemieiphyte)	Voucher specimens/literature reference (Herbarium acronyms follow <i>Index Herbariorum</i> , New York Botanical Garden.)
<i>Tolummia</i> Raf.: 12 spp., 4 endemic			
<i>acunae</i> (M.A. Díaz) Nir	Eastern	ho	<i>Bisse et al. 52485</i> (HAJB) [from Gray Card Index].
<i>calochila</i> (Cogn.) Braem	Central	ho	See Taxonomic Literature Consulted.
<i>intermedia</i> (Bertero ex Spreng.) H. Dietr.	Western, Central & Eastern	ho	See Taxonomic Literature Consulted.
<i>leiboldii</i> (Rchb. f.) Braem	Western, Central & Eastern	ho	<i>L. Figueiras & Acuña 310</i> (UO).
<i>lemoniana</i> (Lindl.) Braem	Western, Central & Eastern	ho	<i>Acuña 18696</i> (SV).
<i>lucayana</i> (Nash. ex Britt. & Millsp.) Braem	Cuba	ho	See Taxonomic Literature Consulted.
<i>lyrata</i> (Withner) Braem	Western	ho	See Taxonomic Literature Consulted.
<i>moiriana</i> Braem	Eastern	ho	See Taxonomic Literature Consulted.
<i>pulchella</i> Rafin.	Eastern	ho	See Taxonomic Literature Consulted.
<i>sylvestre</i> (Lindl.) Braem	Eastern	ca	<i>Alain et al. 8048</i> (LS).
<i>usneoides</i> (Lindl.) Braem	Eastern	ho	<i>Wright 669</i> (NY) [from New York Bot. Gard. database].
<i>variegata</i> (Sw.) Braem	Western, Central & Eastern	ho	<i>León 1285</i> (NY) [from New York Bot. Gard. database].
<i>x cubensis</i> (Moir) H. Dietr.	Cuba	ho	See Taxonomic Literature Consulted.
<i>Trichopilia</i> Lindl.: 1 sp., 0 endemic			
<i>fragans</i> (Lindl.) Rchb. f.	Eastern	ho	<i>Acuña 10066</i> (SV).
<i>Trichosalpinx</i> Luer: 2 spp., 0 endemic			
<i>dura</i> (Lindl.) Luer	Central & Eastern	ho	<i>Alain et al. 5743</i> (LS); <i>Acuña 22992</i> (SV).
<i>memor</i> (Rchb. f.) Luer	Central	ho	
<i>Vanilla</i> Sw.: 9 spp., 0 endemic			
<i>barbellata</i> Rchb. f.	Cuba	se (climber)	<i>Alain et al. 5821, 5946</i> (SV); <i>Alain et al. 16205</i> (SV); <i>Acuña 16455</i> (SV).
<i>bicolor</i> Lindl.	Central & Eastern	se (climber)	See Taxonomic Literature Consulted.
<i>claviculata</i> Sw.	Eastern	se (climber)	<i>León & Clement 6458</i> (NY) [from New York Bot. Gard. database].
<i>dilloniana</i> Correll	Western, Central & Eastern	se (climber)	<i>Acuña & Alain 17320</i> (SV).
<i>mexicana</i> Mill.	Western & Central	se (climber)	<i>Luna 251</i> (NY) [from New York Bot. Gard. database].
<i>palmarum</i> (Salzman ex Lindl.) Lindl.	Western, Central & Eastern	se (climber)	See Taxonomic Literature Consulted.
<i>phaeantha</i> Rchb. f.	Western & Central	se (climber)	<i>Alain & Acuña A. 2321</i> (LS).
<i>planifolia</i> Jacq.	Eastern	se (climber)	<i>Acuña 16837</i> (SV).
<i>poitaei</i> Rchb. f.	Central & Eastern	se (climber)	See Taxonomic Literature Consulted.
<i>Xylobium</i> Lindl.: 1 sp., 0 endemic			
<i>palmifolium</i> (Sw.) Benth.	Eastern	ca	<i>Acuña 10005</i> (SV); <i>Acuña et al. 19197</i> (SV).
<i>Zootrophion</i> Luer: 1 sp., 0 endemic			
<i>atropurpureum</i> (Lindl.) Luer	Eastern	ho	<i>Alain & Acuña 7556</i> (LS).

APPENDIX. Continued.

Taxon (Species and infraspecies in bold are endemic to Cuba.)	Distribution within Cuba	Epiphyte growth habit (ca = casual epiphyte; ho = holoeipiphyte; se = semieipiphyte; he = hemieipiphyte)	Voucher specimens/literature reference (Herbarium acronyms follow <i>Index Herbariorum</i> , New York Botanical Garden.)
PIPERACEAE			
<i>Peperomia</i> Ruiz & Pav.: 16 spp., 2 endemic			
<i>alata</i> Ruiz & Pav.	Western, Central & Eastern	ca	<i>Acuña</i> 13059 (SV); <i>León et al.</i> 10275 (LS); <i>Hioram & Maurel s.n.</i> (SC); <i>Morton & Acuña</i> 1287 (SV).
<i>cubensis</i> C. DC.	Central & Eastern	ca	<i>León & Clemente</i> 6624 (LS); <i>L. Figueiras</i> 540 (UO); <i>Ekman</i> 14881 (LS); <i>Alain & Acuña</i> 7536 (LS); <i>Clemente</i> 5282 (LS).
<i>emarginella</i> (Sw. ex Wikstr.) C. DC.	Eastern	ca	<i>Hioram s.n.</i> (SC); <i>Clemente et al. s.n.</i> (SC); <i>Crisógono s.n.</i> (LS); <i>Hioram</i> 6551 (LS); <i>León et al.</i> 10127 (LS).
<i>galioides</i> Kunth	Eastern	ca	<i>León</i> 11070 (LS); <i>Acuña</i> 11070 (SV).
<i>glabella</i> (Sw.) A. Dietr. [var. <i>glabella</i> & var. <i>melanostigma</i> (Miq.) Dahlst.]	Western, Central & Eastern	se (climber)	<i>Bisse et al.</i> 32093 (HAC); <i>León</i> 2526 (LS); <i>Acuña</i> 9803 (SV); <i>León & Pozos</i> 5042 (LS); <i>León</i> 13293 (LS); <i>Bisse et al.</i> 32031 (HAC).
<i>grisebachii</i> C. DC.	Eastern	ca	<i>León</i> 20449 (LS); <i>Borhidi et al.</i> 39102 (HAC); <i>Clemente</i> 376, 534, 1933 (LS).
<i>guadaloupensis</i> C. DC.	Central & Eastern	ca	<i>Wright</i> 504 (G-DC) [from Missouri Bot. Gard. database].
<i>maculosa</i> (L.) Hook.	Central & Eastern	ca	<i>Clemente</i> 539 (LS); 2020 (SC); <i>L. Figueiras</i> 819 (LS); <i>León et al.</i> 10284 (LS); <i>Alain</i> 6415 LS).
<i>obtusifolia</i> [var. <i>emarginata</i> (Ruiz & Pav.) Dahlst. & var. <i>obtusifolia</i>]	Western, Central & Eastern	ca	<i>Alain et al.</i> 5404, 5825 (LS); <i>Acuña</i> 10031 (SV); <i>León & Clemente</i> 4076 (LS); <i>Clemente</i> 5284, 5285 (LS); <i>León</i> 12324 (LS).
<i>quadrangularis</i> (Thomps.) A. Dietr.	Western & Eastern	ca	<i>Acuña</i> 10363 (SV); <i>Morton</i> 12293 (SV); <i>Clemente</i> 5821 (SC); <i>Hioram</i> 4927 (LS); <i>Morton & Acuña</i> 12288 (SV).
<i>quadrifolia</i> (L.) Kunth	Central & Eastern	ho	<i>Acuña</i> 1025, 15086 (SV); <i>León</i> 10858 (LS).
<i>rohmba</i> Ruiz & Pav.	Central & Eastern	ho	<i>Clemente et al.</i> 5287 (SC); <i>Roig & Acuña</i> 12926 (SV); <i>Acuña</i> 10401 (SV); <i>Alain</i> 6614 (LS); <i>Jack</i> 6488 (LS).
<i>rotundifolia</i> (L.) Kunth	Western, Central & Eastern	ca	<i>León</i> 4514 (LS); <i>León</i> 18330 (LS); <i>Hioram & Maurel s.n.</i> (SC); <i>Morton & Acuña</i> 12297 (SV).
<i>serpens</i> (Sw.) Loud.	Western, Central & Eastern	ca	<i>Morton</i> 10459 (LS); <i>Acuña</i> 23027 (SV); <i>L. Figueiras</i> 10243 (SV); <i>Clemente</i> 6438 (SC); <i>L. Figueiras</i> 541 (LS).
<i>swartziana</i> Miq.	Eastern	ca	<i>Morton & Acuña</i> 3741 (LS), 12060 (SV).
<i>tetraphylla</i> (G. Forster) Hook. & Arn.	Central & Eastern	ca	<i>Acuña</i> 9563 (SV); <i>L. Figueiras</i> 2171 (LS).
RUBIACEAE			
<i>Hillia</i> Jacq.: 2 spp., 0 endemic			
<i>parasitica</i> Jack.	Eastern	ho	<i>Acuña</i> 9886 (SV); <i>Alvarez et al.</i> 31476 (HAC); <i>Bisse & González</i> 31478 (HAC); <i>León & Seifriz</i> 18397 (LS); <i>Clemente</i> 1932 (LS).
<i>tetrandra</i> Sw.	Western, Central & Eastern	ca	<i>Clemente</i> 7144 (SC); <i>Alain</i> 721 (LS); <i>K. Takeuchi</i> 21391 (SV); <i>Alain et al.</i> 7876 (LS).
<i>Psychotria</i> L.: 1 sp., 0 endemic			
<i>guadalupensis</i> (DC.) Howard	Eastern	ho	<i>Acuña</i> 12760 (SV); <i>Alain</i> 3218 (LS); <i>Clemente</i> 1935 (LS); <i>Hioram</i> 2640 (LS); <i>Catasús & Imchan</i> 33320 (HAC).

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<i>Schradera</i> Vahl: 2 spp., 2 endemic			
<i>cephalophora</i> Griseb.	Eastern	se (climber)	<i>León et al.</i> 22536 (LS); <i>León et al.</i> 9929 (LS); <i>Alain</i> 3807 (LS); <i>Alain & L. Figueiras</i> 4589 (LS); <i>Clemente et al.</i> 1884 (SC); <i>Ferrás</i> 25260 (SV).
<i>cupensis</i> Steyerl	Eastern	ho	
URTICACEAE			
<i>Pilea</i> Lindl.: 2 spp., 0 endemic			
<i>nummulariifolia</i> (Sw.) Wedd.	Western, Central & Eastern	se (climber)	<i>Acevedo et al.</i> 40559 (HAC); <i>Luna</i> 690 (LS); <i>León</i> 9755, 15900 (LS); <i>Alain</i> 6343 (LS).
<i>pubescens</i> Liebm.	Western & Central	ca	<i>Alain</i> 652 (LS); <i>Acevedo et al.</i> 40495 (HAC); <i>O. Cano & P. Herrera</i> 33646 (HAC); <i>León & Clemente</i> 6541 (LS); <i>León</i> 12823 (LS).