

PLANTS OF TAMBITO I. DICOTILEDONOUS. A PRELIMINARY LIST

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Resumen

Se presenta una lista preliminar de las plantas dicotiledóneas registradas desde 1998 hasta el 2002 en la reserva Tambito, Cauca, Colombia (2° 30' N- 76° 59' W). Se reportaron 585 especies distribuidas en 86 familias. Se organizaron según su hábito de crecimiento: hierbas (52 especies), arbustos (132 especies), árboles (301 especies), trepadoras (59 especies) y epífitas (5 especies). Las familias de mayor número de especies fueron Rubiaceae, Gesneriaceae, Melastomataceae y Piperaceae. Esta es una lista preliminar centrada en ofrecer una estimación inicial de las especies en Tambito. El patrón numérico demuestra que se deben hacer esfuerzos de colecta en lianas, epífitas y trepadoras además de nuevas identificaciones a los grupos menos conocidos taxonomicamente para completar el inventario de dicotiledóneas. Iguales esfuerzos de deben hacerse en Helechos, monocotiledones y grupos de plantas criptógamas.

Palabras claves: Flora, Bosque de Niebla, Tambito, Cordillera Occidental, Cauca, Colombia

Abstract

This study presents a preliminary list of dicotyledonous plants that have been registered 1998 – 2002 in Reserva Tambito, Cauca, Colombia (2° 30' N- 76° 59' W). Some 585 species are reported, in 86 families. The species included in this list were classified into herbs (52 species), shrubs (132 species), trees (301 species), climbers (59 species) and epiphytes (5 species). The most speciose families are Rubiaceae, Gesneriaceae, Melastomataceae and Piperaceae. This is a preliminary list aimed to provide an initial estimate of the plant species in Tambito. It is suggested that more collections are made in lianas, epiphytes and climbers to further complete the inventory of dicotyledonous plants, and that similar studies should be made for monocotyledonous and cryptogams (including mocees and ferns) species.

Key words: Flora, Cloud Forest, Tambito, Western Andes, Cauca, Colombia

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Introduction

This is the first compilation of Tambito's plant species, which presents a preliminary list of dicotyledonous plants. A series of future lists are in preparation under a Florula project (II: Monocotyledonous III: Ferns and similars IV: Mosses and affines). Previous studies in Tambito suggest that there might be as many as 640 species collected (including monocotyledonous), in 269 genera and 110 families including monocotyledonous (González C.E, 2000). This paper produces a rigorous review of collections in Tambito between 1998 and 2002, providing a more conclusive figure for the number and taxonomy of the species now registered in Tambito. Additionally we make suggestions for the focus of future botanical collection in Tambito.

Materials and Methods

Study Site

Reserva Tambito, Cauca, Colombia (2° 30' N- 76° 59' W) lies on the western slopes of the western cordillera of the Andes. The altitudinal range rises from 1053 to 2860 m.a.s.l.. The total area of the reserve is 2150 hectares, with areas of secondary and primary forest, and some pasture area around the Tambito cabin. Annual rainfall ranges from 3900mm around the cabin, to as much as 6560mm at 2000m.a.s.l. (Jarvis, 2000). Relative humidity averages at over 90%, with daily variation between 60 and 100% (Jarvis, 2000). It is a private nature reserve which forms the Pacific Environmental Studies Centre to the University of Cauca, Popayan.

Field data collection

Botanical collections were made from 1998 – 2002, many as part of the fieldwork for HERB Project and Project Negret (King's College London). The areas covered were web distributed around the twin catchments, between 1300 and 2500 m.a.s.l.. Lack of access to the higher elevations prevented collections above 2500m.a.s.l..

Samples were collected and preserved temporarily in alcohol according to the traditional method of botanical sample preservation. The samples were then dried for 48 hours at 90°F, and stored in the CAUP herbarium in the Natural History Museum of Popayan. Identification of the samples were made to species level whenever possible, though many identifications stop at genus. Some samples remain unidentified to family, and so have been omitted from this list.

Results and Discussion

Table 1 shows the species which have been registered, and are separated into families. For each species additional information is provided with regard to the

Holdridge life zone in which the species was found, in addition to the plant form and information on the collection number for the herbarium.

In total, 585 species have been identified, in 86 families. Some 301 of these are tree species, whilst 132 are shrubs, 59 are climbers, 52 are herbs and 5 are epiphytes. Only 60-65% (around 326 species) of identifications are confirmed; 4% (around 22 species) remain unidentified and 21 species are being investigated as new species for science (4 have already been described). Some of the species which are unidentified might also be undescribed species. Melastomataceae and Rubiaceae are generally poorly identified families. Tree families like Lauraceae and Myrtaceae were found to be less taxonomically documented. Genera like *Nectandra*, *Ocotea*, *Miconia*, *Piper*, *Besleria*, *Solanum*, *Ficus*, *Palicourea* and *Psychotria* have the highest probabilities for finding new undescribed or non identified species.

These figures show the weaknesses in collections, and highlight the need for further study in lianas, epiphytes and climbers. For both these groups the species richness is likely to be significantly higher. Some data about rare or endemic species are marked, but must be considered more thoroughly in subsequent analyses.

Figure 1 shows the species composition with respect to families. The most speciose families are Rubiaceae (67 species), Gesneriaceae (64 species), Melastomataceae (59 species) and Piperaceae (36 species). A total of 38% of all registered species are in these four families.

Conclusions

This preliminary list provides a basic documentation of the dicotyledonous flora found in Tambito. It demonstrates the exceptional level of plant diversity in Tambito, and throws down the challenge to further study and document the biological resources within the Reserve and the surrounding area. This kind of information is crucial to comply with the Convention on Biological Diversity, where basic inventory of biological resources is essential to construct relevant and effective national conservation policies.

It is hoped that this paper will contribute to the establishment of a Florula project for Tambito (González, 2002), which integrates the results of biological research in Tambito over the past years. Amongst these findings are new species to science (Gonzalez, 2002), and significant advances in knowledge of the ferns (Casañas, 2002) and palms (Cortes, 1996). This preliminary list could be lengthened and finalised under such a project, and extended into the surrounding Munchique National Park and Choco Biogeographic region.

Acknowledgements

I would like to thank anyone who has worked in Tambito for making this research possible. I am grateful to the teams of Project HERB and Project Negret for their support and fieldwork aid. Thanks to the national COL and CAUP

Herbarium of the Natural History Museum at the University of Cauca; the Popayán National Parks officers; to Fundación Proselva; to King's College London and local communities around Tambito. I would like to acknowledge every one who had been involved with particular plant collections or field work assistance:

Sandra L. Díaz, Andrew Jarvis, Mike Salazar, Juliana González, Matthew Letts, Alexandre Cortéz, Juan C. Garcia, Tatiana Arias, Luis A. Ortega, Carolina Alcazar, Beatriz Salgado, Alvaro J. Negret, Mark Mulligan, Natalia Gómez, Martha L. Burbano.

References

CASAÑAS, O.L. Análisis vertical de los helechos epifíticos en Tambito. Popayán, 2002, 100 p. Trabajo de grado (Biólogo). Universidad del Cauca. Facultad de Ciencias Naturales, Exactas y de la Educación. Departamento de Biología.

CORTES, A. Estructura y diversidad de una comunidad de palmas (*Wiffia regia*) en la reserva Tambito. Popayán, 1996, 100 p. Trabajo de grado (Licenciatura en Biología). Universidad del Cauca. Facultad de Ciencias Naturales, Exactas y de la Educación. Departamento de Biología

GONZÁLEZ, C.E. Diversidad y composición florística del bosque de niebla en el Departamento del Cauca, Colombia. *Cespedesia*. Vol. 24, No 75 (2000)

_____. Nuevas especies de *Panopsis* (Proteaceae) para Sur América. En preparación. *Mus Hist Nat*. 2002. Popayán

_____. La Florula de Tambito: Una contribución al conocimiento de la flora del parque nacional Munchique. Popayán. 2002. Propuesta de Proyecto en realización.

HOLDRIDGE, L.R. Life zone ecology. San José de Costa Rica: Tropical Science Centre, 1967. 206 p.

JARVIS, A. Measuring and Modelling the Impact of Land-use change in tropical hillsides: The role of cloud interception to epiphytes. *Advances in Environmental Modelling and Monitoring* Vol. 1, (2000); p 118-148.

Tables and Figures

Figure 1 Number of species per family for Reserva Tambito.

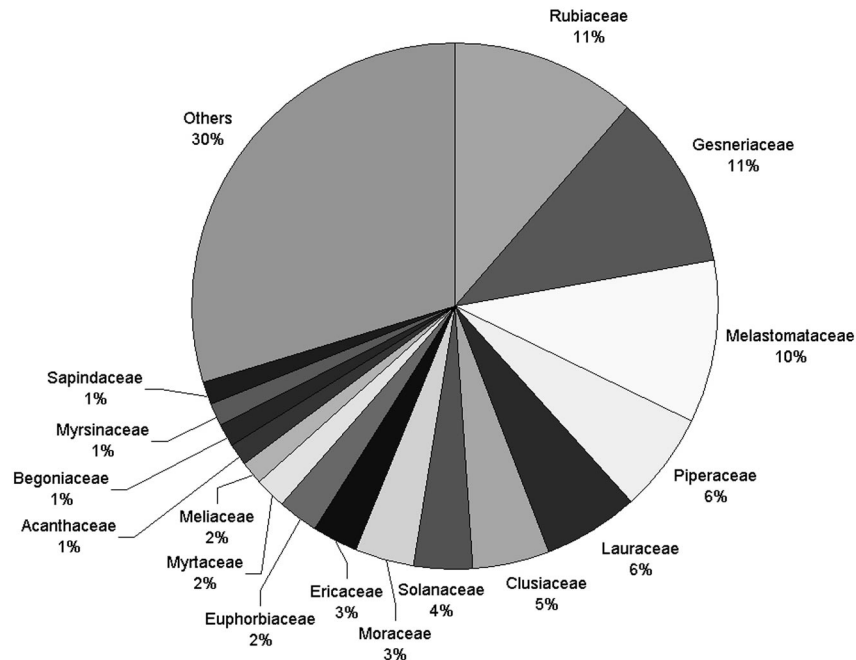


Table 1 Taxonomic list

Life Zone (Lf): Refers to the ecological forest type. bh-pm (1300-1600 m) = Premontane Wet Forest; bh-mb (1600-2000 m) = Lower Montane Wet Forest; bll-mb (2000-2500 m) = Lower Montane Rain forest; bll-m (> 2500 m) = Upper Montane Rain forest. According to classification (Holdridge, 1967)

* = Referring to endemic or rare species

Plant form: hb = Herb; tr = Tree; sh = Shrub; cl = Climber; ep= Epiphytic

Elevation range: Refers to the records of altitudinal range

Reference of collection (Only main collector): **CG** Carlos González, **RS** Ramón Serna, **SD** Sandra Díaz, **RR** Rosalba Ruiz, **OC** Olga Casañas, **RSA** Roberto Sánchez, **LA** Liza y Aleja, **BR** Bernardo Ramírez, **FG** Fernando González; **MB** Martha Burbano; **HB** HERB

Taxon	Life zone	Lf	Elevation	Collection	Herbarium
Acanthaceae					
<i>Aphelandra acanthus</i> Nees	bh-mb	sh	1800	CG 3359	CAUP
<i>Aphelandra</i> sp nov	bh-mb/pm	hb	1655-1850	CG 3383	CAUP
<i>Justicia chlorostachya</i> Leonard	bh-pm	hb	1600	OC 135	CAUP
<i>Justicia</i>	bh-mb	hb	1800	CG 3359	CAUP
<i>Lepidagathis lanceolata</i> (Nees.) Wasshausen	bh-pm	hb	1350-1600	BR 7724	CAUP PSO
<i>Odontonema</i> cf	bh-pm	sh	1300	CG 1482	CAUP
<i>Pseuderanthemum</i>	bh-pm	hb	1600	RS 844	CAUP
<i>Trichantera gigantea</i> (Bonpl.) Nees	bh-pm	tr	1600	RS 1065	CAUP
Actinidaceae					
<i>Saurauia brachybotrys</i> Turcz	bh-pm	tr	1450-1600	LG 036	AFP CAUP
<i>Saurauia micayensis</i> Killip & Soejarto	bh-mb	tr	1600-2000	CG 3187	CAUP
<i>Saurauia aff omnichlophila</i> R.E. Schult.	bll-mb	sh	2300	CG 1254	CAUP
Amaranthaceae					
<i>Alternanthera</i> cf <i>elongata</i> (W. ex R.) Schinz	bh-pm	hb	1600	RS 996	CAUP
<i>Iresine diffusa</i> Humb. & Bonpl ex Willd	bh-pm	hb	1600	RS 997	CAUP
Anacardiaceae					
<i>Toxicodendron striatum</i> (Ruiz & Pavon) Kuntze	bh-pm	tr	1300	CG 3154	CAUP
<i>Ochoterena</i>	bh-pm	tr	1200	RS 1182	CAUP
Annonaceae					
<i>Guatteria</i>	bh-pm	tr	1480	CG 1383	CAUP
<i>Guatteria</i>	bh-mb	tr	1686-1966	CG 3132	CAUP
<i>Malmea</i>	bh-pm	tr	1500	SD 367	CAUP
Apiaceae					
<i>Hydrocotyle</i>	bh-pm	hb	1450	CG 0000	CAUP
Apocynaceae					
<i>Mandevilla</i>	-	cl	-	-	CAUP
Aquifoliaceae					
<i>Ilex</i>	bh-pm/mb	tr	1300-2000	CG 3197	CAUP
<i>Ilex</i>	bh-mb	tr	1500-1966	CG 3143	CAUP
<i>Ilex</i> cf <i>pernervata</i> Cuatrec	bh/ll-mb	tr	1856-2200	CG 3248	CAUP
<i>Ilex</i> cf <i>karstenii</i> Loes	bh-pm	tr	1650	CG 3008	CAUP
<i>Ilex</i> cf <i>laurina</i> HBK	bh-pm	tr	1450-1600	CG 1145	CAUP
Araliaceae					
<i>Dendropanax cf caucanus</i> (Harms.) Harms	bh-pm	tr	1500	CG 1908	CAUP
<i>Dendropanax macrophyllum</i> Cuatrec	bh-mb	tr	1650	CG 1921	CAUP
<i>Oreopanax cf arboreus</i> (L.) Dec ex Plank	bh-pm	tr	1500	CG 1886	CAUP
<i>Oreopanax peltatus</i> Linden	bh-mb	tr	1856	CG 3271	CAUP
<i>Schefflera</i>	bh-mb	cl	1950	CG 3280	CAUP
<i>Schefflera</i>	bh-mb	cl	1856	CG 3283	CAUP
<i>Schefflera trifolium</i>	bh-pm	cl	1200-1300	CG 2933	CAUP
Asteraceae					
<i>Ambrosia cumanensis</i> HBK	bh-pm	sh	1450	RS 1056	CAUP
<i>Austroeuatorium inulaefolium</i> (Kunth.) K & H	bh-pm	sh	1450	RS 1078	CAUP
<i>Critoniopsis cf occidentalis</i> (Cuatrec.) H. Rob	bh-mb	tr	1600	CG 1150	CAUP
<i>Lepidaploa lehmanii</i> (Hieron.) H. Robinson	bh-pm	sh	1580	RS 847	CAUP
<i>Mikania banisteriae</i> DC	bh-mb	cl	1600-2000	RR 1371	CAUP
<i>Munnozia hastifolia</i> (Poepp.) H. R & Brettel	bh-pm	cl	1450	RS 1068	CAUP
<i>Pollalesta aff macrophylla</i> * (Sch. Bip) Aris	bh/ll-mb	tr	1580-2400	CG 1400	CAUP
Balanophoraceae					
<i>Langsdorffia hypogea</i> Matinus	bll-mb	hb	2200	CG 1262	CAUP
Balsaminaceae					
<i>Impatiens</i> cf <i>balsamina</i> L.	bh/ll-mb	hb	1400-2200	-	CAUP
Begoniaceae					
<i>Begonia tillifolia</i> C. DC	bh-pm/mb	cl	1500-1700	CG 1328	CAUP
<i>Begonia</i> cf <i>maynensis</i> A. DC.	bh-pm	cl	1300	CG 1358	CAUP
<i>Begonia geminiflora</i> L.	bll-mb	hb	2300	CG 1292	CAUP
<i>Begonia secunda</i> L.	bh-mb	cl	1800	CG 3107	CAUP
<i>Begonia killipiana</i> *Smith & Schubert	bll-mb	cl	2300-2500	CG 1225	CAUP
<i>Begonia urticae</i> L. var. <i>urticae</i>	bll-mb	cl	2100	CG 1423	CAUP

<i>Begonia rossmanniae</i> A. DC.	bh-pm	cl	1550	CG 1154	CAUP
<i>Begonia</i> aff <i>guaduensis</i> Kunth	bh-pm	cl	1300	CG 1513	CAUP
Bignoniaceae					
<i>Schlegelia</i> cf <i>roseiflora</i> Ducke	-	cl	-	CG 3257	CAUP
Bombacaceae					
<i>Matisia bolivarii</i> Cuatrec	bh-mb	tr	1950	CG 1104	CAUP
<i>Matisia</i> aff <i>dolychopoda</i> sp nov	bh-mb	tr	1600	CG 1149	CAUP COL
<i>Matisia</i>	bh-pm	tr	1300	CG 1750	CAUP
<i>Matisia</i>	bll-mb	tr	2300	CG 1323	CAUP
<i>Matisia</i> cf <i>cordata</i> Bonpl.	bh-pm/mb	tr	1350-1400	CG 1344	CAUP
<i>Quararibea</i> cf	bll-mb	tr	2300	CG 1181	CAUP
<i>Spirotheca rhodostyla</i> Cuatrec	bh-mb	tr	1856	CG 3268	CAUP
Boraginaceae					
<i>Cordia</i> cf <i>cylindrostachia</i> (Ruiz & Pavón) R & S	bh-pm	sh	1400	CG 2884	CAUP
<i>Tournefortia gigantifolia</i> Killip	bh-mb	sh	1700	CG 2863	CAUP
Brunelliaceae					
<i>Brunellia</i> cf <i>glabra</i> Cuatrec.	bll-mb	tr	2500		CAUP
Burseraceae					
<i>Protium</i>	bh-pm	tr	1450-1600	CG 3544	CAUP
<i>Protium</i>	bh-pm	tr	1300	CG 3155	CAUP
<i>Protium</i>	bh-pm/mb	tr	1650-1686	CG 3057	CAUP
<i>Protium</i>	bh-pm	tr	1450	CG 1902	CAUP
<i>Trattinikia</i>	bh-mb	tr	1700	CG 1897	CAUP
<i>Indet</i>	bh-pm	tr	1500	CG 3094	CAUP
Caesalpinaceae					
<i>Brownea</i>	bh-pm	tr	1300	CG 3160	CAUP
Campanulaceae					
<i>Burmeistera</i> cf <i>oblongifolia</i> E. Wimm.	bh-mb	sh	1900	CG 1425	CAUP
<i>Burmeistera</i> cf <i>cylindrocarpa</i> Zahlbr.	bh-mb	sh	1710	OC 324	CAUP
<i>Burmeistera</i> cf <i>ceratocarpa</i> Zahlbr.	bh-pm	sh	1450	RS 1063	CAUP
<i>Centropogon</i> cf <i>papillosus</i> E. Wimm.	bll-mb	sh	2400	CG 1301	CAUP
<i>Centropogon congestus</i> Gleason	bll-mb	sh	2000	CG 1269	CAUP
<i>Centropogon grandis</i> (l.f.) Presl	bh/ll-mb	sh	1600-2400	CG 1424	CAUP
<i>Siphocampylus scandens</i> (Kunth.) G. Don	-	sh	-	-	-
Capparaceae					
<i>Cleome</i>	bh-pm	hb	1400-1500	CG 1363	CAUP
<i>Podandrogynne</i> cf. <i>polychroma</i> Woodson (Colc)	bh-pm	sh	1400-1600	CG 1452	CAUP
Caprifoliaceae					
<i>Viburnum lehmanii</i> Killip & Smith	bh-mb	tr	1600-1800	CG 3265	CAUP
<i>Viburnum pichinchense</i> Benth.	bh/ll-mb	tr	1500-2200	CG 1183	CAUP
Caricaceae					
<i>Carica microcarpa</i> Jacq	bh-pm	sh	1300	CG 2887	CAUP
<i>Jacaratia</i> aff <i>chocoensis</i> Gentry & Forero	bh-pm	tr	1400	CG 3166	CAUP
Cecropiaceae					
<i>Cecropia garciae</i> Standl.	bh-pm/mb	tr	1300-1856	CG 3249	CAUP
<i>Cecropia</i> cf <i>telealba</i> Cuatrec.	bh-pm	tr	1580	RS 1001	CAUP
<i>Cecropia bullata</i> C. Berg & P. Franco	bll-mb	tr	1950	CG 1277	CAUP
<i>Cecropia</i>	bll-mb	tr	2200	CG 3302	CAUP
<i>Cecropia</i>	bh-mb	tr	1686	CG 3387	CAUP
Celastraceae					
<i>Celastrus colombianus</i> Cuatrec	bll-mb	tr	2100	RSA 2437	AFP
<i>Gymnosporia gentryi</i> Lundell	bh/pm/mb	tr	1600-1800	CG 3192	CAUP
<i>Perrottetia maxima</i> Cuatrec	bh/ll-mb	tr	1950-2000	CG 3145	CAUP
<i>Perrottetia</i> *sp nov	bll-mb	tr	2100-2300	CG 1312	CAUP COL
Chloranthaceae					
<i>Hedyosmum bonplandianum</i> Kunth	bh-pm/mb	tr	1580-1700	CG 3067	CAUP
<i>Hedyosmum cuatrecazanum</i> Occhioni	bh-mb	tr	1900-2000	CG 3133	CAUP
<i>Hedyosmum racemosum</i> (Ruiz & Pavón) G Dn	bh-pm	tr	1400	CG 1394	CAUP
Chrysobalanaceae					
<i>Hirtella</i> cf <i>americana</i> Cuatrec	bh/ll-mb	tr	1500-1850	CG 3084	CAUP
<i>Licania</i> aff <i>cuatrecasasii</i> Prance	bh-pm	tr	1300-1600	CG 3171	CAUP

Chletracaceae					
<i>Chletra fagifolia</i> Kunth	bll-mb	tr	2250	CG 3232	CAUP
Clusiaceae					
<i>Calophyllum brasiliense</i> Camb.	bh-mb	tr	1600-1686	CG 3389	CAUP
<i>Clusia alata</i> Pl. & Tr.	bh-pm	tr	1500-1600	CG 3101	CAUP
<i>Clusia bernardoii</i> *Pipoly & Cogollo	bh/ll-mb	tr	1600-2000	RS 831	CAUP
<i>Clusia bracteosa</i> Cuatrec.	bh-mb	tr	1600	RS 889	CAUP
<i>Clusia cf. crenata</i> Cuatrec.	bh-mb	tr	1650	CG 3030	CAUP
<i>Clusia discolor</i> Cuatrec or T. Parviflora cf1279	bh-pm	tr	1300	CG 3218	CAUP
<i>Cluisa aff dixonii</i> Little	bh-mb	tr	1650	CG 3037	CAUP
<i>Clusia cf ellipticifolia</i> Cuatrec.	bh-pm	tr	1400-1600	CG 1754	CAUP
<i>Clusia aff inesiana</i> or <i>longistyla</i> Cuatrec.	bh-mb	tr	1750	CG 3200	CAUP
<i>Clusia loranthacea</i> Planchon & Triana	bh-mb	tr	1856	CG 2877	CAUP
<i>Clusia pentandra</i> Cuatrec.	bll-mb	tr	2300	CG 1255	CAUP
<i>Clusia hirsuta</i> *Hammel sp nov	bh-pm	tr	1200	CG 1353	CAUP
<i>Clusia</i>	bh-mb	tr	1600-1800	CG 1911	CAUP
<i>Clusia</i>	bh-pm	tr	1490	LA 017	CAUP
<i>Clusia</i>	-	tr	-	CG 1768	CAUP
<i>Clusia</i>	-	tr	-	CG 1508	CAUP
<i>Chrysoclamis cf bracteolata</i> Cuatrec.	bll-mb	tr	2300	CG 1172	CAUP
<i>Chrysoclamis colombiana</i> (Cuatrec.) Cuatrec	bh/ll-pm/mb	tr	1200-2200	CG 3016	CAUP
<i>Chrysoclamis cf tenuifolia</i>	bh-mb	tr	1600-1966	CG 3105	CAUP
<i>Chrysoclamis</i>	bh-pm	tr	1300	CG 1496	CAUP
<i>Chrysoclamis</i>	bh-pm	tr	1600	CG 1101	CAUP
<i>Tovomita weddelliana</i> Planchon ex Triana	bh-pm/mb	tr	1400-1800	CG 3100	CAUP
<i>Vismia cavanillesiana</i> Cuatrec.	bll-mb	tr	2100	CG 1432	CAUP
<i>Vismia baccifera</i> (L.) Tr. ex Pl.	bh-pm	tr	1600	CG 1129	CAUP
<i>Vismia lauriformis</i> (Lamb.) Choisy	bh-pm	tr	1450	LA 031	CAUP
<i>Vismia mandur</i> Hieron.	bll-mb	tr	1900-2000	CG 3382	CAUP
Cornaceae					
<i>Cornus periviana</i> J.F. Macbr.	bll-mb	cl	2300	CG 1227	CAUP COL
Cucurbitaceae					
<i>Gurania macrophylla</i> (Collect)	-	cl	-	-	-
<i>Melothria pendula</i> L.	bll-mb	cl	2300	CG 1287	CAUP
Cunnoniaceae					
<i>Weinmannia</i>	-	tr	-	-	-
Elaeocarpaceae					
<i>Sloanea cf brevispina</i> Smith	bll-mb	tr	1966	CG 3120	CAUP
<i>Sloanea cf echinocarpa</i> Uittien	bh-pm/mb	tr	1650	CG 3013	CAUP
Ericaceae					
<i>Antropteris cf verticillatus</i>	bll-mb	sh	2000	CG 1505	CAUP
<i>Bejaria mathewsii</i> Fielding & Gardner	bll-mb/m	hb	2580-2640	FG 3184	CAUP COL
<i>Cavendishia bracteata</i> (Ruiz & Pavon. ex JH)	bh-mb	sh	1800-2000	CG 2937	CAUP
<i>Cavendishia</i>	bh-pm	sh	1400	CG 2956	CAUP
<i>Gaultheria cf</i>	bll/h-mb	sh	1900-2000	CG 1119 ^a	CAUP
<i>Psammisia cf</i>	bh-mb	sh	1600	CG 1119	CAUP
<i>Macleania cf recumbens</i> A.C. Sm	bh-mb	sh	1600	RS 808	CAUP
<i>Macleania</i>	bh-pm	sh	1700	CG 3202	CAUP
<i>Satyria</i>	bll-mb	sh	2200	CG 1233 ^a	CAUP
<i>Psammisia</i>	bh-mb	hb	1600	RS 1146	CAUP
<i>Psammisia</i>	bh-pm	hb	1400	CG 1495	CAUP
<i>Psammisia sodiroi</i> Hoerold	bll-mb	cl	2000	CG 1420	CAUP
<i>Themistoclesia cf cuatrecasasii</i> A. C. Smith	bll-mb	cl	2400	CG 1216	CAUP
<i>Pernettya</i>	bll-mb	hb	2400	CG 1202	CAUP
<i>Spherospermum buxifolium</i> Poepp & Endl.	bll-mb	hb	2000	BR 7755	CAUP
<i>Themistoclesia</i>	bll-mb	tr	2300	CG 1240	CAUP
<i>Themistoclesia</i>	bll-mb	tr	2400	CG 1245	CAUP
Erythroxilaceae					
<i>Erythroxilum lucidum</i> Kunth	bh-pm	tr	1450-1500	CG 1387	CAUP
<i>Erythroxilum cf macrophyllum</i> Cav	bh-pm	tr	1580	RS 846	CAUP
Euphorbiaceae					

<i>Acalypha macrostachya</i> Jacq.	bh-pm	tr	1300	CG 3162	CAUP
<i>Acalypha platyphylla</i> Müll. Arg.	bh-pm	tr	1600	RS 794	CAUP
<i>Alchornea coelophylla</i> Pax & K. Hoffmann	bll-mb	tr	2200	CG 1221	CAUP
<i>Alchornea</i> aff <i>glandulosa</i> Endl. & Poepp.	bh-pm	sh	1600	CG 1128	CAUP
<i>Alchornea triplinervia</i> Müell	bh-mb	tr	1750	CG 3214	CAUP
<i>Alchornea</i> sp nov	-	tr	-	CG 3264	CAUP
<i>Euphorbia goudotii</i> Boiss	bll-mb	tr	2200-2500	RS s.n	AFP
<i>Hyeronima oblonga</i> (Tul.) Müll. Arg.	bh/bll-mb	tr	1600-2200	CG 3210	CAUP
<i>Hyeronima</i>	bh/ll-mb	tr	1300-2200	CG 3180	CAUP
<i>Mabea</i> cf. <i>occidentalis</i> Benth.	bh-pm	tr	1300	CG 3156	CAUP
<i>Richeria grandis</i> Vahl.	bh-pm	tr	1600-1850	CG 3535	CAUP
<i>Sapium</i> cf <i>marmieri</i> Huber.	bh-pm	tr	1300	CG 3168	CAUP
<i>Sapium</i>	bh-mb	tr	1856	CG 3313	CAUP
<i>Tetrorchidium macrophyllum</i> Müll. Arg	bh-mb	tr	1856	CG 3250	CAUP
Fabaceae					
<i>Andira</i>	bh-mb	hb	1856	CG 3262	CAUP
<i>Dussia</i> cf <i>lehmannii</i> Harms.	bh-pm/m		1350-1966	CG 3102	CAUP
<i>Dussia</i> cf	bh-mb		1856	CG 3072	CAUP
<i>Desmodium</i>	bh-pm	tr	1400	CG 3548	CAUP
<i>Crotalaria</i>	-	tr	-	-	-
Flacourtiaceae					
<i>Banara guianensis</i> Aublet.	bh-pm	tr	1450	LA 034	CAUP
<i>Casearia arborea</i> (L.C. Rich.) Urban	bh-mb	tr	1650-1856	CG 3029	CAUP
<i>Casearia cajambensis</i> Cuatrec.	bh/ll-mb	tr	1950	CG 3278	CAUP
<i>Casearia silvestris</i> Sw.				168	CAUP
<i>Casearia</i>	bh/ll-mb	hb	2200	CG 1940	CAUP
<i>Pleuranthodendron lindenii</i> (Turcz.) Sleumer	bh-mb	tr	1650	CG 3018	CAUP
Gentianaceae					
<i>Irlbachia alata</i> (Aublet.) P. Maas	bh-pm	sh	1200	-	CAUP
Gesneriaceae					
<i>Alloplectus bolivianus</i> (Britton.) Wiehler	bh-pm	sh	1350-1600	CG 1940	CAUP
<i>Alloplectus ichtyoderma</i> Hanst	bh/ll-mb	sh	1800-2300	CG 2834	CAUP
<i>Alloplectus medusaeus</i> L.E. Skog	bll-mb	sh	2300	CG 1313	CAUP
<i>Alloplectus</i> aff <i>panamensis</i> Morton	bh-mb	sh	1580-1600	RS 853	CAUP
<i>Alloplectus schultzei</i> Mansfeld	bll-mb	sh	2200-2500	CG 2832	CAUP
<i>Alloplectus tetragonoides</i> Mansfeld	bh/ll-mb	sh	1200-2200	CG 1751	CAUP
<i>Alloplectus tetragonus</i> (Oerst.) Hanst	bh/ll-mb	cl	1400-2000	CG 1369	CAUP
<i>Alloplectus teuscheri</i> (Raymond.) Wiehler	bh/ll-mb	cl	1650-2100	CG 3356	CAUP
<i>Alloplectus weirii</i> Wiehler	bh-mb	sh	1400-1600	CG 2867	CAUP
<i>Alloplectus</i> sp nov	bh-mb	sh	1800	CG 3276	CAUP
<i>Alloplectus</i> sp nov	bh-mb	sh	1700	CG 2846	CAUP
<i>Alloplectus</i> sp nov	bll-mb	sh	2100	CG 3240	CAUP US
<i>Besleria quadrangulata</i> L.E. Skog	bh/ll-mb	hb	1600-2300	CG 2838	CAUP
<i>Besleria reticulata</i> Fritsch	bll-mb	sh	2150	CG 1257	CAUP
<i>Besleria miniata</i> C.V. Morton	bh-mb	sh	1900	CG 1444	CAUP
<i>Besleria</i> aff <i>riparia</i> C.V. Morton	bh/ll-mb	sh	1800-2200	CG 2843	CAUP
<i>Besleria</i> sp nov	bll-mb	sh	2300	CG 1215	CAUP
<i>Besleria</i> sp.nov	bll-mb	sh	2300-2500	CG 1207	CAUP
<i>Besleria</i> sp nov	bh-mb	sh	1450-1800	CG 3391	CAUP
<i>Besleria villosa</i> Fritsch	bh/ll-mb	sh	1400-2100	CG 2966	CAUP
<i>Besleria</i> cf <i>tambensis</i> C.V. Morton	bll-mb	cl	2100	CG 2871	CAUP
<i>Besleria</i>	bh-mb	cl	1500-1700	CG 2848	CAUP
<i>Besleria</i>	bh/ll-mb	cl	1500-2100	CG 2844	CAUP
<i>Capanea affinis</i> Fritsch	bh-pm	cl	1600	CG 1461	CAUP
<i>Capanea grandiflora</i> (Kunth) Decne & Planch.	bll-mb	cl	2200	CG 1179	CAUP
<i>Columnnea angustata</i> (Wiehler) Skog	bh-pm	cl	1200-1400	CG 2870	CAUP
<i>Columnnea anisophylla</i> DC.	bh-mb	cl	1600-1800	CG 1451	CAUP COL
<i>Columnnea dimidiata</i> (Benth.) Kuntze	bh/ll-mb	cl	1800-2400	CG 1336	CAUP COL
<i>Columnnea fuscihirta</i> Kvist & Skog	bh-pm/mb	cl	1300-2100	CG 3547	CAUP COL
<i>Columnnea gigantifolia</i> Kvist & Skog	bh-pm/mb	cl	1600	CG 2836	CAUP COL
<i>Columnnea lehmannii</i> Mansfeld	bh-pm	cl	1400-1600	CG 1893	CAUP COL

<i>Columnnea medicinalis</i> (Wiehler.) Kvist & Skog	bh-mb	cl	1400-1900	CG 1765	CAUP COL
<i>Columnnea minor</i> (Hook.) Hanst var nov 1	bh-pm/mb	cl	1400-1700	CG 2866	CAUP COL
<i>Columnnea minor</i> (Hook.) Hanst var nov 2	bh-mb	cl	1800	CG 3000	CAUP COL
<i>Columnnea nicaraguensis</i> Oerst var nov 1	bh/ll-mb	cl	1800-2250	CG 2941	CAUP COL
<i>Columnnea nicaraguensis</i> Oerst var nov 2	bh-mb	cl	2180	CG 2942	CAUP COL
<i>Columnnea cf picta</i> H. Karst.	bh-mb	cl	1600	RS 1013	CAUP COL
<i>Columnnea strigosa</i> Benth	bll-mb	hb	2300-2500	CG 1166	CAUP
<i>Columnnea aff villosissima</i> Kvist & Skog	bh-mb	hb	1580-1800	CG 2996	CAUP
<i>Columnnea</i> sp nov	bll-mb	hb	2000	CG 1412	CAUP
<i>Creмосperma hirsutissimum</i> var <i>hirsutissimum</i>	bh-mb	hb	1700-1900	CG 2849	CAUP
<i>Creмосperma hirsutissimum</i> var <i>album</i> K & S	bh/ll-pm/mb	hb	1500-2100	CG 2847	CAUP
<i>Creмосperma humidum</i> Kvist & Skog	bll-mb	sh	2000-2100	CG 2960	CAUP
<i>Creмосperma cf nobile</i> C.V. Morton	bh-mb	sh	1700	CG 2990	CAUP
<i>Diastema affine</i> Fritsch	bh-pm	sh	1300-1450	CG 157	CAUP COL
<i>Drymonia cf aciculata</i> Wiehler	bll-mb	sh	2300	CG 1293	CAUP
<i>Drymonia serrulata</i> (Jacq.) Mart	bh-pm	cl	1300	CG 2934	CAUP
<i>Drymonia cf sulphurea</i> Wiehler	bh-pm	sh	1200	CG 2928	CAUP
<i>Drymonia turrialvae</i> Hanst.	bh-mb	sh	1300-1600	CG 1354	CAUP
<i>Drymonia warszewicziana</i> Hanst.	bh/ll-mb	sh	1400-2000	CG 2850	CAUP
<i>Gasteranthus corralinus</i> (Fritsch) Wiehler	bh/ll-mb	hb	1300-2100	CG 1447	CAUP
<i>Gasteranthus delphinooides</i> (Scem.) Wiehler	bh-mb	hb	1700	CG 1752	CAUP
<i>Gasteranthus leopardus</i> M. Freiberg	bh-pm	hb	1400	CG 1762	CAUP
<i>Hepiella ulmifolia</i> (Kunth.) Hanst	bll-mb	hb	2500	-	CAUP
<i>Kohleria inaequalis</i> Benth var <i>inaequalis</i>	bh-pm/mb	sh	1300-2000	CG 1361	CAUP
<i>Kohleria inaequalis</i> Benth. Var <i>ocellata</i>	bh-pm	sh	1300-1600	-	CAUP
<i>Kohleria spicata</i> Oerst	bh-pm	cl	1300-1600	CG 1289	CAUP
<i>Monopyle inaequalis</i> C.V. Morton	bh-pm	cl	1600	RS 1002	CAUP
<i>Monopyle cf macrocarpa</i> Benth	bh-pm/mb	cl	1400-1700	CG 1753	CAUP
<i>Paradrymonia</i>	bh-pm/mb	cl	1500-1800	CG 1473	CAUP COL
<i>Paradrymonia</i>	bh-mb	tr	1600-1800	CG 2998	CAUP COL
<i>Paradrymonia</i> sp nov	bh-mb	cl	1800	CG 2997	CAUP COL
Hippocastanaceae					
<i>Billia columbiana</i> Planch. & Linden ex Tr & Pl.	bh/ll-mb	tr	1500-2350	CG 3226	CAUP
Hippocrateaceae					
<i>Salacia cf gigantea</i> Loes.	bh-mb	tr	1600-2000	CG 3006	CAUP
Hydrangeaceae					
<i>Hydrangea</i>	bll-mb	tr	2500	178	CAUP
Icacinaceae					
<i>Calatola colombiana</i> Slearm	bh-mb	hb	1650-1800	CG 3022	CAUP
<i>Citronella silvatica</i> Cuatrec.	bh-mb	hb	1750-1950	CG 3191	CAUP
Lamiaceae					
<i>Hyptis</i>	bh-pm	hb	1400	CG 3564	CAUP
<i>Salvia</i>	bh-pm	hb	1200	CG 1522	CAUP
Lauraceae					
<i>Beilschmiedia?</i>	bh-mb	tr	1684	CG 3064	CAUP
<i>Endlicheria</i>	bh-pm	tr	1300	CG 3181	CAUP
<i>Nectandra aff longifolia</i> (Ruiz & Pavon) Nees	bh-mb	tr	1600	CG 1098b	CAUP
<i>Nectandra aff membranacea</i> (Sw.) Griseb.	bh-mb	tr	1600	CG 1391	CAUP
<i>Nectandra aff mollis</i> (Kunth.) Nees	bh-mb	tr	1600	NG 018	CAUP
<i>Nectandra reticulata</i> (Ruiz & Pavón) Mez	bh-pm/mb	tr	1300-1600	CG 3399	CAUP
<i>Nectandra aff purpurea</i> (Ruis & Pavón) Mez	bh-mb	tr	1400-2000	CG 3123	CAUP
<i>Nectandra</i>				CG	CAUP
<i>Nectandra</i>	bh-pm/mb	tr	1400-1600	CG 1920	CAUP
<i>Nectandra</i>	bh-mb	tr	1500-1966	CG 3098	CAUP
<i>Nectandra</i>	bh-mb	tr	1684	CG 3063a	CAUP
<i>Nectandra</i>	bh-mb	tr	1600	RS 1046	CAUP
<i>Nectandra</i>	bh-mb	tr	1600	CG 3542	CAUP
<i>Nectandra</i>	bh-pm	tr	1500	CG 3092	CAUP
<i>Nectandra?</i>	bll-mb	tr	2200	CG 3301	CAUP
<i>Nectandra?</i>	bh-pm	tr	1750	CG 3188	CAUP
<i>Ocotea aff babosa</i> C.K. Allen	bh-pm	tr	1400-1856	CG 3255	CAUP

<i>Ocotea aff dupei</i> Korstom.	bh-mb	tr	1400-1600	CG 3526	CAUP
<i>Ocotea oblonga</i> (Meissner) Mez	bh-mb	tr	1650	CG 3186	CAUP
<i>Ocotea aff simulans</i> C.K. Allen	bh-mb	tr	1600	RS 874	CAUP
<i>Ocotea</i>	bh-mb	tr	1966	CG 3134	CAUP
<i>Ocotea</i>	bh-pm/mb	tr	1350-1966	CG 3395	CAUP
<i>Ocotea</i>	bh-mb	tr	1684	CG 3065	CAUP
<i>Ocotea</i>	bh-mb/pm	tr	1600-1966	CG 3274	CAUP
<i>Persea aff caerulea</i> (Ruis & Pavón) Mez	bh-mb	tr	1600	RS 872	CAUP
<i>Persea aff hexanthera</i> Kupp	bll-mb	tr	1966	CG 3144	CAUP
<i>Persea americana</i> Mill.	bh-mb	tr	1500	-	CAUP
<i>Persea</i>	bh-pm	tr	1650	CG 3012	CAUP
<i>Pleurothyrium cf</i>	bh-mb	tr	1600	CG 1095	CAUP
<i>Rhodostemonadaphne cf</i>		tr		CG 1759	CAUP
Indet	bh-pm	tr	1300	CG 3165	CAUP
Indet	bll-mb	tr	2200	CG 3303	CAUP
Indet	bh-mb	tr	1856	CG 3272	CAUP
Indet	bll-mb	tr	2200	CG 3233	CAUP
Lecythidaceae					
<i>Eschweilera</i>	bh-pm	sh	1500-1686	CG 3074	CAUP
<i>Eschweilera</i>	bll-mb	tr	1900-2000	CG 3294	CAUP
<i>Eschweilera aff coriaceae</i>	bh/ll-mb	tr	1856-2200	CG 3270	CAUP
<i>Eschweilera aff caudiculata</i> Kunth	bll-mb	tr	2200	CG 3235	CAUP
Lentibulariaceae					
<i>Utricularia jamesoniana</i> Oliver	bh-pm	ep	1550	OC 393	CAUP
Loranthaceae					
<i>Gaiadendron punctatum</i> (Ruiz & Pavón) Don	bll-mb	ep	2500	CG 2861	CAUP
<i>Ixocanthus hutchinsonii</i> Kunth	bh-pm	ep	1500	BR 7732	PSO
<i>Oryctanthus asplundii</i> Kunth	-	-	-	BR	PSO
<i>Phorandendron cf piperoides</i> (Kunth) Trell.	bh-pm	ep	1600	CG 1104	CAUP
<i>Struthanthus</i>	bh-pm	ep	1450	LA 27	CAUP
Lythraceae					
<i>Cuphea racemosa</i> (L.f.) Sprengel	bh-pm	hb	1450	RS 1072	CAUP
Malpighiaceae					
<i>Bunchosia cf</i>	bh-pm	sh	1600	CG 3525	CAUP
<i>Stigmaphyllon bogotense</i> Triana & Planchon	bh-pm	cl	1500	RS	AFP
Malvaceae					
<i>Sida rhombifolia</i> L.	bh-pm	hb	1600	RS 1070	CAUP
<i>Wercklea feroz</i> (Hook. F.) Fryxell	bh-pm	tr	1400	CG	CAUP
Marcgraviaceae					
<i>Marcgravia cf browneii</i> (Tr. & Pl.) Krug & Urb	bh-mb	cl	1400-1800	CG 3076	CAUP
Melastomataceae					
<i>Aciotis cf</i>	bh-pm	hb	1600	MB 039	CAUP
<i>Axinaea cf lehmanii</i> Cogn ex Chair	bh/ll-mb	tr	1856-2200	CG 3225	CAUP
<i>Axinaea cf.</i>	bh-mb	tr	1800	CG 2946	CAUP
<i>Arthrostema aff macrodesmum</i> Gleason	bh-pm	sh	1600	RS 792	CAUP
<i>Arthrostema cf</i>	bll-mb	sh	2300	CG 1349	CAUP
<i>Blakea alternifolia</i> (Gleason) Gleason	bh-pm	tr	1650	CG 3028	CAUP
<i>Blakea punctulata</i> (Triana) Wurdack	bll-mb	tr	2200-2400	CG 3220	CAUP
<i>Blakea cf squamiger</i> L. Uribe	bh-pm	cl	1450-1680	CG 3040	CAUP
<i>Blakea</i>	-	tr	-	CG 2876	CAUP
<i>Bellucia calliptrata</i> Gleason	bh-pm	tr	1700	OC 675	CAUP
<i>Centronia phlomoides</i> Tr.	bh-mb/pm	tr	1400-2000	CG 3198	CAUP
<i>Centronia</i>	bh-mb	tr	1750-1966	CG 3116	CAUP
<i>Clidemia</i>	bh-mb	sh	1400-1500	CG 1454	CAUP
<i>Conostegia cf. cuatrecasasii</i> Gleason	bh-pm	tr	1684	CG 3082	CAUP
<i>Conostegia aff. icosandra</i> (Sw.) Urban	bh-pm	tr	1500	CG 3103	CAUP
<i>Graffenrieda colombiana</i>	bh-mb	tr	1686-1966	CG 3266	CAUP
<i>Henrrietella</i> L.	bh-pm	tr	1600	CG 3024	CAUP
<i>Huilaea mutissina</i>	bh-pm	tr	1600	CG 3531	CAUP
<i>Killipia quadrangularis</i> Gleason	bll-mb	tr	2150	CG 1197	CAUP
<i>Killipia</i>	bll-mb	sh	2200	CG 1167	CAUP

<i>Leandra</i>	bh-mb	hb	1100	CG 1351	CAUP
<i>Leandra</i>	bh-mb	hb	1200	CG 1356	CAUP
<i>Miconia</i> aff. <i>aegrotans</i> Naud.	bh-pm	tr	1650-1684	CG 3043	CAUP
<i>Miconia</i> <i>agregata</i> Gleason	bll-mb	tr	2400	CG 406	CAUP
<i>Miconia</i> <i>aeruginosa</i> Naudin.	bh-pm	tr	1800	CG 1878	CAUP
<i>Miconia</i> aff. <i>brachygyna</i>	bll-mb	tr	2200	CG 3365	CAUP
<i>Miconia</i> aff. <i>caudata</i> (Bonpl.) DC	bh-pm	sh	1966	CG 3111	CAUP
<i>Miconia</i> cf. <i>dolichopoda</i> Naud.	bh-pm	sh	1856	CG 3111 ^a	CAUP
<i>Miconia</i> <i>floribunda</i> (Bonpl.) C.CD.	bh-pm/mb	tr	1650-1966	CG 3119	CAUP
<i>Miconia</i> aff. <i>haughtii</i>	bh-pm	tr	1750	CG 3199	CAUP
<i>Miconia</i> aff. <i>laetivirens</i> L. Uribe	bh-pm	tr	1950	CG 3291	CAUP
<i>Miconia</i> cf. <i>lehmannii</i> Cogniaux	bll-MB	tr	2450-2550	CG 1760	CAUP
<i>Miconia</i> aff. <i>longifolia</i> 8 ^{ubl.}) C.DC.	bh-pm	tr	1684-1950	CG 3073	CAUP
<i>Miconia</i> aff. <i>triplinervis</i> Ruiz & Pavon	bh-pm	tr	1686-1700	CG 3209	CAUP
<i>Miconia</i>	-	-	-	CG 3109	CAUP
<i>Miconia</i>	bh-pm	tr	1856	CG 3258	CAUP
<i>Miconia</i>	bh-pm	tr	1500	CG 3104	CAUP
<i>Miconia</i>	bh-pm	sh	1800	CG 1896	CAUP
<i>Miconia</i>	bh-pm	sh	1800	CG 1434	CAUP
<i>Miconia</i>	bh-pm	sh	1800	CG 1180	CAUP
<i>Miconia</i>	bh-pm	sh	1800	CG 1281	CAUP
<i>Miconia</i>	bll-mb	sh	2300	CG 1202	CAUP
<i>Miconia</i>	bh-pm	tr	1450	LA 032	AFP,CAUP
<i>Miconia</i>	bh-pm	tr	1800	CG 1777	CAUP
<i>Miconia</i> ?	bh-pm	sh	1250	CG 1342	CAUP
<i>Miconia</i>	bh-pm	tr	1600	CG 3362	CAUP
<i>Miconia</i>	bh-pm	tr	1500	CG 1889	CAUP
<i>Miconia</i>	bh-pm	tr	1600	CG 1884	CAUP
<i>Pterolepis trichomata</i> (Rottb.) Cogn	bll-mb	sh	2100	CG 3555	CAUP
<i>Tibouchina</i>		tr	1700	CG 3122	CAUP
<i>Tibouchina</i>		tr		CG 1935	CAUP
<i>Topobea</i>	bh-pm	tr	1856	CG 3260	CAUP
<i>Topobea</i>	bh-pm	tr	1856-1950	CG 3247	CAUP
Indet	bh-pm	sh	1300	CG 1915	CAUP
Indet	-	-	-	CG 3518	CAUP
Indet	-	-	-	CG 3311	CAUP
Indet	-	-	-	CG 3140	CAUP
Indet	-	-	-	CG 3073	CAUP
Indet	-	-	-	CG 1132	CAUP
Meliaceae					
<i>Carapa guianensis</i> Aubl.	bh-pm	tr	1686-1950	CG 3070	CAUP
<i>Guarea</i> cf. <i>glabra</i> Vahl.	bh-pm	tr	1350-1686	CG 3080	CAUP
<i>Guarea</i> cf. <i>guidonia</i> L. (Sleum)	bh-pm	tr	1600-1650	CG 3011	CAUP
<i>Guarea</i> cf. <i>kunthiana</i> A. Juss.	bh/ll-pm/mb	tr	1600-2200	CG 3039	CAUP
<i>Guarea</i>	bh/ll-pm/mb	tr	1600-2500	CG 3516	CAUP
<i>Guarea</i>	bh-pm	tr	1686	CG 3079	CAUP
<i>Guarea</i>	bll-mb	tr	2200	CG 3364	CAUP
<i>Ruagea</i> cf. <i>pubescens</i> H. Karst.	bh/ll-pm	tr	1900-1950	CG 3281	CAUP
<i>Trichilia</i>	bh-pm	tr	1600-1750	CG 3189	CAUP
Mimosaceae					
<i>Inga chartaceae</i>	bh-pm	tr	1500	CG 3096	CAUP
<i>Inga densiflora</i> Benth	bh-pm	tr	1300	CG 3400	CAUP
<i>Inga exalata</i> T.S. Elias	bh/ll-pm	tr	1856-1966	CG 3245	CAUP
<i>Inga</i>	bh-pm	tr	1300	CG 3158	CAUP
<i>Inga</i>	bh-pm	tr	1600	CG 2886	CAUP
<i>Inga</i>	bh-pm	tr	1450-1500	CG 1392	CAUP
<i>Inga</i>	bh-pm	tr	1500	CG 3108	CAUP
Monimiaceae					
<i>Mollinediia tomentosa</i> (Benth.) Tull	bh-pm	tr	1300-1600	CG 3158	CAUP
<i>Siparuna</i> cf. <i>gesnerioides</i> (Kunth) A..DC.	bh-pm	sh	1400-1800	CG 3195	CAUP
<i>Siparuna laurifolia</i> (Kunth) A. DC.	bh/ll-pm	sh	1800-1900	CG 3115	CAUP

<i>Siparuna cf lepidota</i> A. DC.	bll-mb	sh	2300	CG 1300	CAUP
<i>Siparuna</i>	bh-pm	sh	1450-1856	CG 3259	CAUP
<i>Siparuna</i>	bh-pm	sh	1400-1500	CG 1492	CAUP
Moraceae					
<i>Brosimum cf.</i>	bh-pm	tr	1750	CG 3215	CAUP
<i>Clarisia cf.</i>	bh-pm	tr	1300	CG 1917	CAUP
<i>Ficus cf gigantocyse</i> Dugand	bh-pm	tr	1500	CG 3087	CAUP
<i>Ficus cuatrecassana</i>	bll-mb	tr	2200	CG 3237	CAUP
<i>Ficus</i>	bh-pm	tr	1686	CG 3058	CAUP
<i>Ficus</i>	bh/l-pm	tr	1950-2000	CG 3295	CAUP
<i>Ficus</i>	bh-pm	tr	1300	CG 3176	CAUP
<i>Ficus</i>	bh-pm	tr	1400	CG 1924	CAUP
<i>Ficus</i>	bh-pm	tr	1500-1600	HB 169	CAUP
<i>Ficus</i>	bh-pm	tr	1400-1500	LA 40	CAUP
<i>Ficus</i>	bh-pm	tr	1600	RS 882	CAUP
<i>Ficus</i>	bh-pm	tr	1600	CG 1517 ^a	CAUP
<i>Ficus</i>	bh-pm	tr	1300	CG 1517	CAUP
<i>Ficus</i>	bh-pm	tr	1400-1600	CG 2987	CAUP
<i>Helicostylis towarensis</i> (Klotzsch & Karst.) Berg	bh/l-pm	tr	1750-2000	CG 3124	CAUP
<i>Naucleopsis cf</i>	bh-mb	tr	1950	CG 3293	CAUP
<i>Perebea xantochyma</i> Dugand	bh-pm	tr	1300	CG 3152	CAUP
<i>Pseudolmedia laevigata</i> Trecul.	bh-mb	tr	1950	CG 3292	CAUP
<i>Sorocea pubivena</i> (Akker & Berg) C.C. Berg	bh-pm	tr	1300	CG 3153	CAUP
Indet	bh-pm	tr	1500-1600	HB 147	CAUP
Myristicaceae					
<i>Compsonera aff. rigidifolia</i> W. Rodriguez	bh-pm	tr	1500	CG 3090	CAUP
<i>Otoba gordonifolia</i> A.C (Gentry)	bh/l-pm/mb	tr	1500-2000	CG 3023	CAUP
<i>Otoba lehmannii</i> (A.C. Smith) Gentry	bh-pm	tr	1700	CG 1435	CAUP
<i>Otoba novogranatensis</i> Moldenke	bh-pm/mb	tr	1600	RS 773	CAUP
Myrsinaceae					
<i>Ardisia</i>	bll-mb	tr	2200	CG 3229	CAUP
<i>Cybianthus aff montanus</i> Lundell (Agost)	bh-mb	tr	1600-1856	CG 3044	CAUP
<i>Cybianthus occigranatensis</i> (Cuatrec.) Agosti	bh-pm/mb	tr	1600-2000	CG 3538	CAUP
<i>Cybianthus</i>	bh-pm	tr	1600	NG 05	CAUP
<i>Geissanthus cf mezianus</i> Agost	bh/l-mb	tr	1684-2200	CG 3056	CAUP
<i>Geissanthus cf</i>	bh-pm/mb	tr	1500-1686	CG 3066	CAUP
<i>Myrsine coriaceae</i> (Sw) R. Br. Ex Roem. & Sh	bh-pm	tr	1500	CG 3099	CAUP
<i>Myrsine</i>	bh-pm	tr	1300	CG 3164	CAUP
Myrtaceae					
<i>Myrcianthes rhopaloides</i> (Kunth) Mc Vaugh	bh-mb	tr	1856	CG 3242	CAUP
<i>Psidium guianensis</i> Sw.	bh-pm	tr	1400-1500	CG	CAUP
<i>Eugenia cf</i>	bh-pm	tr	1300-1600	CG 3536	CAUP
<i>Eugenia cf</i>	bh-mb	tr	1950	CG 3282	CAUP
<i>Eugenia cf</i>	bh-pm/mb	tr	1650	CG 3046	CAUP
<i>Eugenia cf</i>	bh-pm	tr	1450	CG 1907	CAUP
<i>Myrcianthes</i>	bll-mb	tr	2300	CG 3300	CAUP
<i>Myrcia</i>	bh-pm	tr	1300	CG 3169	CAUP
Indet	bh-pm/mb	tr	1300-1686	CG 3174	CAUP
Indet	bh-pm	tr	1300-1350	CG 3163	CAUP
Indet	bh/bll-mb	tr	1950-2000	CG 3118	CAUP
Indet	bh-pm	tr	1650	CG 3045	CAUP
Ochnaceae					
<i>Ouratea</i>	bh-pm	tr	1300	CG 3178	CAUP
Onagraceae					
<i>Fuchsia macrostigma</i> Bentham	bh-mb	sh	1200-1800	CG 1428	CAUP
<i>Fuchsia cf sessilifolia</i>	bll-mb	sh	2300	CG 1220	CAUP
Oxalidaceae					
<i>Oxalis</i>	bh-pm	hb	1300-1600	BR 7727	CAUP
Papilionaceae					
<i>Desmodium</i>	bh-pm	hb	1400	CG 3548	CAUP
<i>Zornia curvata</i> Mohl	bh-pm	hb	1500	FG 2944	CAUP

Indet	bh-pm	sh	1350	CG 1485	CAUP
Passifloraceae					
<i>Passiflora cumbalensis</i> Karsten	bll-mb	cl	2500	CG 1763	CAUP
<i>Passiflora antioquiensis</i> H. Karst.	bh-pm	cl	1450-1550	CG 1458	CAUP
<i>Passiflora</i>	bh-mb	cl	1700	CG 1414	CAUP
<i>Passiflora</i>	bh-pm	cl	1200-1300	CG 3546	CAUP
Piperaceae					
<i>Peperomia alberthsmithii</i> Trell & Yunker	bh-mb	cl	1800	CG 1439	CAUP
<i>Peperomia alwynii</i> Callejas & Betancur	bh-mb/pm	hb	1600-2000	CG	CAUP
<i>Peperomia angularis</i> C. DC.	bh-pm/mb	cl	1600	CG 1163	CAUP
<i>Peperomia caliginigaudens</i> Trell & Yunker	bh-pm	sh	1300	CG 2915	CAUP
<i>Peperomia hermandifolia</i> (Vahl) A. Dietr.	bll-mb	sh	2350	ML 02	CAUP
<i>Peperomia lancifolia</i> Hooker	bh/ll-mb	hb	1655-2100	CG 2952	CAUP
<i>Peperomia obtusifolia</i> (L.) A. Dietr. Cf	bh-pm	sh	1100	CG 2924	CAUP
<i>Peperomia peltoidea</i> Kunth	bh-pm/mb	sh	1800	CG 2868	CAUP
<i>Peperomia striata</i> Ruiz & Pavón	bll-mb	sh	2100	CG 2977	CAUP
<i>Peperomia swartziana</i> Miquel	bll/h-mb/pm	cl	1600-2300	CG 3150	CAUP
<i>Peperomia</i>	bll-mb	hb	1900	CG 2944	CAUP
<i>Peperomia</i>	bh-mb	hb	1800	CG 2991	CAUP
<i>Peperomia</i>	bh-pm	hb	1620	CG 2982	CAUP
<i>Peperomia</i>	bh-mb	cl	1800	CG 2978	CAUP
<i>Peperomia</i>	bh-pm	hb	1100	CG 2925	CAUP
<i>Peperomia</i>	bh-pm	hb	1000	CG 2927	CAUP
<i>Peperomia</i>	bll-mb	cl	2100	CG 1271	CAUP
<i>Peperomia</i>	bh-pm	cl	1300-1600	CG 2270	CAUP
<i>Peperomia</i>	bh-pm	hb	1300-1400	CG 1343	CAUP
<i>Peperomia</i>	bh-mb	cl	1900	CG 1433	CAUP
<i>Piper carpunya</i> Ruiz & Pavón	bh-pm	sh	1200	CG 1932	CAUP
<i>Piper crassinervium</i> H.B.K.	bh-pm	hb	1450	LA 010	AFP,CAUP
<i>Piper curvinervium</i> Callejas y Betancur	bh/ll-pm/mb	sh	1700-2100	CG 2862	CAUP
<i>Piper dryadum</i> C.DC.	bh-mb	sh	1900	CG 3127	CAUP
<i>Piper echinocaulum</i> Yunck	bh/ll-mb	cl	1800-2000	CG 3557	CAUP
<i>Piper lanciifolium</i> C.DC.	bh-pm	cl	1450	LA 09	AFP,CAUP
<i>Piper piliibracteum</i> Trell & Yunck	bh/ll-mb	hb	1900-2200	CG 2858 ^a	CAUP
<i>Piper trianae</i> C.DC.	bh-pm	sh	1700	CG 2852	CAUP
<i>Piper turmidinodum</i> Yunck	bh-mb	sh	1900	CG 3217	CAUP
<i>Piper</i>	bh/ll-mb	sh	1800-2200	CG 3552	CAUP
<i>Piper</i>	bh-pm	sh	1400	CG 3565	CAUP
<i>Piper</i>	bh-mb	sh	1800	CG 2972	CAUP
<i>Piper</i>	bh-mb	sh	1800	JG 017	CAUP
<i>Piper</i>	bll-mb	sh	2100	CG 2949	CAUP
<i>Piper</i>	bh-pm	sh	1400	CG 2674	CAUP
Polygalaceae					
<i>Monnina pulcra</i> Chodat	bll-mb	tr	2250	CG 1321	CAUP
<i>Monnina</i>	bh-mb	tr	2000	CG 1430	CAUP
Proteaceae					
<i>Panopsis</i> sp nov	bll-mb	tr	2000-2100	CG 1774	CAUP,COL
<i>Panopsis</i> sp nov	bh-mb	tr	1500-1900	CG 3097	CAUP,COL
Rosaceae					
<i>Prunus integrifolia</i> (Presl.) Walp.	bh-pm	tr	1300	CG 3167	CAUP
<i>Rubus robustus</i> C. Presl.	bll-mb	cl	2500	CG	CAUP
Rubiaceae					
<i>Amphidasya</i>	bh-pm	sh	1600	MB 037	CAUP
<i>Borreria</i>	bh-pm	hb	1200-1300	CG 2931	CAUP
<i>Cinchona</i> cf <i>pubescens</i> Vahl.	bh/ll-pm/mb	tr	1400-2400	CG 1487	CAUP
<i>Coccocypselum</i>	bh-mb	hb	1400-1600	CG	CAUP
<i>Dioicodendron dioicum</i> cf (Sch. & Kr.) Steye	bh-pm/mb	tr	1300-1700	CG 3173	CAUP
<i>Elaeagia utilis</i> (Goud) cf	bh/ll-pm/mb	tr	1750-2000	CG 3212	CAUP
<i>Elaeagia</i> cf <i>pastoensis</i>	bh-pm	tr	1550	RS 1148	CAUP
<i>Elaeagia</i>	bh-pm	tr	1400	CG 1490	CAUP
<i>Elaeagia</i>	bh/ll-pm/mb	tr	2200	CG 3222	CAUP

<i>Elaeagia</i>	bh-pm	tr	1684	CG 3071	CAUP
<i>Elaeagia</i>	bll-mb	tr	2200	CG 3299	CAUP
<i>Elaeagia</i>	bh-pm	tr	1600	CG 1380	CAUP
<i>Faramea calyprata</i> C.M. Taylor	bll-mb	tr	1900-2000	CG 3121	CAUP
<i>Faramea aff chlorophylla</i> Muell-Arg	bh/lI-pm/mb	tr	1400-2500	CG 3252	CAUP
<i>Faramea oblongifolia</i> Standl.	bh-pm	tr	1450-1650	CG 3041	CAUP
<i>Faramea</i>	bh-pm	tr	1650	CG 3014	CAUP
<i>Galium cf hypocarpium</i> (L.) Endl. Ex Griseb.	bh-pm	hb	1600	MB 011	CAUP
<i>Gonzalagunia dependens</i> Ruiz & Pavón	bh-pm	sh	1490	LA 014	CAUP
<i>Guettarda crispiflora</i> Vahl.	bll-mb	tr	2300	CG 1278	CAUP
<i>Guettarda turnefortiiopsis</i> Standl.	bll-mb	tr	2400-2500	CG 1246	CAUP
<i>Hamelia?</i>	bh-pm	tr	1350	CG 1341	CAUP
<i>Hoffmannia sprucei</i> Standl.	bh-mb	sh	1800	CG 3358	CAUP
<i>Hoffmannia</i>	bh-pm	sh	1550	CG 3203	CAUP
<i>Hoffmannia</i>	bh-pm	sh	1600	CG 1106	CAUP
<i>Hoffmannia</i>	bh-pm	sh	1490-1500	LA 020	AFP,CAUP
<i>Iertia pittieri</i> (Standl.) Standl	bh-pm	tr	1550-1700	CG 1413	CAUP
<i>Ladenbergia macrocarpa</i> (Vahl.) Klotzsch	bh-pm	tr	1400-2000	CG 3062	CAUP,MO
<i>Ladenbergia magnifolia</i> (R. & P.) Kl.	bh-pm	tr	1300	CG 3170	CAUP
<i>Ladenbergia</i>	bh-pm	tr	1400	CG 1488	CAUP
<i>Palicourea crocea</i> (sw.) R. & S.	bh-pm	sh	1600	CG 1148	CAUP
<i>Palicourea cutrecasasii</i> Standl. & Steyerm	bll-mb	tr	2200	CG 3219	CAUP
<i>Palicourea gibbosa</i> Dwyer	bh/lI-pm/mb	sh	1950-2000	CG 3112	CAUP
<i>Palicourea lasiantha</i> K. Krause.	bh/lI-mb	tr	2000-2400	CG 2973	CAUP
<i>Palicourea killipii</i> Standl.	bll-mb	sh	2300	CG 1171	CAUP
<i>Palicourea</i>	bh-pm	sh	1600	JG 034	CAUP
<i>Palicourea</i>	bh-pm	sh	1600	CG 1401	CAUP
<i>Palicourea</i>	bll-mb	sh	2200	CG 3310	CAUP
<i>Palicourea</i>	bll-mb	sh	2300	CG 1415	CAUP
<i>Palicourea</i>	bh/lI-mb	sh	2000	CG 1427	CAUP
<i>Palicourea</i>	bh-pm	sh	1480	CG 1397	CAUP
<i>Palicourea</i>	bh-pm	sh	1600	RS 1111	CAUP
<i>Palicourea</i>	bh-pm	sh	1600	RS 1164	CAUP
<i>Palicourea</i>	bh-pm	sh	1600	RS 850	CAUP
<i>Palicourea</i>	bll-mb	sh	2400	CG 1306	CAUP
<i>Palicourea</i>	bh-pm	sh	1500	CG 1453	CAUP
<i>Palicourea</i>	bll-mb	sh	2300	CG 1416	CAUP
<i>Posoqueria</i>	bh-pm	tr	1500	CG 1900	CAUP
<i>Psychotria allenii</i> Standl.	bh-pm	sh	1500	CG 3086	CAUP
<i>Psychotria aff beteriana</i> D.C.	bh-mb	sh	1950	CG 3286	CAUP
<i>Psychotria gentryi</i> (Dwyer) C.M. Taylor	bh-pm	sh	1350-1650	CG 3052	CAUP
<i>Psychotria cf officinalis</i> (Aubl.) Raeusch.	bh-pm	sh	1500	CG 1151	CAUP
<i>Psychotria</i>	bll-mb	sh	2400	CG 1417	CAUP
<i>Psychotria</i>	bll-mb	sh	2350	CG 1189	CAUP
<i>Psychotria</i>	bll-mb	sh	2100	CG 1498	CAUP
<i>Psychotria</i>	bh-pm	sh	1600	CG 1107	CAUP
<i>Psychotria</i>	bh-pm	sh	1300	CG 3175	CAUP
<i>Psychotria</i>	bh-mb	sh	1950	CG 3296	CAUP
<i>Psychotria</i>	bh-mb	sh	1900	CG 1876	CAUP
<i>Rondeletia aff colombiana</i> Rusby	bh-pm	tr	1300	CG 3151	CAUP
<i>Rondeletia cf glabrata</i> Klotzsch	bh-pm/mb	tr	1300-1750	CG 3522	CAUP
<i>Rondeletia</i>	bh-pm	tr	1100	CG 2936	CAUP
<i>Spermacoce</i>	bh-pm	hb	1600	NG 012	CAUP
Indet	-	tr	-	CG 3246	CAUP
Indet	bll-mb	tr	2200	CG 3308	CAUP
Indet	bh-pm	tr	1600	CG 3309	CAUP
Indet	bll-mb	tr	2200	CG 3231	CAUP
Indet	bh-pm/mb	tr	1600-1850	CG 3052	CAUP
Rutaceae					
<i>Zanthoxylum</i>	bll-mb	tr	2200-2500	CG 1168	CAUP
Sabiaceae					

<i>Meliosma</i>	bh-pm	tr	1600	CG 3527	CAUP
Sapindaceae					
<i>Allophylus mollis</i> (H.B.K) Radlk	bh-pm/mb	tr	1600	CG 1130	CAUP
<i>Allophylus</i>	bh-pm	tr	1300	CG 3177	CAUP
<i>Allophylus</i>	bh-pm	tr	1600	RS 878	CAUP
<i>Cupania cinerea</i> Poepp	bh-pm	tr	1600	RS 1059	CAUP
<i>Talaisia</i>	bh-pm	tr	1500-1600	HB 361	CAUP
<i>Serjania</i>	bh-pm/mb	cl	1500-1650	CG 1152	CAUP
<i>Tapirira cf guianensis</i> Aubl.	bh-pm	tr	1500-1600	CG 1143	CAUP
Indet	bh-pm	tr	1500-1600	CG 1377	CAUP
Sapotaceae					
<i>Pouteria cf maguirei</i> (Aubre) Penn.	bh-pm	tr	1300-1600	CG 1119	CAUP
<i>Pouteria parcki</i> (Ducke)	bh/ll-pm/mb	tr	1600-2200	CG 3519	CAUP
<i>Pouteria cf wurdackii</i> Aublet	bll-mb	tr	1950	CG 3131	CAUP
Simaroubaceae					
<i>Picramnia cf magnifolia</i> J.F. Macbr.	bh-pm/mb	tr	1500-1650	CG 3035	CAUP
Solanaceae					
<i>Brugmansia cf alba</i> L.	bh-pm	sh	1400	CG 3390	CAUP
<i>Cestrum</i>	bh-mb	tr	1650-1966	CG 3138	CAUP
<i>Cestrum</i>	bh-pm	tr	1600	CG 3521	CAUP
<i>Cestrum</i>	bh-pm	sh	1400	CG 2940	CAUP
<i>Cestrum</i>	bh-pm	sh	1650	RS 1026	CAUP
<i>Cuatresia</i>	bh-pm	sh	1450-1580	LA 037	CAUP
<i>Markea pilosa</i> S. Knapp.	bh-pm/mb	sh	1500-1600	CG 3545	CAUP
<i>Physalis</i>	bll-mb	sh	2300	CG 1250	CAUP
<i>Physalis</i>	bh-pm	sh	1600	CG 1123	CAUP
<i>Solandra</i>	bh-mb	cl	1900	CG 1471	CAUP
<i>Solanum aturense</i> Dunal	bh-pm	sh	1450-1580	RS 881	CAUP
<i>Solanum nudum</i> Dunal	bh-pm-mb	sh	1950-2000	CG 3113	CAUP
<i>Solanum</i>	bh-pm	tr	1400	CG 1370	CAUP
<i>Solanum</i>	bh-pm	cl	1450	LA 023	AFP,CAUP
<i>Solanum</i>	bh-pm	sh	1600	RS 1000	CAUP
<i>Solanum</i>	bh-pm	cl	1400-1500	CG 3314	CAUP
<i>Solanum</i>	bll-mb	sh	2000	CG 2860	CAUP
<i>Solanum</i>	bll-mb	sh	2100	CG 1418	CAUP
<i>Solanum</i>	bll-mb	sh	2300	CG 1259	CAUP
<i>Solanum</i>	bll-mb	sh	2400	CG 1291	CAUP
<i>Trianae</i>	bh-pm/mb	cl	1950	CG 3205	CAUP
Staphyleaceae					
<i>Huerteia cf glandulosa</i> R. & P.	bh-pm	tr	1600	CG 3539	CAUP
<i>Turpinia occidentalis</i> (Sw.) G. Don.	bh/ll-mb	tr	1600-2300	CG 1489	CAUP
Styracaceae					
<i>Styrax tesmannii</i> Perkins	bh-mb	tr	1600-1850	CG 3376	CAUP
Theaceae					
<i>Freziera sessiliflora</i> A. Gentry	bh-mb	tr	1850	CG 3251	CAUP
Tropaeolaceae					
<i>Tropaeolum deckerianum</i> Maritz & Karsten	bh/ll-pm/mb	cl	1500-2300	CG 1286	CAUP
Ulmaceae					
<i>Trema micrantha</i> (L.) Blume	bh-pm	tr	-	-	-
Urticaceae					
<i>Pilea daguensis</i> Killip	bh-pm	cl	1600	RS 999	CAUP
<i>Urera</i>	bh-pm	hb	1450	RS 156	CAUP
<i>Urtica</i>	bh-pm	hb	1450	LA 022	AFP,CAUP
Verbenaceae					
<i>Aegiphila novogranatense</i> Moldenke		tr			
<i>Citharexylum aff kunthianum</i> Moldenke	bh-mb	tr	1600-1966	CG 3137	CAUP
<i>Stachytarpheta cayenensis</i> Vahl.	bh-pm	hb	1600	RS 1080	CAUP
<i>Verbena litoralis</i> Kunth	bh-pm	hb	1450	RS 1081	CAUP
Violaceae					
<i>Viola</i>	bh/ll-mb	hb	1900-2100	CG 3559	CAUP
<i>Viola</i>	bll-mb	hb	2000	CG 1429	CAUP

Vochysiaceae*Vochysia aff duquei* Pilg

bh-pm

tr

1600

RS 966

CAUP

