

## A PRELIMINARY CHECKLIST OF THE VASCULAR PLANTS OF THE CHIQUIBUL FOREST, BELIZE

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Covering an area of 177,000 hectares, the region known within Belize as the Chiquibul Forest comprises the country's largest forest reserve and includes the Chiquibul Forest Reserve, the Chiquibul National Park and the Caracol Archaeological Reserve. Based on 7047 herbarium and live collections, a checklist of 1355 species of vascular plant is presented for this area, of which 87 species are believed to be new records for the country. Of the 41 species of plant known to be endemic to Belize, four have been recorded within the Chiquibul, and 12 species are listed in The World Conservation Union (IUCN) 2006 Red List of Threatened Species. Although the Chiquibul Forest has been relatively well collected, there are geographical biases in botanical sampling which have focused historically primarily on the limestone forests of the Chiquibul Forest Reserve. A brief review of the collecting history of the Chiquibul is provided, and recommendations are given on where future collecting efforts may best be focused. The Chiquibul Forest is shown to be a significant regional centre of plant diversity and an important component of the Mesoamerican Biological Corridor.

*Keywords.* Belize, Chiquibul, conservation, flora, species checklist.

### INTRODUCTION

This work provides a preliminary species list of the vascular plants of the Chiquibul Forest (CF), Cayo District, Belize. It is based primarily on the herbarium collections of botanists who have focused their floristic studies on the area between 1938 and 2005, using data compiled from collections held in the herbaria of Belmopan, Belize (BRH), the Natural History Museum, London (BM), the Missouri Botanical Garden (MO), the Royal Botanic Garden Edinburgh (E), The New York Botanical Garden (NY) and Marie Selby Botanical Gardens (SEL). Although the list is based largely on botanical collections made within the Chiquibul Forest Reserve (CFR), it also includes collections from within the Chiquibul National Park and the adjacent Caracol Archaeological Reserve. As there are many different species in this paper, authors of species names are not given in the text, but are provided in Appendix 1.

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*Reserve area and use*

The Chiquibul Forest Reserve is situated within a region known as the Greater Maya Mountains (Penn *et al.*, 2004), and originally covered an area of 184,925 hectares when first designated a Forest Reserve in 1956. In 1991, part of the reserve was re-classified as a National Park and the CFR's current area comprises 59,822 hectares. Considered together with the Chiquibul National Park and the Caracol Archaeological Reserve, the reserve is contiguous with the forests of Bladen Nature Reserve, Cockscorb Basin Wildlife Sanctuary, Columbia River Forest Reserve in Belize, and the Petén region of Guatemala. The Chiquibul region of Belize forms part of Mesoamerica's regional 'Maya Forest'. It lies adjacent to the Rio Chiquibul-Montañas Maya Biosphere Reserve in the Petén (created in 1995) and forms part of the Chiquibul/Maya Mountains Key Biodiversity Area, a priority area for conservation recognized by Conservation International. Considered together with neighbouring protected areas, the Chiquibul Forest of Belize comprises one of the largest remaining tracts of tropical forest in Central America.

As a forest reserve, the CFR is currently managed for timber production and conservation, with logging operations dating back to the 1920s (Johnson & Chaffey, 1973; Bird, 1998). Mahogany (*Swietenia macrophylla*) and cedar (*Cedrela odorata*) have been the primary species extracted from the area, with smaller amounts of other secondary hardwoods such as Santa Maria (*Calophyllum brasiliense*) and nargusta (*Terminalia amazonia*) also harvested. In addition, the CFR is historically renowned for a number of non-timber forest products (NTFPs) which were once the basis of sizeable industries. Chicle, tapped from the tree *Manilkara zapota*, was harvested for many decades and exported to the USA, where it was used in the production of chewing gum, and the name 'Chiquibul' is derived from the association of this forest with the chicle tree (also known as 'sapodilla'). The fruits of allspice (*Pimenta dioica*) have also been collected and exported as a culinary flavouring. However, these two products have not been extracted in significant quantities from the CFR since the 1950s, although they continue to be harvested in the neighbouring Petén region of Guatemala. From the late 1990s until the present, the Chiquibul has been the focus of illegal trade in harvested leaves (xaté) of the understory palm *Chamaedorea ernesti-augustii*. These leaves are collected primarily by Guatemalan xateros (leaf cutters) for export to the USA and Europe for the floriculture industry (Bridgewater *et al.*, 2006).

Forest use in the CFR dates back at least to the early Maya civilization (c.300 BC), and much of the area now supporting forest was almost certainly under agriculture during the height of the early Maya civilization prior to AD 1000 (Furley, 1998). The Chiquibul Forest is rich in Maya ruins, and it is not unusual to come across these whilst working in the forest. For example, there are residential settlements scattered across the region, and many hill slopes now thick with forest clearly show the remains of ancient agricultural terracing. The use of

terracing to maximize land productivity in hilly areas was a common agricultural technique of the Maya (Beach, 1998). The large and internationally famous Caracol Mayan archaeological site is located adjacent to the CFR, within the Caracol Archaeological Reserve. By the close of the 7th century AD this settlement had become one of the most populous cities in the Pre-Columbian world. Stretching over 65 square miles, it was home to more than 120,000 people (Chase & Chase, 1996). In more recent times, the Chiquibul region has attracted widespread attention due to an international campaign which attempted to halt the building of a controversial dam for the production of hydroelectric power at Chalillo on the Macal River. One of the premises of the campaign was that the dam would flood and destroy a significant proportion of a rare riverine habitat, critical to many endangered species such as Baird's tapir and Morelet's crocodile (Minty *et al.*, 2001; Barnett, 2002). The dam has now been completed and the resulting reservoir has had a significant and irreversible negative impact on the biodiversity of the rare riparian habitat along the Macal and Raspaculo Rivers. Other human activities within the area include exploratory drilling for nickel in the 1970s and 1990s, gold extraction (from the 1990s), hunting and agricultural incursions.

#### *Geology and soils*

The present-day landforms of the Chiquibul reflect the underlying geology. The geology of the Chiquibul area has been described by Ower (1928), Dixon (1956), Wright *et al.* (1959) and Bateson & Hall (1977). The CFR lies on the western slopes of the up-faulted block of Palaeozoic rocks which form the Maya Mountains. The area is largely underlain by metamorphosed sedimentary mudstones and shales which have been intruded in some parts by granite. During the Cretaceous period, limestone was formed over much of the area, although much has since been eroded. Rolling karst (500–700 m altitude) is situated in the west of the reserve, and sloping mountainous terrain underlain by sedimentary and metamorphic bedrock of the Santa Rosa group (700–1000 m) lies to the east.

#### *Climate*

Belize lies between 15° and 19°N, and the CFR has a strongly seasonal climate, with a marked dry season between February and June. Annual precipitation is c.1500 mm in the northern part of the reserve (Johnson & Chaffey, 1973), although there is considerable variation over the region. The climate is strongly influenced by the Maya Mountains which comprise the south and eastern borders of the reserve. Moisture-laden eastern trade winds are forced to rise as they pass over the Maya Mountains, provoking high orographic rainfall in the mountains (i.e. rain condenses from rising cloud due to the expansion and cooling effect of uplift), with punctuated

rain shadows to the west of the range. Belize lies within the hurricane belt and the CFR was strongly affected by Hurricane Hattie which passed directly through it in 1961 (Johnson & Chaffey, 1973). This caused severe ecological disturbance, flattening large areas of the forest. The forest is currently in a state of recovery from this hurricane, and throughout its history the Chiquibul has probably been periodically affected by such catastrophic episodes.

### *Vegetation types*

A review of the history of classification of vegetation types across the Chiquibul Forest can be found in Penn *et al.* (2004). This work also provides a detailed vegetation classification scheme for the Greater Maya Mountains comprising 32 different vegetation classes. An alternative classification is suggested by Meerman & Sabido (2001). The latter comprises part of a nationwide ecosystems map, and this can be accessed via the Biodiversity and Environment Resource Data System of Belize (<http://www.biodiversity.bz>). These classifications should be consulted when undertaking botanical inventory studies within the CFR. Both draw heavily on remote sensing techniques and have modified the earlier vegetation classifications for the region prepared by Wright *et al.* (1959) and Iremonger & Brokaw (1995).

Wright's 1959 classification recognized nine vegetation subclasses, comprising evergreen, deciduous and semi-deciduous forest. Iremonger and Brokaw's classification, published 35 years later, recognized seven. For the most part these all comprise what can be considered as variations of generic 'lowland' and 'submontane' broadleaf subtropical moist forest (Holdridge, 1967). Following Penn's most recent classification, the primary vegetation types within the CFR are: (1) broadleaf deciduous forest, (2) broadleaf seasonal forest, (3) broadleaf high evergreen forest, (4) semi-evergreen forest, (5) riparian forests, (6) gallery forests, and (7) savanna.

The *Broadleaf deciduous* and *Broadleaf seasonal forest* classifications of Penn *et al.* (2004) cover much of the central and western areas of the CFR and roughly correspond to the *Broadleaved forests rich in lime loving species* of Wright, the *Broadleaved hill forests over limestone terrain* of Iremonger & Brokaw (1995), and the *Tropical evergreen seasonal broad-leaved forest over karstic terrain* of Meerman & Sabido (2001). The topography of this region comprises rolling hills, sometimes with steep slopes, and the bedrock is limestone, the soils therefore being alkaline. Many of the broadleaved tree species (such as *Schizolobium parahyba* and *Cedrela odorata*) lose their leaves during the dry season. Deciduousness is especially pronounced on exposed hilltops.

Following Penn *et al.* (2004), the eastern CFR region comprises altitudinal varieties of *Broadleaf semi-evergreen forest*. This equates to the *Tropical evergreen seasonal broad-leaved submontane forests* of Meerman & Sabido (2001). This region rises eastwards towards the Maya Mountains (Maya Divide), as the limestone

is replaced by mudstones and sandstones. Riparian forests follow the main watercourses throughout the reserve. The main rivers of note running through the region are the Raspaculo River, the Macal River, the Chiquibul River, the Ceibo Grande River and the Ceibo Chico River. A large patch of savanna at San Pastor overlying an area of sandstone and slate is also worthy of note (Johnson & Chaffey, 1973).

#### *History of collection*

The history of botanical studies in Belize has been presented in detail by Spellman *et al.* (1975), Balick *et al.* (2000) and Brokaw (2001). In short, there were relatively few botanical collections made in Belize prior to the 20th century. Significant collections began with the efforts of Morton Peck of the Yale University School of Forestry (1905–1907), and continued with Cyrus Longworth Lundell (1928–1936), William Schipp (1929–1941) and Percival Gentle (1931–1958). Since the 1960s botanical collections have continued to increase throughout Belize and numerous Belizean and foreign collectors have focused their studies on the country. Relatively few, however, have collected within the confines of the Chiquibul Forest Reserve.

Significant concentrated botanical studies within the Chiquibul began with the Belizean Percival Gentle (BRH, MO; 1938), continuing with Cyrus Lundell (MICH; 1937–1984), Bassett Maguire (NY; 1967), George Proctor (IJ; 1968–1969), David Spellman (MO; 1970), John Dwyer (MO; 1972–1974), Thomas Croat (MO; 1973), Al Gentry (MO; 1973) and Michael Balick (NY; 1990–1992). The construction of the Las Cuevas Research Station by the Belize Forest Department and the Natural History Museum (London) in 1991 resulted in a significant increase in collections over the following decade. Between this time and the present day over 4000 numbers have been collected, the majority by Caroline Whitefoord (BM; 1980–2000), Alex Monro (BM; 1994–2000), Steve Cafferty (BM; 1998–2000), Mamen Peña (BM; 2000) and David Sutton (BM; 1980–2005; including on Victoria Peak). In addition MSc students from the Royal Botanic Garden Edinburgh (E) have collected extensively within the Chiquibul Forest Reserve between 2000 and 2005. Other significant collectors include Sandy Knapp (BM; 1997–2001), Lillis Urban (E; 2003), Alicia Ibáñez García (E; 1996), Rosita Arviga (MO; 1989), Stephen Ingram (SEL; 1993), Thomas Hawkins (MO; 1996), Bruce Holst (SEL; 1996–2001; including from the Maya Divide), Jan Meerman (BRH; 1992–2006), Gerrit Davidse (MO; 1997; including from the Maya Divide) and Doug Holland (MO; 1997; including from the Maya Divide). In addition, Brendan Sayer from the National Botanic Gardens, Glasnevin, Ireland, and Brett Adams and Ken DuPlooy from the Belize Botanic Gardens have made live collections from the Chiquibul, mostly of orchids, and Steven Brewer (WNC; 2004), Samuel Bridgewater (BM; 2004) and Bruce Allen (MO; 1993) have made over 700 collections from Doyle's Delight in the Maya Mountains, which lies on the boundary of the Chiquibul National Park.

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## METHODS

Information that was available electronically of all known recent and historical botanical collections from the Chiquibul Forest was collated. The greater part is housed at the following herbaria: Natural History Museum, London (BM), Royal Botanic Garden Edinburgh (E), Missouri Botanical Garden (MO), The New York Botanical Garden (NY), Selby Botanic Gardens (SEL) and Belize Forest Department, Belmopan, Belize (BRH). Collections from these herbaria form the basis of the accompanying checklist (Appendix 1). The list was checked and corrected for synonymy using the International Plant Names Index, Tropicos and available monographs and floras. Family specialists were also consulted. In many cases a species has been collected more than once, and by different collectors. In such cases only one representative specimen is cited for each species. Where possible, fertile specimens identified by specialists have been cited preferentially. Herbaria information was subsequently supplemented with determinations of live orchid collections collected within the CFR and held by the Belize Botanic Gardens and the National Botanic Gardens, Glasnevin, Ireland. In total, 7047 herbarium and live collections records were consulted. In addition, a number of species known to exist in the CFR but not collected for whatever reason (such as the CITES-listed cycad *Ceratozamia robusta*, for example), have also been included where the authors have seen the species growing in the wild. Species listed in the checklist that are not linked to known herbarium specimens are clearly indicated. Information submitted by a few specialists has also been included where they have vouched for the occurrence of a species within the area under consideration. These are listed as such in the accompanying list. For a few taxa, site localities from historical collections have not been exact enough to enable the collection to be placed within the CFR. For example, it is common for older collections to list the locality simply as Cayo District. Where there is sufficient evidence to believe that this species may have been collected within the CFR, it has been included.

## RESULTS

A total of 1355 species of vascular plants is recorded here for the Chiquibul Forest (Appendix 1). A list of the 100 most frequently observed trees, together with their common names (if known), is provided in Appendix 2. Families follow Angiosperm Phylogeny Group II (2003), although *Capparis* and *Forchhammeria* are maintained within the *Capparaceae* rather than being transferred to the *Brassicaceae* as this family has recently been re-recognized (Stevens, 2006). Included are 320 species which are found as trees, 246 species of shrub, 452 terrestrial or epiphytic herbs (including 109 species of orchid, three saprophytes and two parasites), 182 species of vine, 20 palms, four cacti, two cycads, 107 ferns (including six tree ferns and 26 epiphytic ferns), 14 woody parasites and 10 lycopods. This represents 40% of the flora of Belize as recognized by Balick *et al.*

(2000). In addition, the list includes a number of aquatics, parasites and saprophytes. The checklist presents 87 taxa not listed in Balick *et al.* (2000) (highlighted by bold face type in Appendix 1). These are therefore proposed as new records for the country. Of the 41 species of plants known to be endemic to Belize (Balick *et al.*, 2000), four have been recorded within the Chiquibul. These are *Neurolaena schippii* (Asteraceae; Hawkins 1275; MO), *Gymnanthes belizensis* (Euphorbiaceae; Gentle 2619; MO), *Scutellaria lundellii* (Lamiaceae; Whitefoord 9375; BM), and *Calyptanthes bartlettii* (Myrtaceae; Urban 14; E). In addition, 12 species are listed in the 2006 IUCN Red List of Threatened Species (Table 1). Although botanical collecting has been scattered across the Chiquibul Forest Reserve, it is concentrated at 44 main locations (Fig. 1; Table 2). However, of these, only 17 locations have more than 100 collections (Las Cuevas, Doyle's Delight, Monkey Tail, Guacamallo Bridge, 8.5–10.5 km east of Guacamallo Bridge on the Macal River, confluence of the Macal and Raspaculo Rivers, Chalillo, Smokey Branch, Ceibo Chico, Ceibo Grande, Ceibo Grande (Main Divide track), Ceibo Grande (old repeater site), Millionario, San Pastor, Grano de Oro, La Flor and New Maria), and only four sites have more than 500 collections (Las Cuevas, Monkey Tail, Guacamallo Bridge and Doyle's Delight).

#### DISCUSSION

Belize forms part of Mesoamerica that, despite having less than 0.5% of the world's land area, is believed to support between 7 and 10% of all known species, and 17% of

TABLE 1. Species occurring in the Chiquibul and listed in The World Conservation Union (IUCN) 2006 Red Data List of Threatened Species. EN = endangered; NT = near threatened; VU = vulnerable; LR = low risk; DD = data deficient

| Species                          | IUCN category | Status in Chiquibul                                |
|----------------------------------|---------------|--|
| <i>Aegiphila monstrosa</i>       | VU            | Present, but no abundance data                     |
| <i>Aspidosperma megalocarpon</i> | LR/NT         | Common   |
| <i>Cedrela odorata</i>           | VU            | Common   |
| <i>Ceratozamia robusta</i>       | VU            | Present; population numbers small                  |
| <i>Gaussia maya</i>              | VU            | Present, but no abundance data                     |
| <i>Magnolia yoroconte</i>        | VU            | Present, but no abundance data (found at altitude) |
| <i>Podocarpus guatemalensis</i>  | DD            | Present, but no abundance data (found at altitude) |
| <i>Pouteria amygdalina</i>       | VU            | Present, but no abundance data                     |
| <i>Sideroxylon stevensonii</i>   | VU            | Present, but no abundance data                     |
| <i>Swietenia macrophylla</i>     | VU            | Occasional/common                                  |
| <i>Vitex gaumeri</i>             | EN            | Common   |
| <i>Zamia polymorpha</i>          | NT            | Present, but no abundance data                     |

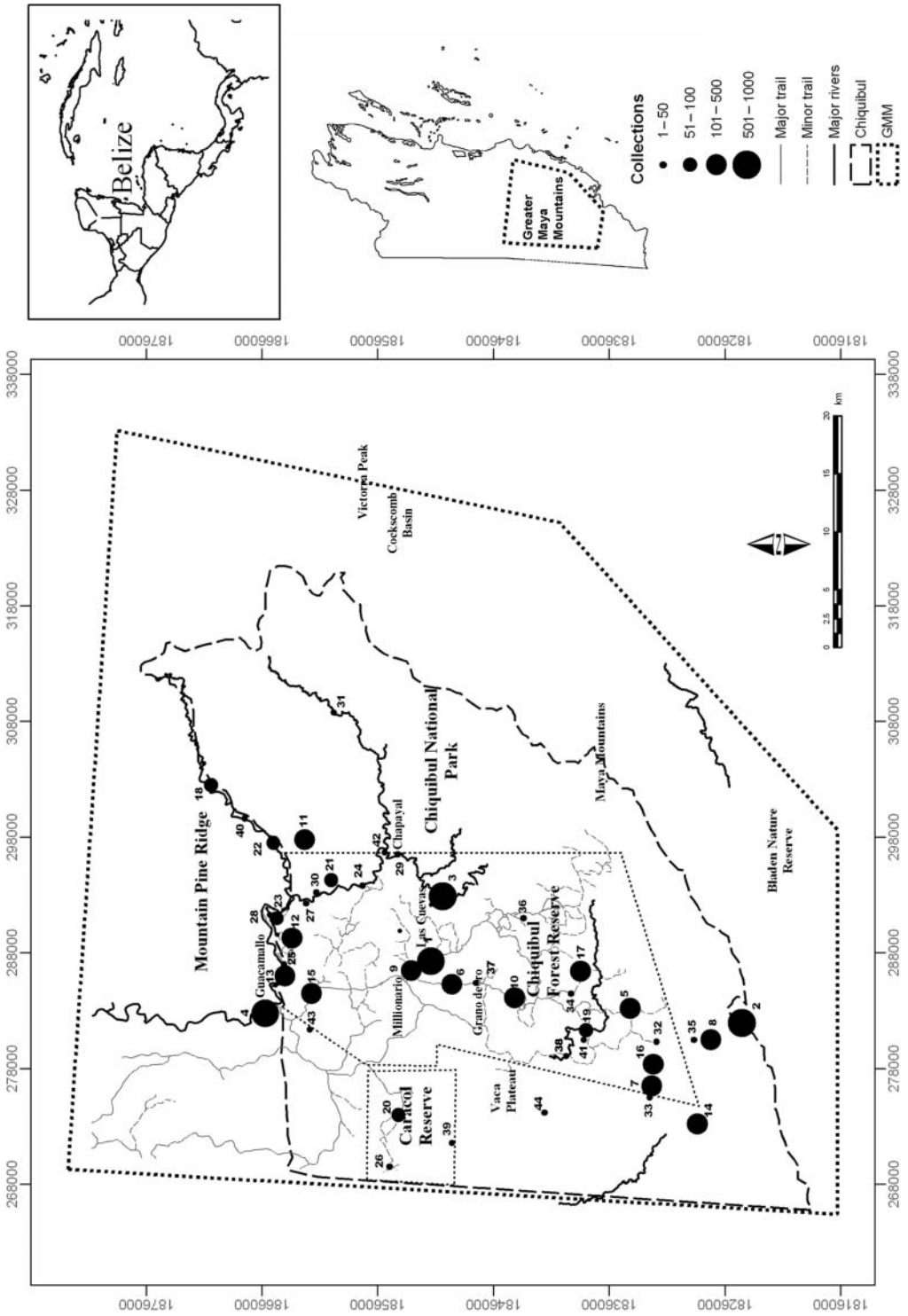


FIG. 1. Collecting locations in the Chiquibul Forest Reserve, Belize.



TABLE 2. Primary plant collecting localities within the Chiquibul Forest (see Fig. 1 for locations) (*Cont'd on p. 278*)

|          | Locality   | UTM Coordinates |         | No. of collections |
|----------|--|-----------------|---------|--------------------|
|          |  | EW              | NS      |                    |
| <b>A</b> | <b>More than 500 collections</b>                           |                 |         |                    |
| 1        | Las Cuevas   | 287300          | 1851400 | 843                |
| 2        | Doyle's Delight  | 281938          | 1824544 | 761                |
| 3        | Monkey Tail Branch   | 292900          | 1850400 | 747                |
| 4        | Guacamallo Bridge  | 282800          | 1865700 | 684                |
| <b>B</b> | <b>Between 101 and 500 collections</b>                     |                 |         |                    |
| 5        | Smokey Branch  | 283200          | 1834200 | 370                |
| 6        | San Pastor   | 285300          | 1849600 | 299                |
| 7        | Ceibo Grande   | 276500          | 1832300 | 208                |
| 8        | Ceibo Grande to Main Divide track,<br>towards Main Divide  | 280500          | 1827200 | 178                |
| 9        | Millionario  | 286500          | 1853100 | 174                |
| 10       | Grano de Oro   | 284100          | 1844200 | 167                |
| 11       | 8.5–10.5 km E of Chalillo                                  | 297800          | 1863200 | 165                |
| 12       | Confluence of Raspaculo and<br>Macal Rivers                | 289290          | 1863400 | 164                |
| 13       | Chalillo   | 286000          | 1864000 | 133                |
| 14       | Ceibo Chico drill site                                     | 273200          | 1828400 | 129                |
| 15       | New Maria Camp   | 284500          | 1861700 | 111                |
| 16       | Ceibo Grande to Main Divide track,<br>by old repeater site | 278400          | 1832200 | 104                |
| 17       | La Flor (Rio de la Flor)                                   | 286400          | 1838500 | 104                |
| <b>C</b> | <b>Between 51 and 100 collections</b>                      |                 |         |                    |
| 18       | Francelia  | 302500          | 1870400 | 87                 |
| 19       | Natural Arch   | 281300          | 1838000 | 79                 |
| 20       | Caracol  | 274000          | 1854200 | 74                 |
| 21       | 3.5–4 km SSE of Macal/Raspaculo<br>River confluence        | 294300          | 1860000 | 67                 |
| 22       | Blossom Berry Creek  | 297500          | 1865000 | 62                 |
| 23       | 1.5–2 km NW of Macal/Raspaculo<br>River confluence         | 291000          | 1864750 | 53                 |
| 24       | Blue Hole  | 293800          | 1857300 | 50                 |
| <b>D</b> | <b>1–50 collections</b>                                    |                 |         |                    |
| 25       | 1 km E of Chalillo   | 287000          | 1864100 |                    |
| 26       | Valentin   | 269500          | 1855000 |                    |
| 27       | 1–1.5 km SW of Macal/Raspaculo<br>River confluence         | 292300          | 1862200 |                    |
| 28       | 4 km ENE of Chalillo                                       | 291300          | 1865300 |                    |
| 29       | 1.5 km SSW of Raspaculo/Monkey<br>Tail River confluence    | 296500          | 1854300 |                    |
| 30       | 2.25 km S of Macal/Raspaculo<br>River confluence           | 293200          | 1861300 |                    |
| 31       | Cuxti Bani   | 308800          | 1859800 |                    |

TABLE 2. (*Cont'd*).

|    | Locality          | UTM Coordinates |         | No. of collections |
|----|-------------------|-----------------|---------|--------------------|
|    |                   | EW              | NS      |                    |
| 32 | Palmar            | 280300          | 1831900 |                    |
| 33 | Cotton Tree Creek | 275500          | 1832500 |                    |
| 34 | Union Camp        | 284500          | 1839300 |                    |
| 35 | Engineer's Camp   | 280500          | 1828700 |                    |
| 36 | Champas Camada    | 291000          | 1843400 |                    |
| 37 | Los Lirios        | 279100          | 1839700 |                    |
| 38 | Resumadeiro       | 279100          | 1839700 |                    |
| 39 | Retiro            | 271600          | 1849600 |                    |
| 40 | Kinlocks          | 299600          | 1867500 |                    |
| 41 | Arabato Camp      | 280500          | 1838200 |                    |
| 42 | Chapayal          | 296700          | 1855400 |                    |
| 43 | Cubetas           | 281365          | 1861846 |                    |
| 44 | Sink Hole         | 274200          | 1841600 |                    |

*Note.* Many localities have had only one collection made from them. These sites have not been listed. Therefore, the numbers of collections above do not add up to 7047.

all terrestrial species. Mesoamerica is considered to be the second most important of 25 globally identified hotspots, when a combination of threat, species diversity and endemism are taken into account (Conservation International, 2004). The Selva Maya, of which the Chiquibul contributes a significant part, is one of the largest continuous expanses of neotropical rainforest outside Amazonia, and forms a key component of the Mesoamerican Biological Corridor. Within Mesoamerica 284 species of plants are considered to be Globally Threatened, with 28 of these stated as occurring in Belize (The World Conservation Union, 2006). Of these, 12 species from the Chiquibul are recorded as being vulnerable (Table 1). However, the IUCN Red List of Threatened Species applies its categories over an entire region and a number of the species listed as vulnerable are actually fairly abundant within the Chiquibul. These include *Cedrela odorata*, *Vitex gaumeri*, *Swietenia macrophylla* and *Aspidosperma megalocarpon*. Two of the species are found only at higher elevations (*Magnolia yoroconte* and *Podocarpus guatemalensis*).

The majority of collections have been made within the limestone broadleaf forests of the Chiquibul Forest Reserve (CFR). However, collecting intensity, even within the floristically well-known areas, needs to be significantly increased as only seven localities within the Chiquibul Forest have had over 200 collections (Table 2). The forest of much of the CFR covers low lying hills, often above 500 m altitude (although below 1000 m), and can be classified as either lowland or submontane in nature. Different authors recognize different numbers of forest subtypes for the region, but for the most part, the same basic tree floristic matrix dominates throughout. Particularly characteristic tree species of the lime-rich soils of the CFR include *Brosimum alicastrum*, *Protium copal*, *Manilkara zapota*, *Vitex gaumeri*,

*Cedrela odorata*, *Pseudolmedia spuria*, *Drypetes brownii*, *Dialium guianense*, *Schizolobium parahyba*, *Pouteria campechiana*, *P. reticulata*, *Trichilia minutiflora*, *T. pallida*, *T. erythrocarpa*, *Guarea glabra*, *Zanthoxylum riedelianum*, *Astronium graveolens*, *Swietenia macrophylla*, *Sebastiania tuerckheimiana*, *Dendropanax arborescens*, *Cojoba arborea*, *Cordia alliodora*, *Calophyllum brasiliense*, *Terminalia amazonia*, *Spondias radlkoferi*, *Stemmadenia donnell-smithii* and *Pimenta dioica*. The majority of these species are regionally widespread, and the flora of the Chiquibul Forest is similar to those occurring in other karstic regions within Belize and the Petén of Guatemala. Forest on the steeper karstic terrain is prone to considerable seasonal drought, and Penn *et al.* (2004) note that characteristic species of these hilltop forests include *Beaucarnea plabilis* and *Plumeria obtusa*. The current authors have noted that some species (e.g. *Chamaedorea schippii*) are apparently confined to hill summits.

Not all the bedrock of the Chiquibul is limestone, and in areas of metamorphic shales and mudstones, most notably in the eastern portions of the CFR and the Chiquibul National Park (CNP), the forest flora, whilst maintaining many of the species elements of the limestone areas, is likely to be significantly different. Other than floristic work conducted by David Sutton (BM) at Cuxti Bani on the upper Raspaculo (Rogers *et al.*, 2000), little research has yet been done in these areas. It would therefore be most worthwhile to focus future collecting efforts on the vegetation types classified by Meerman & Sabido (2001) as *Tropical evergreen seasonal broad-leaf submontane forest (Simarouba-Terminalia variant)* and *Tropical evergreen seasonal broad-leaf submontane forest (Virola-Terminalia variant)*, and by Penn *et al.* (2004) as *Semi-evergreen forest* and *Transitional semi-evergreen forest*. Species noted as characterizing these vegetation types over (relatively) nutrient poor soils include *Terminalia amazonia*, *Vochysia hondurensis*, *Simarouba glauca*, *Virola koschnyi* and species of the *Melastomataceae*.

At higher elevations the forest flora changes significantly, with the palms *Colpothrinax cookii*, *Euterpe precatoria* and *Synechanthus fibrosus* common in many areas. Other (relatively) high altitude woody species of note include *Hedyosmum mexicanum*, *Cyrilla racemiflora*, *Pinus oocarpa*, *Liquidambar styraciflua*, *Podocarpus guatemalensis*, *Quercus cortesii*, *Ilex guianensis*, *Magnolia yoroconte*, *Zapoteca tetragona* and *Randia matudae*. The high altitude vegetation of the Chiquibul (i.e. that occurring at a height of around 1000 m) is still very poorly known due to its inaccessible nature. Within the Chiquibul, floristic work at higher elevations on various sections of the Maya Divide has been conducted by Monroe, Cafferty and Peña (2000), Bruce Holst (1996) and Gerrit Davidse and Doug Holland (1997). In addition, over 700 collections have been made at Doyle's Delight by Bruce Allen (1993), and Steven Brewer and Samuel Bridgewater (2004). Collections have also been made at Victoria Peak by David Sutton and Malcolm Penn (2003, 2005). Increasing the concentration of collections from these and other montane areas is certainly a priority for future research. Scientifically, such work would be well worth the effort, most likely

yielding a number of new species records for Belize. For example, a 10-day expedition to Doyle's Delight in 2004 by Brewer and Bridgewater yielded 400 collections, comprising 151 species, eight of which were new for Belize (Brewer & Bridgewater, 2004).

Over 100 species are recorded here as being particularly associated with riverine habitats. Although the most conspicuous woody elements of riverine vegetation are well known, the floristic assemblages making up such vegetation within the Chiquibul region are still relatively poorly understood. Intensive botanical collecting has been conducted only on the Macal River at Guacamallo Bridge, and on the Monkey Tail Branch adjacent to Monkey Tail Camp. Collecting has also occurred on the Macal River upstream from Guacamallo Bridge, Ceibo Chico and Ceibo Grande, Natural Arch, on the upper Raspaculo at Cuxti Bani and Chapayal, and on the lower Raspaculo between Chapayal and Chalillo. To our knowledge, only one published floristic survey of riverine vegetation in this region exists (Urban *et al.*, 2006). This work cites *Inga vera* subsp. *vera*, *Cuphea calophylla*, *C. utriculosa*, *Calyptanthes bartlettii*, *Augusta rivalis*, *Symphyotrichum expansum*, *Ludwigia octovalvis* and *Spermacoce verticillata* as amongst the most frequent species of this habitat. The primary aquatic plant growing in fast flowing streams is *Marathrum oxycarpum* (*Podostemaceae*). The dense fringing riverine vegetation itself was noted by the authors as being characterized by *Inga vera* subsp. *vera* (dominant), *Calyptanthes lindeniana*, *Pleuranthodendron lindenii*, *Nectandra salicifolia*, *Cojoba graciliflora* and *Calliandra tergemina* var. *emarginata*. In addition, there are often frequent emergent trees scattered along river banks, including *Schizolobium parahyba*, *Ceiba pentandra*, *Lonchocarpus guatemalensis* and *Spondias radlkoferi*. In heavily disturbed areas, the grass *Tripsacum latifolium* is often dominant, and the palm *Attalea cohune* is widespread where soils are deep. There is still much to be learnt about the riverine flora, and Natural Arch (Chiquibul River), Ceibo Grande and Ceibo Chico and the upper Raspaculo River would all make ideal future study sites. The loss of over 18 km of riverine habitat on the Macal and 15 km of the same vegetation on the lower Raspaculo on completion of the dam at Chalillo in 2005 makes it particularly important that this rare and threatened habitat type is studied in more detail in the future.

Although the majority of the Chiquibul region is covered by forest, a number of patches of pine savanna do occur, most notably at San Pastor. Botanical collections within this formation are few. A detailed floristic survey would be most useful to allow this formation (classified as open savanna with *Pinus oocarpa* by Penn *et al.* (2004), and as submontane pine forest by Meerman & Sabido (2001)) to be described and compared with other savanna areas within Belize. Although *Pinus caribaea* var. *hondurensis* dominates this community, *Pinus oocarpa* is also present together with species such as *Ilex guianensis* and *Quercus* spp. No published species list exists for this formation. This patch of savanna is easily reached, being less than an hour's walk from the Las Cuevas Research Station, and describing its flora would make an ideal research project.

In general, it would be most useful for future specific collecting endeavours to be concentrated within a specific vegetation type identified by either Meerman & Sabido (2001) or Penn *et al.* (2004), and for detailed species lists to be compiled to allow comparisons to be made between different vegetation types. Although the present contribution provides a preliminary composite checklist of the Chiquibul flora, ecological patterns of diversity within the forest, and between the Chiquibul and other regional forest areas, remain obscure. In addition to improving general collections, it would be useful for such work to adopt the quantitative methodology of Brewer *et al.* (2003) which has successfully used  $2 \times 500$  m transects to clarify patterns of tree diversity in southern Belize. This would enable comparative studies to be undertaken between the flora of forest areas both north and south of the Maya Divide. The main quantitative forest work that has been done in the Chiquibul has been related to forest inventory work, the three primary studies of significance being those of Johnson & Chaffey (1973), Bird (1998) and Rogers *et al.* (2000). In addition, botanical work of a phytogeographic nature should focus on key taxonomic groups where good taxonomic capacity exists (e.g. grasses, ferns, legumes, etc.), whilst general collecting is required for under-collected groups such as mosses and lichens. It is hoped that this preliminary checklist and associated notes will assist forest botanical researchers working in the Chiquibul Forest to maximize the useful impact of their collecting endeavours and aid conservation planners and future managers by providing reliable, and verifiable, information on its vascular plant diversity. Undoubtedly, as this list represents only a first attempt to collate the floristic information available, many species will be added to the list in the future and some species currently included may be later removed if proven to be misidentifications. However, it serves as a starting point for discussion and illustrates that the Chiquibul is a significant centre of regional plant diversity worthy of its conservation status. Indeed it is now recognized as one of 24 Key Biodiversity Areas within northern Mesoamerica by Conservation International (2004). The facilities provided by the Las Cuevas Research Station make it an excellent centre for exploring the Chiquibul and it is hoped that its presence, with the support of a new international consortium of partners, including the Conservation Management Institution, Acadia University, the Royal Botanic Garden Edinburgh and the Belize Forest Department, will encourage more botanical collectors to improve our knowledge of the area.

#### ACKNOWLEDGEMENTS

We thank the Belize Forest Department for permission to work in Belize, the past and present staff of the Las Cuevas Research Station for supporting botanical expeditions to the Chiquibul, and all the field botanists whose herbarium collections form the basis of this work. In addition, thanks are due to Steven Brewer, Jan Meerman, Malcolm Murray, Chris Minty and Jim Ratter for their constructive comments on the manuscript.

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*Received 30 May 2006; accepted for publication 11 September 2006*

## APPENDIX 1

### *Preliminary checklist of the vascular plants of the Chiquibul Forest, Belize*

New species records for Belize are in bold.

*Habit codes (H)*. h = herb; s = shrub; t = tree; v = vine; ss = scandent shrub; e = epiphyte; a = aquatic; sa = saprophyte; p = woody parasite; he = hemiepiphyte; f = fern; tf = tree fern; pa = palm.

*Habitat codes (Ha)*. a = aquatic; f = forest; r = riverine; ps = pine savanna; cult. = cultivated.

*Voucher information*. All vouchers cited are herbarium or spirit collections, except the orchid collections of B. Sayer (Glasnevin) and the Belize Botanic Gardens (BBG) which are live collections held at the National Botanic Gardens, Glasnevin, Ireland, and the Belize Botanic Gardens.

*Herbarium codes*. BM = Natural History Museum, London; E = Royal Botanic Garden Edinburgh; MO = Missouri Botanical Garden; NY = The New York Botanical Garden; MICH = University of Michigan; BRH = Belize Herbarium, Belmopan; SEL = Marie Selby Botanical Gardens; WNC = University of North Carolina, Wilmington. SC – Spirit collection.

#### *Notes*

1. + = species collected only at Doyle's Delight (1124 m) on the highest point of the Maya Divide, or on the ridge of the Divide itself. These collections occur on the boundary of the Chiquibul.
2. Names in parentheses following some taxa are synonyms.
3. Families follow Angiosperm Phylogeny Group II (2003). Under this new classification scheme a number of genera have been transferred from one family

to another, with some families (e.g. *Flacourtiaceae*) being disbanded altogether. As APG II may not be familiar to some, in an attempt to assist those trying to find a genus under its new family name, a suggestion is placed at the start of families where changes have been made of where to look. For example, all *Flacourtiaceae* are now listed under *Salicaceae*, *Cochlospermum* has been moved from *Cochlospermaceae* to *Bixaceae*, and *Anagallis* from *Primulaceae* to *Myrsinaceae*.

| Taxon  | H   | Ha  | Voucher                          |
|--|-----|-----|----------------------------------|
| <b>MAGNOLIOPHYTA</b>   |     |     |                                  |
| <b>Acanthaceae</b>   |     |     |                                  |
| <i>Aphelandra aurantiaca</i> (Scheidw.) Lindl.               | h/s | f   | <i>A. Monro</i> 763 (BM)         |
| <i>Aphelandra scabra</i> (Vahl) Sm.                          | h/s | f/r | <i>C. Whitefoord</i> 10014 (BM)  |
| <i>Blechum pyramidatum</i> (Lam.) Urb.                       | h   | f   | <i>C. Whitefoord</i> 9142 (BM)   |
| <i>Dicliptera sexangularis</i> (L.) Juss.                    | h   | f/r | <i>L. Urban</i> 83 (E)           |
| <i>Dicliptera sumichrastii</i> Lindau                        | h/s | f/r | <i>C. Whitefoord</i> 10065 (BM)  |
| <i>Hygrophila costata</i> Nees (= <i>H. guianensis</i> Nees) | h   | r   | <i>M. Peña</i> 1072 (BM)         |
| <i>Justicia aurea</i> Schltldl.                              | h/s | f/r | <i>T. Hawkins</i> 1178 (MO)      |
| <i>Justicia bartlettii</i> (Leonard) D.N.Gibson              | s   | f   | <i>T. Hawkins</i> 1219 (MO)      |
| <i>Justicia breviflora</i> (Nees) Rusby                      | h/s | f/r | <i>L. Seed</i> 7 (E)             |
| <i>Justicia pectoralis</i> Jacq.                             | h   | f/r | <i>C. Whitefoord</i> 10043 (BM)  |
| <i>Justicia spicigera</i> Schltldl.                          | s   | f/r | <i>L. Urban</i> 388 (E)          |
| <i>Louteridium donnell-smithii</i> S.Watson                  | s   | f   | <i>D. Harris</i> 7888 (E)        |
| <i>Mendoncia retusa</i> Turrill                              | v   | f   | <i>A. Monro</i> 2630 (BM)        |
| <i>Odontonema albiflorum</i> Leonard                         | h   | f   | <i>A. Monro</i> 3161 (BM)        |
| <i>Odontonema callistachyum</i> (Schltldl. & Cham.) Kuntze   | h/s | f/r | <i>A. Monro</i> 1722 (BM)        |
| <i>Odontonema hondurensis</i> (Lindau) D.N.Gibson            | s   | f/r | <i>C. Whitefoord</i> 10343 (BM)  |
| <i>Odontonema tubaeforme</i> (Bertol.) Kuntze                | s   | f   | <i>L. Urban</i> 291 (E)          |
| <i>Ruellia geminiflora</i> Kunth                             | h   | f/r | <i>J. Milton</i> 23 (E)          |
| <i>Ruellia harveyana</i> Stapf                               | h   | f   | <i>A. Monro</i> 2654 (BM)        |
| <i>Ruellia matagalpae</i> Lindau                             | h/s | f   | <i>K. Armstrong</i> 504 (E)      |
| <i>Ruellia pereducta</i> Standl. ex Lundell                  | s   | f   | <i>C. Whitefoord</i> 10122 (BM)  |
| <b>Actinidiaceae</b>   |     |     |                                  |
| <i>Saurauia yasicae</i> Loes.                                | t   | f/r | <i>A. Monro</i> 2653 (BM)        |
| <b>Agavaceae</b>   |     |     |                                  |
| <i>Beaucarnea pliabilis</i> (Baker) Rose                     | t   | f   | <i>C. Whitefoord</i> 2811 (BM)   |
| <b>Alstroemeriaceae</b>                                      |     |     |                                  |
| <i>Bomarea edulis</i> (Tussac) Herb.                         | v   | f   | <i>C. Whitefoord</i> 2252 (BM)   |
| <b>Amaryllidaceae</b>  |     |     |                                  |
| <i>Hymenocallis littoralis</i> (Jacq.) Salisb.               | h   | r   | <i>C. Whitefoord</i> 10341 (BM)  |
| <i>Zephyranthes lindleyana</i> Herb.                         | h   | r   | <i>J. Dwyer</i> 10196 (BRH)      |
| <b>Anacardiaceae</b>   |     |     |                                  |
| <i>Astronium graveolens</i> Jacq.                            | t   | f   | <i>S. Bridgewater</i> pers. obs. |
| <i>Metopium browni</i> (Jacq.) Urb.                          | t   | f   | <i>A. Ibáñez García</i> 79 (BM)  |
| <i>Mosquitoxylum jamaicense</i> Krug & Urb.                  | t   | f   | <i>S. Cafferty</i> 38 (BM)       |
| <i>Spondias radlkoferi</i> Donn.Sm.                          | t   | f   | <i>A. Gentry</i> 7783 (MO)       |



**Annonaceae**

|  |   |   |                                |
|--|---|---|--------------------------------|
| <i>Annona primigenia</i> Standl. & Steyerf.  | t | f | <i>C. Whitefoord</i> 9554 (BM) |
| <i>Annona squamosa</i> L.  | t | f | <i>A. Monro</i> 3192 (BM)      |
| <i>Annona reticulata</i> L.  | t | f | <i>A. Monro</i> 2660 (BM)      |
| <i>Cymbopetalum mayanum</i> Lundell  | t | f | <i>A. Gentry</i> 7816 (MO)     |
| <i>Guatteria amplifolia</i> Triana & Planch. (= <i>G. diospyroides</i> Baill.) +                               | t | f | <i>S. Brewer</i> 1721 (WNC)    |
| <i>Guatteria diospyroides</i> Baill.   | t | f | <i>C. Whitefoord</i> 9332 (BM) |
| <i>Mosannonna depressa</i> (Baill.) Chatrou subsp. <i>depressa</i> (= <i>Malmea depressa</i> (Baill.) R.E.Fr.) | t | f | <i>J. Dwyer</i> 10768 (MO)     |
| <i>Sapranthus campechianus</i> (Kunth) Standl.   | t | f | <i>T. Croat</i> 23556 (MO)     |
| <i>Xylopia frutescens</i> Aubl.  | t | f | <i>L. Urban</i> 346 (E)        |

**Apiaceae**

|         |   |   |                            |
|---------|---|---|----------------------------|
| Unknown | h | r | <i>B. Holst</i> 8013 (SEL) |
|---------|---|---|----------------------------|

**Apocynaceae**

|   |     |   |                                 |
|---|-----|---|---------------------------------|
| <i>Allamanda cathartica</i> L.                          | s   | r | <i>J. Dwyer</i> 12283 (MO)      |
| <i>Asclepias curassavica</i> L.                         | h   | f | <i>C. Whitefoord</i> 9477 (BM)  |
| <i>Aspidosperma desmanthum</i> Benth. ex Müll.Arg.      | t   | f | <i>C. Lundell</i> 6326 (MO)     |
| <i>Aspidosperma megalocarpon</i> Müll.Arg.              | t   | f | <i>C. Lundell</i> 6220 (MO)     |
| <i>Blepharodon mucronatum</i> (Schltdl.) Decne.         | v   | f | <i>A. Gentry</i> 7773 (MO)      |
| <i>Fischeria scandens</i> DC.                           | v   | f | <i>A. Gentry</i> 7748 (MO)      |
| <i>Forsteronia myriantha</i> Donn.Sm.                   | v   | f | <i>C. Whitefoord</i> 9170 (BM)  |
| <i>Forsteronia peninsularis</i> Woodson                 | v   | f | <i>J.D. Dwyer</i> 10789 (BRH)   |
| <i>Gonolobus leianthus</i> Donn.Sm.                     | v   | f | <i>C. Whitefoord</i> 10403 (BM) |
| <i>Lacmellea standleyi</i> (Woodson) Monach.            | t   | r | <i>C. Whitefoord</i> 9416 (BM)  |
| <i>Mandevilla subsagittata</i> (Ruiz & Pav.) Woodson    | v   | f | <i>C. Whitefoord</i> 9509 (BM)  |
| <i>Marsdenia mayana</i> Lundell                         | v   | f | <i>C. Lundell</i> 6192 (MO)     |
| <i>Mateleia gentlei</i> (Lundell & Standl.) Woodson     | v   | f | <i>K. Armstrong</i> 503 (E)     |
| <i>Mateleia lanceolata</i> (Decne.) Woodson             | v   | f | <i>A. Ibáñez García</i> 56 (BM) |
| <i>Mateleia magnifolia</i> (Pittier) Woodson            | v   | f | <i>M. Binder</i> 6 (E)          |
| <i>Metastelma</i> sp.                                   | v   | f | <i>P. Gentle</i> 2157 (NY)      |
| <i>Plumeria obtusa</i> L. (C.Wright ex Griseb.) Woodson | t/s | f | <i>M. Penn</i> pers. obs.       |
| <i>Prestonia mexicana</i> A.DC.                         | v   | f | <i>A. Gentry</i> 7660 (MO)      |
| <i>Stemmadenia donnell-smithii</i> (Rose) Woodson       | t   | f | <i>C. Gantz</i> 4 (E)           |
| <i>Tabernaemontana alba</i> Mill.                       | t   | f | <i>A. Ibáñez García</i> 66 (BM) |
| <i>Tabernaemontana amygdalifolia</i> Jacq.              | t   | f | <i>S. Gulliver</i> 12 (E)       |
| <i>Thevetia ahouai</i> (L.) A.DC.                       | s   | f | <i>L. Seed</i> 8 (E)            |

**Aquifoliaceae**

|                                       |   |   |                           |
|---------------------------------------|---|---|---------------------------|
| <i>Ilex belizensis</i> Lundell        | t | f | <i>A. Monro</i> 1886 (BM) |
| <i>Ilex guianensis</i> (Aubl.) Kuntze | t | f | <i>A. Monro</i> 1735 (BM) |

**Araceae**

|  |     |   |                             |
|--|-----|---|-----------------------------|
| <i>Anthurium huixtlense</i> Matuda   | h/e | f | <i>T. Croat</i> 23784 (MO)  |
| <i>Anthurium lucens</i> Standl.  | h/e | f | <i>A. Monro</i> 2612 (BM)   |
| <i>Anthurium microspadix</i> Schott +  | h/e | f | <i>S. Brewer</i> 1791 (WNC) |
| <i>Anthurium pentaphyllum</i> G.Don var. <i>bombacifolium</i> (Schott) Madison | h/e | f | <i>J. Dwyer</i> 11560 (MO)  |
| <i>Anthurium scandens</i> (Aubl.) Engl.  | h/e | f | <i>C. Lundell</i> 6214 (MO) |
| <i>Anthurium schlechtendalii</i> Kunth   | h/e | f | <i>T. Croat</i> 23811 (MO)  |

|  |      |     |                                  |
|--|------|-----|----------------------------------|
| <i>Anthurium verapazense</i> Engl.                                     | h/e  | f   | <i>A. Gentry</i> 7833 (MO)       |
| <i>Monstera acuminata</i> K.Koch                                       | h/e  | f   | <i>C. Whitefoord</i> 9260 (MO)   |
| <i>Monstera tuberculata</i> Lundell                                    | h/e  | f   | <i>C. Lundell</i> 6337 (MO)      |
| <b><i>Philodendron advena</i> Schott</b>                               | h/e  | f   | <i>M. Peña</i> 962 (BM)          |
| <i>Philodendron dwyeri</i> Croat                                       | h/e  | r   | <i>C. Whitefoord</i> 2837a (BM)  |
| <i>Philodendron hederaceum</i> (Jacq.) Schott                          | h/v  | f   | <i>C. Whitefoord</i> 2837 (BM)   |
| <i>Philodendron radiatum</i> Schott                                    | h/v  | f   | <i>M. Peña</i> 957 (BM)          |
| <i>Philodendron sagittifolium</i> Liebm.                               | h/v  | f   | <i>T. Croat</i> 23497 (MO)       |
| <i>Philodendron tripartitum</i> (Jacq.) Schott                         | h/v  | f   | <i>T. Croat</i> 23670 (MO)       |
| <i>Rhodospathe wendlandii</i> Schott +                                 | h    | f   | <i>S. Brewer</i> 1762 (WNC)      |
| <i>Spathiphyllum blandum</i> Schott                                    | h    | r   | <i>C. Whitefoord</i> 9440 (BM)   |
| <i>Spathiphyllum phrynifolium</i> Schott                               | h    | f   | <i>D. Sutton</i> 289 (BM)        |
| <i>Syngonium angustatum</i> Schott                                     | h/v  | f   | <i>S. Ingram</i> 1941 (SEL)      |
| <i>Syngonium macrophyllum</i> Engl.                                    | h/e  | f   | <i>M. Peña</i> 1071 (BM)         |
| <i>Syngonium podophyllum</i> Schott                                    | h/e  | f   | <i>S. Ingram</i> 1937 (SEL)      |
| <b><i>Xanthosoma robustum</i> Schott</b>                               | h    | r   | <i>C. Whitefoord</i> 9351 (BM)   |
| <b>Araliaceae</b>  |      |     |                                  |
| <i>Dendropanax arboreus</i> (L.) Decne. & Planch.                      | t    | f   | <i>T. Lai</i> 17 (E)             |
| <i>Oreopanax obtusifolius</i> L.O.Williams                             | he/t | f   | <i>S. Bridgewater</i> 2775 (E)   |
| <b>Areaceae</b>  |      |     |                                  |
| <i>Acrocomia aculeata</i> (Jacq.) Lodd. ex Mart.                       | pa   | f   | <i>S. Bridgewater</i> pers. obs. |
| <i>Astrocaryum mexicanum</i> Liebm. ex Mart.                           | pa   | f   | <i>A. Gentry</i> 7853 (MO)       |
| <i>Attalea cohune</i> Mart.  | pa   | f   | <i>S. Bridgewater</i> pers. obs. |
| <i>Bactris mexicana</i> Mart.  | pa   | f   | <i>D. Sutton</i> 50 (BM)         |
| <i>Bactris major</i> Jacq.   | pa   | f/r | <i>J. Meerman</i> pers. obs.     |
| <i>Calyptrogyne ghiesbreghtiana</i> (Linden & H.Wendl.) H.Wendl.       | pa   | f   | <i>A. Monro</i> 2661 (BM)        |
| <i>Chamaedorea elegans</i> Mart.                                       | pa   | f   | <i>S. Bridgewater</i> pers. obs. |
| <i>Chamaedorea ernesti-augustii</i> H.Wendl.                           | pa   | f   | <i>A. Monro</i> 3163 (BM)        |
| <i>Chamaedorea neurochlamys</i> Burret                                 | pa   | f   | <i>C. Whitefoord</i> 2096 (BM)   |
| <i>Chamaedorea oblongata</i> Mart.                                     | pa   | f   | <i>A. Monro</i> 602 (BM)         |
| <i>Chamaedorea schippii</i> Burret (= <i>C. graminifolia</i> H.Wendl.) | pa   | f   | <i>M. Baden</i> 2005 (E)         |
| <i>Chamaedorea tepejilote</i> Liebm. ex Mart.                          | pa   | f   | <i>A. Monro</i> 2659 (BM)        |
| <i>Colpothrinax cookii</i> Read  | pa   | f   | <i>M. Peña</i> 996 (BM)          |
| <i>Cryosophila stauracantha</i> (Heynh.) R.Evans                       | pa   | f   | <i>C. Whitefoord</i> 2083 (BM)   |
| <i>Desmoncus orthacanthos</i> Mart.                                    | pa   | f   | <i>L. Urban</i> 394 (E)          |
| <i>Euterpe precatorea</i> Mart.  | pa   | f   | <i>S. Cafferty</i> 19 (BM)       |
| <i>Gaussia maya</i> (O.F.Cook) Quero & R.W.Read                        | pa   | f   | <i>S. Bridgewater</i> pers. obs. |
| <i>Geonoma interrupta</i> (Ruiz & Pav.) Mart.                          | pa   | f   | <i>A. Monro</i> 2672 (BM)        |
| <i>Sabal mauritiiiformis</i> (H.Karst.) Griseb. & H.Wendl. ex Griseb.  | pa   | f   | <i>S. Bridgewater</i> pers. obs. |
| <i>Synechanthus fibrosus</i> (H.Wendl.) H.Wendl.                       | pa   | f   | <i>M. Peña</i> 990 (BM)          |
| <b>Aristolochiaceae</b>  |      |     |                                  |
| <b><i>Aristolochia leuconeura</i> Linden</b>                           | v    | f   | <i>R. Rees</i> 40 (MO)           |
| <i>Aristolochia maxima</i> Jacq.                                       | v    | f   | <i>J. Meerman</i> pers. obs.     |
| <i>Aristolochia ovalifolia</i> Duch.                                   | v    | f   | <i>A. Monro</i> 1862 (BM)        |
| <i>Aristolochia pilosa</i> Kunth                                       |      |     | <i>J. Meerman</i> pers. obs.     |
| <i>Aristolochia schippii</i> Standl.                                   | v    | f   | <i>A. Monro</i> 1393 (BM)        |

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| <i>Aristolochia trilobata</i> L.   | v   | f   | <i>C. Whitefoord</i> 9410 (BM)  |
| <b><i>Aristolochia veracruzana</i> J.F.Ortega</b>                              | v   | f   | <i>J. Meerman</i> pers. obs.    |
| <b>Asteraceae</b>  |     |     |                                 |
| <i>Acmeila filipes</i> (Greenm.) R.K.Jansen var.<br><i>cayensis</i> R.K.Jansen | h   | f   | <i>J. Dwyer</i> 10165 (MO)      |
| <i>Acmeila pilosa</i> R.K.Jansen   | h   | f   | <i>C. Whitefoord</i> 9526 (BM)  |
| <i>Ageratum houstonianum</i> Mill.   | h   | f   | <i>C. Whitefoord</i> 10045 (BM) |
| <i>Ageratum peckii</i> B.L.Rob.  | h   | f   | <i>J. Dwyer</i> 12318 (MO)      |
| <i>Baccharis trinervis</i> Pers.   | h/s | f   | <i>C. Whitefoord</i> 9040 (BM)  |
| <i>Bidens pilosa</i> L.  | h   | f   | <i>T. Croat</i> 23795 (MO)      |
| <i>Bidens squarrosa</i> Kunth  | ss  | f   | <i>C. Whitefoord</i> 10081 (BM) |
| <i>Calea jamaicensis</i> (L.) L.   | s   | f   | <i>C. Whitefoord</i> 10150 (BM) |
| <i>Calea ternifolia</i> Kunth  | s   | f/r | <i>T. Hawkins</i> 1319 (MO)     |
| <i>Calea urticifolia</i> (Mill.) DC.   | ss  | f   | <i>C. Whitefoord</i> 10023 (BM) |
| <i>Chromolaena glaberrima</i> (DC.) R.M.King &<br>H.Rob.                       | s   | f   | <i>L. Urban</i> 409 (E)         |
| <i>Chromolaena odorata</i> (L.) R.M.King & H.Rob.                              | s   | f   | <i>C. Whitefoord</i> 10009 (BM) |
| <i>Cirsium mexicanum</i> DC.   | h   | f   | <i>C. Whitefoord</i> 2800 (BM)  |
| <i>Clibadium arboreum</i> Donn.Sm.   | s   | f   | <i>D. Sutton</i> 36 (BM)        |
| <i>Conyza apurensis</i> Kunth  | h   | f   | <i>C. Whitefoord</i> 9311 (BM)  |
| <i>Cosmos caudatus</i> Kunth   | h   | f   | <i>A. Gentry</i> 7803 (MO)      |
| <i>Critonia bartlettii</i> (B.L.Rob.) R.M.King &<br>H.Rob.                     | v   | f   | <i>C. Whitefoord</i> 10221 (BM) |
| <i>Critonia billbergiana</i> (Beurl.) R.M.King &<br>H.Rob.                     | ss  | f   | <i>A. Gentry</i> 7669 (MO)      |
| <i>Critonia morifolia</i> (Mill.) R.M.King & H.Rob.                            | s   | f   | <i>C. Whitefoord</i> 10042 (BM) |
| <i>Critonia sexangularis</i> (Klatt) R.M.King &<br>H.Rob.                      | h   | f   | <i>A. Monro</i> 1717 (BM)       |
| <i>Egletes liebmannii</i> (Sch.Bip.) Klatt                                     | h   | f   | <i>C. Whitefoord</i> 9467 (BM)  |
| <i>Elephantopus mollis</i> Kunth   | h   | f   | <i>J. Dwyer</i> 10809 (MO)      |
| <i>Gnaphalium attenuatum</i> DC.   | h   | f   | <i>S. Cafferty</i> 142A (BM)    |
| <i>Hebeclinium macrophyllum</i> (L.) DC.                                       | h   | f   | <i>G. Proctor</i> 30166 (BRH)   |
| <i>Koanophyllon galeottii</i> (B.L.Rob.)<br>R.M.King & H.Rob.                  | s   | f   | <i>C. Whitefoord</i> 10024 (BM) |
| <i>Koanophyllon solidaginoides</i> (Kunth)<br>R.M.King & H.Rob.                | h   | f   | <i>J. Dwyer</i> 12299 (MO)      |
| <i>Lasiantha fruticosa</i> (L.) K.M.Becker                                     | h/s | f   | <i>L. Urban</i> 257 (E)         |
| <i>Lepidaploa tortuosa</i> (L.) H.Rob.   | ss  | f   | <i>M. Peña</i> 951 (BM)         |
| <i>Melampodium costaricense</i> Stuessy  | h   | f   | <i>C. Whitefoord</i> 2017 (BM)  |
| <i>Melampodium divaricatum</i> (Rich.) DC.                                     | h   | r   | <i>D. Spellman</i> 1386 (MO)    |
| <i>Melanthera nivea</i> (L.) Small   | h   | f   | <i>T. Hawkins</i> 1076 (MO)     |
| <i>Mikania houstoniana</i> (L.) B.L.Rob.                                       | ss  | f   | <i>S. Cafferty</i> 71 (BM)      |
| <i>Montanoa atriplicifolia</i> (Pers.) Sch.Bip.                                | v   | f   | <i>A. Ibáñez García</i> 3 (BM)  |
| <i>Neomirandea araliifolia</i> (Less.) R.M.King<br>& H.Rob.                    | s   | r   | <i>T. Hawkins</i> 1201 (MO)     |
| <i>Neurolaena lobata</i> (L.) R.Br. ex Cass.                                   | h/s | f   | <i>A. Gentry</i> 7754 (MO)      |
| <i>Neurolaena schippii</i> B.L.Rob.  | h   | r   | <i>T. Hawkins</i> 1275 (MO)     |
| <i>Onoseris onoseroides</i> (Kunth) B.L.Rob.                                   | h   | f   | <i>C. Whitefoord</i> 2815 (BM)  |
| <i>Otopappus curviflorus</i> (R.Br.) Hemsl.                                    | s   | f   | <i>C. Whitefoord</i> 10073 (BM) |
| <i>Otopappus verbesinoides</i> Benth.  | v   | f   | <i>C. Whitefoord</i> 10014 (BM) |

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| <i>Perymenium gymnolomoides</i> (Less.) DC.                                  | h   | f | <i>C. Whitefoord</i> 10015 (BM) |
| <i>Pluchea carolinensis</i> (Jacq.) G.Don                                    | h   | f | <i>C. Whitefoord</i> 10087(BM)  |
| <i>Podachaenium eminens</i> (Lag.) Sch.Bip.                                  | s   | f | <i>C. Whitefoord</i> 10143 (BM) |
| <i>Polymnia maculata</i> Cav. (= <i>Smallanthus maculatus</i> (Cav.) H.Rob.) | s   | f | <i>C. Whitefoord</i> 9306 (BM)  |
| <i>Pseudelephantopus spicatus</i> (B.Juss. ex Aubl.) C.F.Baker               | h/s | f | <i>C. Whitefoord</i> 10057 (BM) |
| <i>Salmea scandens</i> (L.) DC.  | v   | f | <i>C. Whitefoord</i> 10248 (BM) |
| <i>Schistocarpa eupatorioides</i> (Frenzel) Kuntze                           | h   | f | <i>A. Gentry</i> 7747 (MO)      |
| <i>Sinclairia deamii</i> (B.L.Rob. & Bartlett) Rydb.                         | v   | f | <i>C. Whitefoord</i> 9058 (BM)  |
| <i>Sinclairia discolor</i> Hook. & Arn. +                                    | s   | f | <i>S. Brewer</i> 1706 (WNC)     |
| <i>Sinclairia polyantha</i> (Klatt) Rydb.                                    | s   | f | <i>C. Whitefoord</i> 10078 (BM) |
| <i>Smallanthus uvedalius</i> (L.) Mack. ex Small                             | s   | r | <i>L. Urban</i> 86 (E)          |
| <i>Sphagneticola trilobata</i> (L.) Pruski                                   | h   | f | <i>L. Urban</i> 49 (E)          |
| <i>Symphotrichum bullatum</i> (Klatt) G.L.Nesom                              | h   | f | <i>C. Whitefoord</i> 2070 (BM)  |
| <i>Symphotrichum expansum</i> (Poepp. ex Spreng.) G.L.Nesom                  | h   | f | <i>L. Urban</i> 358 (E)         |
| <i>Synedrella nodiflora</i> (L.) Gaertn.                                     | h   | f | <i>T. Hawkins</i> 1129 (MO)     |
| <i>Telanthophora cobanensis</i> (J.M.Coult.) H.Rob. & Brettell               | s   | f | <i>A. Monro</i> 410 (BM)        |
| <i>Verbesina oerstediana</i> Benth.  | s/t | f | <i>T. Hawkins</i> 1033 (MO)     |
| <i>Vernonanthura patens</i> (Kunth) H.Rob.                                   | s   | f | <i>C. Whitefoord</i> 9293 (BM)  |
| <i>Zexmenia serrata</i> La Llave   | ss  | f | <i>C. Whitefoord</i> 10089 (BM) |
| <b>Balanophoraceae</b>   |     |   |                                 |
| <i>Helosis cayennensis</i> (Sw.) Spreng.                                     | h/p | f | <i>A. Monro</i> 786 (BM)        |
| <b>Begoniaceae</b>   |     |   |                                 |
| <b><i>Begonia fischeri</i> Schrank</b>                                       | h   | f | <i>S. Perez Espona</i> 12 (E)   |
| <i>Begonia glabra</i> Aubl.  | h/e | f | <i>S. Perez Espona</i> 17 (E)   |
| <i>Begonia sericoneura</i> Liebm.  | h   | f | <i>A. Forrest</i> 49 (E)        |
| <b>Bignoniaceae</b>  |     |   |                                 |
| <i>Amphilophium paniculatum</i> (L.) Kunth                                   | v   | f | <i>L. Urban</i> 239 (E)         |
| <i>Amphitecna breedlovei</i> A.H.Gentry                                      | s/t | f | <i>P. Gentle</i> 2506 (MO)      |
| <i>Arrabidaea chica</i> (Humb. & Bonpl.) B.Verl.                             | v   | f | <i>C. Whitefoord</i> 9322 (BM)  |
| <i>Arrabidaea corallina</i> (Jacq.) Sandwith                                 | v   | f | <i>A. Gentry</i> 7766 (MO)      |
| <i>Arrabidaea patellifera</i> (Schltdl.) Sandwith                            | v   | f | <i>A. Gentry</i> 7712 (MO)      |
| <i>Arrabidaea podopogon</i> (DC.) A.H.Gentry                                 | v   | f | <i>A. Gentry</i> 7752 (MO)      |
| <i>Cydista heterophylla</i> Seibert  | v   | f | <i>M. Balick</i> 3152 (NY)      |
| <i>Godmania aesculifolia</i> (Kunth) Standl.                                 | t   | f | <i>A. Gentry</i> 7611 (NY)      |
| <i>Martinella obovata</i> (Kunth) Bureau & K.Schum.                          | v   | f | <i>C. Whitefoord</i> 9452 (BM)  |
| <i>Mussatia hyacinthina</i> (Standl.) Sandwith                               | v   | f | <i>A. Gentry</i> 7807 (MO)      |
| <i>Paragonia pyramidata</i> (Rich.) Bureau                                   | v   | f | <i>L. Urban</i> 396 (E)         |
| <i>Parmentiera aculeata</i> (Kunth) Seem.                                    | t   | f | <i>P. Gentle</i> 2433 (MICH)    |
| <i>Pithecoctenium crucigerum</i> (L.) A.H.Gentry                             | v   | f | <i>A. Gentry</i> 7666 (MO)      |
| <i>Pseudocatalpa caudiculata</i> (Standl.) A.H.Gentry                        | v   | f | <i>C. Whitefoord</i> 9231 (BM)  |
| <i>Stizophyllum riparium</i> (Kunth) Sandwith                                | v   | f | <i>A. Gentry</i> 7763 (MO)      |
| <i>Tabebuia chrysantha</i> (Jacq.) G.Nicholson                               | t   | f | <i>A. Gentry</i> 7716 (MO)      |
| <i>Tabebuia guayacan</i> (Seem.) Hemsl.                                      | t   | f | <i>P. Gentle</i> 2532 (MICH)    |
| <i>Tabebuia rosea</i> (Bertol.) A.DC.  | t   | f | <i>A. Monro</i> 961 (BM)        |
| <i>Tynanthus guatemalensis</i> Donn.Sm.                                      | v   | f | <i>C. Whitefoord</i> 9499 (BM)  |

*Xylophragma seemannianum* (Kuntze) Sandwith v f *C. Whitefoord* 2773 (BM)

### Bixaceae

*Cochlospermum vitifolium* (Willd.) Spreng. t f *L. Urban* 235 (E)

### Bombacaceae (see *Malvaceae*)

### Boraginaceae

*Cordia alliodora* (Ruiz & Pav.) Oken t f *C. Whitefoord* 2866 (BM)

*Cordia bicolor* A.DC. t f *A. Monro* 2729 (BM)

*Cordia diversifolia* Pav. ex A.DC. t f *D. Sutton* 65 (BM)

*Cordia spinescens* L. ss f *M. Peña* 1021 (BM)

*Cordia stellifera* I.M.Johnst. t f *C. Whitefoord* 9095 (BM)

*Ehretia* sp. t f *A. Monro* 3252 (BM)

*Rochefortia lundellii* Camp v f *C. Lundell* 6167 (MO)

*Tournefortia glabra* L. ss f *C. Whitefoord* 9312 (BM)

*Tournefortia hirsutissima* L. ss f *H. Irvins* 181 (E)

*Tournefortia umbellata* Kunth ss f *T. Croat* 23406 (MO)

*Tournefortia volubilis* L. v f *J. Dwyer* 11587 (MO)

### Bromeliaceae

*Aechmea bracteata* (Sw.) Griseb. h/e f *B. Holst* 7563 (BRH)

*Aechmea lueddemanniana* (K.Koch) h/e f *C. Whitefoord* 9393 (BM)

#### Brongn. ex Mez

*Aechmea magdalenae* (André) André ex Baker h/e f *B. Holst* 7963 (SEL)

*Androlepis skinneri* Brongn. ex Houlllet h/e f *T. Croat* 23658 (MO)

*Bromelia plumieri* (E.Morren) L.B.Sm. h f *B. Holst* 8003 (SEL-live)

*Bromelia pinguin* L. h/e f *J. Meerman* pers. obs.

*Catopsis berteroniana* (Schult.f.) Mez h/e f *B. Holst* 7939 (SEL-live)

*Catopsis floribunda* L.B.Sm. h/e f *B. Holst* 7938 (SEL)

*Catopsis juncifolia* Mez & Wercklé ex Mez h/e f *B. Holst* 7701 (BRH)

*Catopsis morreniana* Mez h/e f *A. Monro* 1854 (BM)

*Catopsis sessiliflora* (Ruiz & Pav.) Mez h/e f *A. Gentry* 7822 (MO)

*Guzmania lingulata* (L.) Mez h/e f *T. Croat* 23768 (MO)

*Guzmania nicaraguensis* Mez & Baker ex Mez + h/e f *B. Holst* 5223 (SEL)

*Pitcairnia imbricata* (Brongn.) Regel h f *B. Holst* 7933 (SEL)

*Pitcairnia wendlandii* Baker h f *A. Monro* 1719 (BM)

*Tillandsia balbisiana* Schult. & Schult.f. h/e f *B. Holst* 7997 (SEL-live)

*Tillandsia brachycaulos* Schltdl. h/e f *B. Holst* 7559 (SEL)

*Tillandsia bulbosa* Hook. h/e f *A. Monro* 3247 (BM)

*Tillandsia excelsa* Griseb. + h/e f *B. Holst* 5226 (SEL)

*Tillandsia fasciculata* Sw. h/e f *B. Holst* 7997 (SEL)

*Tillandsia festucoides* Brongn. ex Mez h/e f *A. Gentry* 7788 (MO)

*Tillandsia filifolia* Schltdl. & Cham. h/e f *C. Lundell* 6226 (NY)

*Tillandsia juncea* (Ruiz & Pav.) Poir. h/e f *B. Holst* 7516 (SEL)

*Tillandsia monadelphæa* (E.Morren) Baker h/e f *T. Hawkins* 1209 (MO)

*Tillandsia multicaulis* Steud. + h/e f *B. Holst* 5217 (SEL)

*Tillandsia pruinosa* Sw. h/e f *B. Holst* 7993 (SEL)

*Tillandsia schiedeana* Steud. h/e f *C. Whitefoord* 2772 (BM)

*Tillandsia streptophylla* Scheidw. ex E.Morren h/e f *J. Dwyer* 10875a (MO)

*Tillandsia usneoides* (L.) L. h/e f *S. Ingram* 1929 (MO)

*Tillandsia utriculata* L. h/e f *B. Holst* 7856 (SEL-live)

*Tillandsia variabilis* Schltdl. h/e f *B. Holst* 7775 (SEL)

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|---|-----|---|---------------------------------|
| <i>Vriesea heliconioides</i> (Kunth) Hook. ex Walp.         | h/e | f | <i>C. Cafferty</i> 121 (BM)     |
| <i>Vriesea werckleana</i> Mez +                             | h/e | f | <i>B. Holst</i> 5310 (SEL)      |
| <b>Brunelliaceae</b>  |     |   |                                 |
| <i>Brunellia mexicana</i> Standl.                           | t   | f | <i>S. Cafferty</i> 41 (BM)      |
| <b>Buddlejaceae</b> (see <i>Scrophulariaceae</i> )          |     |   |                                 |
| <b>Burmanniaceae</b>  |     |   |                                 |
| <i>Dictyostega orobanchoides</i> (Hook.) Miers +            | h   | f | <i>B. Allen</i> 15168 (MO)      |
| <b>Burseraceae</b>  |     |   |                                 |
| <i>Bursera simaruba</i> (L.) Sarg.                          | t   | f | <i>A. Monro</i> 3288 (BM)       |
| <i>Protium copal</i> (Schltdl. & Cham.) Engl.               | t   | f | <i>C. Whitefoord</i> 10159 (BM) |
| <i>Protium glabrum</i> (Rose) Engl.                         | t   | f | <i>T. Hawkins</i> 1284 (MO)     |
| <i>Protium multiramiflorum</i> Lundell                      | t   | f | <i>T. Croat</i> 23597 (MO)      |
| <i>Protium schippii</i> Lundell                             | t   | f | <i>C. Whitefoord</i> 10345 (BM) |
| <b>Buxaceae</b>   |     |   |                                 |
| <i>Buxus bartlettii</i> Standl.                             | s   | r | <i>L. Urban</i> 45 (E)          |
| <b>Cactaceae</b>  |     |   |                                 |
| <i>Epiphyllum phyllanthus</i> (L.) Haw.                     | e   | f | <i>S. Cafferty</i> 20 (BM)      |
| <i>Pseudorhipsalis ramulosa</i> (Salm-Dyck) Barthlott       | e   | f | <i>C. Whitefoord</i> 2341 (BM)  |
| <i>Rhipsalis baccifera</i> (J.S.Muell.) Stearn              | e   | f | <i>S. Ingram</i> 1924 (MO)      |
| <i>Selenicereus testudo</i> (Karw. ex Zucc.) Buxb.          | e   | f | <i>T. Croat</i> 2359 (MO)       |
| <b>Campanulaceae</b>  |     |   |                                 |
| <i>Lobelia cardinalis</i> L.                                | h   | f | <i>C. Whitefoord</i> 10404 (BM) |
| <i>Lobelia xalapensis</i> Kunth                             | h   | f | <i>C. Whitefoord</i> 9059 (BM)  |
| <b>Cannabaceae</b>  |     |   |                                 |
| <i>Celtis iguanaea</i> (Jacq.) Sarg.                        | t   | f | <i>C. Whitefoord</i> 10332 (BM) |
| <i>Trema micrantha</i> (L.) Blume                           | s   | f | <i>A. Monro</i> 1197 (BM)       |
| <b>Cannaceae</b>  |     |   |                                 |
| <i>Canna indica</i> L.                                      | h   | f | <i>C. Whitefoord</i> 9389 (BM)  |
| <i>Canna tuerckheimii</i> Kraenzl.                          | h   | f | <i>C. Whitefoord</i> 10404 (BM) |
| <b>Capparaceae</b>  |     |   |                                 |
| <i>Capparis frondosa</i> Jacq.                              | s   | f | <i>J. Meerman</i> pers. obs.    |
| <i>Forchhammeria trifoliata</i> Radlk.                      | s   | f | <i>J. Dwyer</i> 12302 (MO)      |
| <b>Caprifoliaceae</b>                                       |     |   |                                 |
| <i>Viburnum</i> sp.   | s   | f | <i>A. Monro</i> 3252 (BM)       |
| <b>Caryophyllaceae</b>                                      |     |   |                                 |
| Unknown genus   | h   | r | <i>B. Holst</i> 8026 (BRH)      |
| <b>Cecropiaceae</b> (see <i>Urticaceae</i> )                |     |   |                                 |
| <b>Celastraceae</b>   |     |   |                                 |
| <i>Cheiloclinium belizense</i> (Standl.) A.C.Sm.            | t   | f | <i>C. Whitefoord</i> 9324 (BM)  |
| <i>Crossopetalum eucymosum</i> (Loes. & Pittier)<br>Lundell | t   | f | <i>C. Whitefoord</i> 10297 (BM) |
| <i>Crossopetalum gaumeri</i> (Loes.) Lundell                | s   | f | <i>A. Monro</i> 1465 (BM)       |
| <i>Hippocratea volubilis</i> L.                             | v   | f | <i>C. Whitefoord</i> 9148 (BM)  |
| <i>Salacia</i> sp.  | v   | f | <i>C. Whitefoord</i> 10274 (BM) |
| <i>Semialarium mexicanum</i> (Miers) Mennega                | t   | f | <i>A. Ibáñez García</i> 86 (BM) |

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| <i>Wimmeria bartlettii</i> Lundell                        | s/t  | f  | <i>C. Whitefoord</i> 10354 (BM) |
| <i>Zinowiewia pallida</i> Lundell +                       | t    | f  | <i>S. Brewer</i> 1677 (WNC)     |
| <b>Ceratophyllaceae</b>                                   |      |    |                                 |
| <i>Ceratophyllum</i> sp.                                  | h    | a  | <i>A. Russell</i> 24 (E)        |
| <b>Chenopodiaceae</b>                                     |      |    |                                 |
| <i>Alternanthera flavogrisea</i> (Urb.) Urb.              | h    | f  | <i>C. Whitefoord</i> 9486 (BM)  |
| <i>Amaranthus viridis</i> L.                              | h    | f  | <i>C. Whitefoord</i> 9476 (BM)  |
| <i>Chamissoa altissima</i> (Jacq.) Kunth                  | ss   | f  | <i>C. Whitefoord</i> 10052 (BM) |
| <i>Chenopodium ambrosioides</i> L.                        | h    | f  | <i>C. Whitefoord</i> 9480 (BM)  |
| <i>Hebanthe grandiflora</i> (Hook.) T.Borsch. & Pedersen  | s    | f  | <i>K. Armstrong</i> 511 (E)     |
| <i>Iresine diffusa</i> Humb. & Bonpl. ex Willd.           | h    | f  | <i>A. Monro</i> 1160 (BM)       |
| <i>Iresine nigra</i> Uline & W.L.Bray                     | s/t  | f  | <i>A. Monro</i> 1241 (BM)       |
| <b>Chloranthaceae</b>                                     |      |    |                                 |
| <i>Hedyosmum mexicanum</i> C.Cordem.                      | t    | f  | <i>M. Peña</i> 1049 (BM)        |
| <b>Chrysobalanaceae</b>                                   |      |    |                                 |
| <i>Hirtella americana</i> L.                              | t    | f  | <i>A. Monro</i> 1003 (BM)       |
| <i>Hirtella racemosa</i> Lam.                             | t    | f  | <i>A. Monro</i> 3218 (BM)       |
| <i>Licania hypoleuca</i> Benth.                           | t    | f  | <i>B. Holst</i> 7636 (SEL)      |
| <b>Clethraceae</b>  |      |    |                                 |
| <i>Clethra mexicana</i> DC.                               | t    | f  | <i>A. Monro</i> 2631 (BM)       |
| <i>Clethra occidentalis</i> (L.) Kuntze                   | t    | f  | <i>A. Monro</i> 2631 (BM)       |
| <b>Clusiaceae</b>   |      |    |                                 |
| <i>Calophyllum brasiliense</i> Cambess.                   | t    | f  | <i>A. Monro</i> 953 (BM)        |
| <i>Clusia flava</i> Jacq.                                 | s    | f  | <i>J. Meerman</i> pers. obs.    |
| <i>Clusia hundellii</i> Standl.                           | he/t | f  | <i>C. Lundell</i> 6366 (MO)     |
| <i>Clusia massoniana</i> Lundell                          | he/t | f  | <i>M. Peña</i> 942 (BM)         |
| <i>Clusia minor</i> L.                                    | he/t | f  | <i>T. Croat</i> 23648 (MO)      |
| <i>Clusia quadrangula</i> Bartlett                        | he/t | f  | <i>T. Hawkins</i> 1218 (MO)     |
| <b><i>Clusia stenophylla</i> Standl. +</b>                | s/e  | f  | <i>B. Holst</i> 7636 (MO)       |
| <i>Garcinia</i> sp.                                       | t    | f  | <i>M. Short</i> 241 (BM)        |
| <i>Hypericum terrae-firmae</i> Sprague & L.Riley          | s    | ps | <i>A. Monro</i> 1741 (BM)       |
| <i>Symphonia globulifera</i> L.f.                         | t    | f  | <i>A. Monro</i> 246 (BM)        |
| <i>Vismia camparaguey</i> Sprague & L.Riley               | s/t  | f  | <i>T. Croat</i> 23508 (BM)      |
| <b>Cochlospermaceae (see Bixaceae)</b>                    |      |    |                                 |
| <b>Combretaceae</b>                                       |      |    |                                 |
| <i>Bucida buceras</i> L.                                  | t    | f  | <i>L. Urban</i> 194 (E)         |
| <i>Combretum fruticosum</i> (Loefl.) Stuntz               | v    | f  | <i>A. Monro</i> 1727 (BM)       |
| <i>Combretum laxum</i> Jacq.                              | ss   | f  | <i>C. Whitefoord</i> 9160 (BM)  |
| <i>Terminalia amazonia</i> (J.F.Gmel.) Exell              | t    | f  | <i>C. Whitefoord</i> 10377 (BM) |
| <b>Commelinaceae</b>                                      |      |    |                                 |
| <i>Callisia multiflora</i> (M.Martens & Galeotti) Standl. | h    | f  | <i>C. Whitefoord</i> 10239 (BM) |
| <i>Commelina diffusa</i> Burm.f.                          | h    | f  | <i>C. Whitefoord</i> 9482 (BM)  |
| <i>Commelina erecta</i> L.                                | h    | f  | <i>T. Croat</i> 23801 (MO)      |
| <i>Tradescantia poelliae</i> D.R.Hunt                     | h    | f  | <i>C. Whitefoord</i> 10059 (BM) |
| <i>Tradescantia spathacea</i> Sw.                         | h    | f  | <i>D. Sutton</i> 51 (BM)        |

|   |   |   |                                 |
|---|---|---|---------------------------------|
| <i>Tradescantia zanoniana</i> (L.) Sw.                | h | f | <i>L. Urban</i> 303 (E)         |
| <i>Tripogandra grandiflora</i> (Donn.Sm.) Woodson     | h | f | <i>C. Whitefoord</i> 10027 (BM) |
| <i>Tripogandra serrulata</i> (Vahl) Handlos           | h | f | <i>C. Whitefoord</i> 9354 (BM)  |
| <b>Connaraceae</b>                                    |   |   |                                 |
| <i>Cnestidium rufescens</i> Planch.                   | v | f | <i>C. Whitefoord</i> 9013 (BM)  |
| <i>Rourea glabra</i> Kunth                            | v | f | <i>C. Whitefoord</i> 9323 (BM)  |
| <i>Rourea schippii</i> Standl. +                      | v | f | <i>B. Holst</i> 5295 (MO)       |
| <b>Convolvulaceae</b>                                 |   |   |                                 |
| <i>Convolvulus</i> aff. <i>nodiflorus</i> Desr.       | v | f | <i>C. Whitefoord</i> 9529 (BM)  |
| <i>Ipomoea alba</i> L.                                | v | f | <i>T. Hawkins</i> 1323 (MO)     |
| <b><i>Ipomoea aristolochifolia</i> (Kunth) G. Don</b> | v | f | <i>C. Whitefoord</i> 10029 (BM) |
| <i>Ipomoea indica</i> (Burm.f.) Merr.                 | v | f | <i>C. Whitefoord</i> 9145 (BM)  |
| <i>Ipomoea philomega</i> (Vell.) House                | v | r | <i>C. Whitefoord</i> 9067 (BM)  |
| <i>Ipomoea ramosissima</i> (Poir.) Choisy             | v | f | <i>A. Monro</i> 1123 (BM)       |
| <i>Ipomoea sepacuitensis</i> Donn.Sm.                 | v | f | <i>A. Gentry</i> 7787 (MO)      |
| <i>Ipomoea triloba</i> L.                             | v | f | <i>M. Short</i> 225 (BM)        |
| <i>Jacquemontia sphaerostigma</i> (Cav.) Rusby        | v | f | <i>A. Gentry</i> 7718 (MO)      |
| <i>Maripa nicaraguensis</i> Hemsl.                    | v | f | <i>C. Whitefoord</i> 9388 (BM)  |
| <i>Merremia cissoides</i> (Lam.) Hallier f.           | v | f | <i>L. Urban</i> 275 (E)         |
| <i>Merremia tuberosa</i> (L.) Rendle                  | v | f | <i>T. Hawkins</i> 1106 (BM)     |
| <i>Merremia umbellata</i> (L.) Hallier f.             | v | f | <i>C. Whitefoord</i> 2996 (BM)  |
| <b>Costaceae</b>                                      |   |   |                                 |
| <i>Costus pictus</i> D. Don                           | h | f | <i>A. Monro</i> 687 (BM)        |
| <i>Costus pulverulentus</i> C. Presl                  | h | f | <i>A. Forrest</i> 56 (E)        |
| <b>Cucurbitaceae</b>                                  |   |   |                                 |
| <i>Cayaponia racemosa</i> (Mill.) Cogn.               | v | f | <i>A. Monro</i> 1198 (BM)       |
| <i>Cionostycys excisus</i> (Griseb.) C. Jeffrey       | v | f | <i>C. Whitefoord</i> 10074 (BM) |
| <i>Echinopepon racemosus</i> (Steud.) C. Jeffrey      | v | f | <i>A. Monro</i> 1259 (BM)       |
| <i>Gurania makoyana</i> Cogn.                         | v | f | <i>C. Whitefoord</i> 9464 (BM)  |
| <i>Melothria pendula</i> L.                           | v | f | <i>C. Whitefoord</i> 9347 (BM)  |
| <i>Momordica charantia</i> L.                         | v | f | <i>L. Urban</i> 66 (E)          |
| <i>Psiguria triphylla</i> (Miq.) C. Jeffrey           | v | f | <i>C. Whitefoord</i> 9376 (BM)  |
| <i>Psiguria warscewiczii</i> (Hook.f.) Wunderlin      | v | f | <i>C. Whitefoord</i> 9345 (BM)  |
| <b>Cyclanthaceae</b>                                  |   |   |                                 |
| <i>Asplundia</i> sp.                                  | h | r | <i>L. Urban</i> 74 (E)          |
| <b>Cyperaceae</b>                                     |   |   |                                 |
| <i>Calyptrocarya glomerulata</i> (Brongn.) Urb.       | h | f | <i>A. Monro</i> 3153 (BM)       |
| <i>Carex polystachya</i> Sw. ex Wahlenb.              | h | f | <i>P. Gentle</i> 2321 (MO)      |
| <i>Cyperus haspan</i> L.                              | h | r | <i>T. Hawkins</i> 1187 (MO)     |
| <i>Cyperus hermaphroditus</i> (Jacq.) Standl.         | h | f | <i>D. Sutton</i> 86 (BM)        |
| <i>Cyperus humilis</i> Kunth                          | h | f | <i>C. Whitefoord</i> 10063 (BM) |
| <i>Cyperus luzulae</i> (L.) Retz.                     | h | f | <i>A. Monro</i> 3237 (BM)       |
| <i>Cyperus ochraceus</i> Vahl                         | h | r | <i>T. Hawkins</i> 1280 (MO)     |
| <i>Eleocharis elegans</i> (Kunth) Roem. & Schult.     | h | r | <i>J. Dwyer</i> 12328 (MO)      |
| <i>Eleocharis geniculata</i> (L.) Roem. & Schult.     | h | r | <i>T. Hawkins</i> 1299 (MO)     |
| <i>Eleocharis interstincta</i> (Vahl) Roem. & Schult. | h | r | <i>L. Urban</i> 98 (E)          |
| <i>Fimbristylis complanata</i> (Retz.) Link           | h | f | <i>C. Whitefoord</i> 2796 (BM)  |
| <i>Fuirena camptotricha</i> C. Wright                 | h | f | <i>T. Hawkins</i> 1282 (MO)     |



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| <i>Rhynchospora barbata</i> (Vahl) Kunth  | h   | f    | <i>J. Dwyer</i> 10912A (MO)     |
| <i>Rhynchospora cephalotes</i> (L.) Vahl  | h   | f    | <i>T. Croat</i> 23516 (MO)      |
| <i>Rhynchospora exaltata</i> Kunth  | h   | f    | <i>A. Monro</i> 3234 (BM)       |
| <i>Rhynchospora holoschoenoides</i> (Rich.) Herter  | h   | f    | <i>T. Croat</i> 23341 (MO)      |
| <i>Rhynchospora nervosa</i> (Vahl) Boeck. subsp. <i>ciliate</i>                           | h   | r    | <i>T. Croat</i> 23532 (MO)      |
| <i>Rhynchospora polyphylla</i> Vahl   | h   | f    | <i>S. Cafferty</i> 54 (BM)      |
| <i>Rhynchospora radicans</i> (Schltdl. & Cham.) H.Pfeiff.                                 | h   | f    | <i>C. Whitefoord</i> 2079 (BM)  |
| <i>Scleria latifolia</i> Sw.  | h   | f    | <i>M. Short</i> 205 (BM)        |
| <i>Scleria melaleuca</i> Rchb. ex Schltdl. & Cham.  | h   | f    | <i>T. Croat</i> 23672 (MO)      |
| <i>Scleria secans</i> (L.) Urb. +   | h   | f    | <i>B. Holst</i> 5220 (SEL)      |
| <i>Torulium macrocephalum</i> (Liebm.) C.B.Clarke   | h   | f    | <i>C. Whitefoord</i> 2120 (BM)  |
| <i>Torulium odoratum</i> (L.) S.S.Hooper  | h   | f    | <i>T. Croat</i> 23370 (MO)      |
| <b>Cyrillaceae</b>  |     |      |                                 |
| <i>Cyrilla racemiflora</i> L.   | s/t | f    | <i>A. Monro</i> 3235 (BM)       |
| <i>Purdiaea belizensis</i> (A.C.Sm. & Standl.)<br>J.L.Thomas                              | t   | f    | <i>A. Monro</i> 2615 (BM)       |
| <b>Dichapetalaceae</b>  |     |      |                                 |
| <i>Dichapetalum donnell-smithii</i> Engl.   | v   | f    | <i>A. Ibáñez García</i> 48 (BM) |
| <b>Dilleniaceae</b>   |     |      |                                 |
| <i>Davilla kunthii</i> A.St.-Hil.   | v   | f    | <i>C. Whitefoord</i> 9427 (BM)  |
| <i>Doliocarpus dentatus</i> (Aubl.) Standl.   | v   | f    | <i>C. Whitefoord</i> 10191 (BM) |
| <i>Tetracera volubilis</i> L. subsp. <i>mollis</i> (Standl.)<br>Kubitski                  | v   | f    | <i>J. Dwyer</i> 10182 (MO)      |
| <b>Dioscoreaceae</b>  |     |      |                                 |
| <i>Dioscorea alata</i> L.   | v   | f    | <i>C. Whitefoord</i> 2256 (BM)  |
| <i>Dioscorea bartlettii</i> C.V.Morton  | v   | f    | <i>A. Gentry</i> 7677 (MO)      |
| <i>Dioscorea convolvulacea</i> Schltdl. & Cham.   | v   | f    | <i>T. Hawkins</i> 1262 (MO)     |
| <i>Dioscorea densiflora</i> Hemsl.  | v   | f    | <i>P. Gentle</i> 2210 (MO)      |
| <b>Dracaenaceae</b> (see <i>Ruscaceae</i> )   |     |      |                                 |
| <b>Ebenaceae</b>  |     |      |                                 |
| <i>Diospyros</i> sp.  | s   | f    | <i>C. Whitefoord</i> 10379 (BM) |
| <b>Elaeocarpaceae</b>   |     |      |                                 |
| <i>Sloanea meianthera</i> Donn.Sm. +  | t   | f    | <i>S. Bridgewater</i> 3901 (BM) |
| <i>Sloanea tuerckheimii</i> Donn.Sm.  | t   | f    | <i>A. Monro</i> 365 (BM)        |
| <b>Ericaceae</b>  |     |      |                                 |
| <i>Agarista mexicana</i> (Hemsl.) Judd var.<br><i>pinetorum</i> (Standl. & Williams) Judd | s/t | f    | <i>M. Peña</i> 1010 (BM)        |
| <i>Bejaria aestuans</i> Mutis ex L.   | t   | f    | <i>A. Monro</i> 2613 (BM)       |
| <i>Satyria warszewiczii</i> Klotzsch +  | s/e | f    | <i>B. Allen</i> 15167 (MO)      |
| <i>Sphrospermum cordifolium</i> Benth.  | s/e | f    | <i>A. Monro</i> 2618 (BM)       |
| <b>Erythroxylaceae</b>  |     |      |                                 |
| <i>Erythroxylum guatemalense</i> Lundell  | s   | f/ps | <i>A. Ibáñez García</i> 112 (E) |
| <i>Erythroxylum rotundifolium</i> Lunan   | s   | r    | <i>L. Urban</i> 144 (E)         |
| <b>Euphorbiaceae</b>  |     |      |                                 |
| <i>Acalypha alopecuroides</i> Jacq.   | h   | f    | <i>C. Whitefoord</i> 2104 (BM)  |
| <i>Acalypha arvensis</i> Poepp.   | s   | f    | <i>T. Croat</i> 23378 (MO)      |

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|--|-----|-----|------------------------------------|
| <i>Acalypha costaricensis</i> (Kuntze) Knobl.<br>ex Pax & K.Hoffm.                 | s/t | f   | <i>A. Ibáñez García</i> 46 (MO)    |
| <i>Acalypha diversifolia</i> Jacq.   | t   | f   | <i>A. Monro</i> 3203 (BM)          |
| <i>Acalypha gummifera</i> Lundell  | s   | f   | <i>C. Whitefoord</i> 10134 (BM)    |
| <i>Acalypha leptopoda</i> Müll.Arg.  | s   | f   | <i>C. Whitefoord</i> 10264 (BM)    |
| <i>Acalypha macrostachya</i> Jacq.   | s   | f   | <i>C. Whitefoord</i> 10236 (BM)    |
| <i>Acalypha mortoniana</i> Lundell   | s   | f   | <i>J. Milton</i> 25 (E)            |
| <i>Acalypha setosa</i> A.Rich.   | h   | f   | <i>C. Whitefoord</i> 9562 (BM)     |
| <b><i>Acalypha skutchii</i> I.M.Johnst.</b>  | s/t | f   | <i>R. Rees</i> 176 (MO)            |
| <i>Acalypha villosa</i> Jacq.  | s   | r   | <i>T. Croat</i> 23524 (MO)         |
| <i>Adelia barbinervis</i> Schltld. & Cham.   | s/t | f/r | <i>A. Monro</i> 1152 (BM)          |
| <i>Alchornea latifolia</i> Sw.   | t   | f   | <i>M. Peña</i> 985 (BM)            |
| <b><i>Alchorneopsis floribunda</i> (Benth.) Müll.Arg. +</b>                        | t   | f   | <i>S. Brewer</i> pers. obs.        |
| <b><i>Bernardia dodecandra</i> (Sessé ex Cavagnaro,</b>                            | s/t | f   | <i>A. Gentry</i> 7841 (MO)         |
| <b>David) McVaugh</b>  |     |     |                                    |
| <i>Chamaesyce hirta</i> (L.) Millsp.   | h   | f   | <i>D. Spellman</i> 1393 (MO)       |
| <i>Chamaesyce hypericifolia</i> (L.) Millsp.                                       | h   | f   | <i>J. Dwyer</i> 10759 (MO)         |
| <i>Chamaesyce thymifolia</i> (L.) Millsp.  | h   | f   | <i>D. Spellman</i> 1390 (MO)       |
| <i>Cleidion castaneifolium</i> Müll.Arg.   | t   | f   | <i>L. Ronse de Craene</i> 1140 (E) |
| <i>Cnidoscolus multilobus</i> (Pax) I.M.Johnst.                                    | s   | f   | <i>C. Whitefoord</i> 2084 (MO)     |
| <i>Cnidoscolus souzae</i> McVaugh  | s   | f   | <i>T. Croat</i> 23660 (MO)         |
| <i>Croton billbergianus</i> Müll.Arg.  | t   | f   | <i>A. Monro</i> 2686 (BM)          |
| <b><i>Croton lundellii</i> Standl.</b>   | v   | f   | <i>C. Whitefoord</i> 10311 (BM)    |
| <i>Croton schiedeianus</i> Schltld.  | s   | f   | <i>T. Heller</i> 13 (E)            |
| <i>Croton xalapensis</i> Kunth   | t   | f   | <i>J. Dwyer</i> 11556 (MO)         |
| <i>Dalechampia heteromorpha</i> Pax & K.Hoffm.                                     | v   | f   | <i>A. Chapman</i> 10 (E)           |
| <i>Dalechampia laevigata</i> Standl.   | v   | f   | <i>A. Gentry</i> 7780 (MO)         |
| <i>Dalechampia schippii</i> Standl.  | v   | r   | <i>L. Urban</i> 334 (E)            |
| <i>Euphorbia graminea</i> Jacq.  | h   | f   | <i>J. Dwyer</i> 11565 (MO)         |
| <i>Euphorbia heterophylla</i> L.   | h   | f   | <i>C. Whitefoord</i> 2113 (BM)     |
| <i>Gymnanthes belizensis</i> G.L.Webster   | t   | f   | <i>P. Gentle</i> 2619 (MO)         |
| <b><i>Hieronyma oblonga</i> (Tul.) Müll.Arg. +</b>                                 | t   | f   | <i>S. Brewer</i> 1742 (WNC)        |
| <i>Margaritaria nobilis</i> L.f.   | t   | f   | <i>J. Meerman</i> pers. obs.       |
| <i>Pedilanthus tithymaloides</i> (L.) Poit.  | h   | f   | <i>C. Whitefoord</i> 10128 (BM)    |
| <i>Ricinus communis</i> L.   | s   | f   | <i>T. Croat</i> 23359 (MO)         |
| <i>Sapium glandulosum</i> (L.) Morong  | t   | f   | <i>T. Lai</i> 20 (E)               |
| <i>Sebastiania tuerckheimiana</i> (Pax & K.Hoffm.)<br>Lundell                      | t   | f   | <i>A. Gentry</i> 7678 (MO)         |
| <i>Tragia mexicana</i> Müll.Arg.   | v   | f   | <i>M. Peña</i> 1029 (BM)           |
| <b>Fabaceae: Mimosoideae</b>   |     |     |                                    |
| <i>Abarema idiopoda</i> (S.F.Blake) Barneby &<br>J.W.Grimes                        | t   | f   | <i>S. Bridgewater</i> 2756 (E)     |
| <i>Acacia angustissima</i> (Mill.) Kuntze  | t   | r   | <i>L. Urban</i> 130 (E)            |
| <i>Acacia cookii</i> Saff.   | t   | f   | <i>M. Short</i> 239 (BM)           |
| <i>Acacia gentlei</i> Standl.  | t   | f   | <i>C. Gantz</i> 12 (E)             |
| <i>Acacia polyphylla</i> DC.   | t   | f   | <i>S. Bridgewater</i> pers. obs.   |
| <i>Calliandra houstoniana</i> (Mill.) Standl.                                      | s   | f   | <i>C. Gantz</i> 10 (E)             |
| <i>Calliandra tergemina</i> (L.) Benth. var. <i>emarginata</i><br>(Willd.) Barneby | s   | r   | <i>L. Urban</i> 8 (E)              |
| <i>Cajoba arborea</i> (L.) Britton & Rose  | t   | f   | <i>A. Smith</i> 13 (E)             |

|   |     |     |                                    |
|---|-----|-----|------------------------------------|
| <i>Cojoba graciliflora</i> (S.F.Blake) Britton & Rose           | s   | f/r | <i>A. Chapman</i> 20 (E)           |
| <b><i>Cojoba sophorocarpa</i> (Benth.) Britton &amp; Rose</b>   | t   | f   | <i>A. Monro</i> 1253 (BM)          |
| <i>Enterolobium cyclocarpon</i> (Jacq.) Griseb.                 | t   | f   | <i>N. Bol</i> pers. obs.           |
| <b><i>Inga acrocephala</i> Steud.</b>                           | t   | f   | <i>M. Short</i> 246 (MO)           |
| <i>Inga affinis</i> DC.   | t   | r   | <i>J. Meerman</i> pers. obs.       |
| <i>Inga cocleensis</i> Pittier                                  | t   | f   | <i>A. Monro</i> 2730 (BM)          |
| <i>Inga davidsei</i> M.Sousa                                    | t   | f   | <i>M. Peña</i> 988 (BM)            |
| <i>Inga pinetorum</i> Pittier                                   | t   | r   | <i>L. Urban</i> 380 (E)            |
| <i>Inga punctata</i> Willd.                                     | t   | f   | <i>A. Monro</i> 1420 (BM)          |
| <b><i>Inga sapindoides</i> Willd.</b>                           | t   | f   | <i>C. Whitefoord</i> 10090 (BM)    |
| <i>Inga thibaudiana</i> DC.                                     | t   | f   | <i>L. Ronse de Craene</i> 1436 (E) |
| <i>Inga vera</i> subsp. <i>Willd.</i>                           | s/t | f/r | <i>L. Urban</i> 370 (E)            |
| <i>Lysiloma acapulcense</i> (Kunth) Benth.                      | t   | f   | <i>C. Whitefoord</i> 9157 (BM)     |
| <i>Mimosa albida</i> Humb. & Bonpl. ex Willd.                   | s   | f/r | <i>C. Whitefoord</i> 10199 (BM)    |
| <i>Mimosa bahamensis</i> Benth.                                 | s   | r   | <i>J. Meerman</i> pers. obs.       |
| <i>Mimosa hondurana</i> Britton                                 | v   | f   | <i>C. Whitefoord</i> 10137 (BM)    |
| <i>Mimosa pellita</i> Humb. & Bonpl. ex Willd.                  | s   | r   | <i>L. Urban</i> 94 (E)             |
| <i>Mimosa pudica</i> L.   | s   | f   | <i>M. Short</i> 188 (BM)           |
| <i>Mimosa somnians</i> Humb. & Bonpl. ex Willd.                 | s   | r   | <i>J. Dwyer</i> 12321 (MO)         |
| <i>Mimosa tarda</i> Barneby                                     | s   | r   | <i>T. Hawkins</i> 1244 (MO)        |
| <i>Mimosa watsonii</i> B.L.Rob.                                 | v   | f   | <i>T. Croat</i> 23518 (BM)         |
| <i>Pithecellobium lanceolatum</i> (Humb. & Bonpl.)<br>ex Willd. | s   | f   | <i>C. Whitefoord</i> 9302 (BM)     |
| <i>Pithecellobium macrandrium</i> Donn.Sm.                      | s   | f   | <i>J. Dwyer</i> 11570 (MO)         |
| <i>Zapoteca tetragona</i> (Willd.) H.M.Hern.                    | s   | f   | <i>M. Peña</i> 1074 (BM)           |
| <b>Fabaceae: Caesalpinioideae</b>                               |     |     |                                    |
| <i>Bauhinia dipetala</i> Hemsl.                                 | s   | r   | <i>B. Holst</i> 7374 (SEL)         |
| <i>Bauhinia divaricata</i> L.                                   | t   | f   | <i>C. Whitefoord</i> 9080 (BM)     |
| <i>Bauhinia unguolata</i> L.                                    | s   | r   | <i>J. Dwyer</i> 12285 (MO)         |
| <i>Cynometra retusa</i> Britton & Rose                          | t   | f   | <i>A. Monro</i> 2740 (BM)          |
| <i>Dialium guianense</i> (Aubl.) Sandwith                       | t   | f   | <i>A. Ibáñez García</i> 122 (MO)   |
| <i>Schizolobium parahyba</i> (Vell.) S.F.Blake                  | t   | f   | <i>A. Monro</i> 2862 (BM)          |
| <i>Senna atomaria</i> (L.) H.S.Irwin & Barneby                  | v   | f   | <i>C. Whitefoord</i> 9497 (BM)     |
| <i>Senna cobanensis</i> (Britton & Rose)<br>H.S.Irwin & Barneby | h   | f   | <i>T. Croat</i> 23382 (MO)         |
| <b><i>Senna fruticosa</i> (Mill.) H.S.Irwin &amp; Barneby</b>   | s   | f   | <i>M. Peña</i> 1019 (BM)           |
| <i>Senna hayesiana</i> (Britton & Rose)<br>H.S.Irwin & Barneby  | s   | f   | <i>J. Dwyer</i> 12339 (MO)         |
| <i>Senna obtusifolia</i> (L.) H.S.Irwin & Barneby               | h   | f   | <i>T. Croat</i> 23699 (MO)         |
| <i>Senna occidentalis</i> (L.) Link                             | h   | f   | <i>M. Peña</i> 1026 (BM)           |
| <i>Senna peralteana</i> (Kunth) H.S.Irwin & Barneby             | v   | f   | <i>A. Monro</i> 1473 (BM)          |
| <i>Senna undulata</i> (Benth.) H.S.Irwin & Barneby              | s   | f   | <i>C. Whitefoord</i> 2825 (BM)     |
| <i>Senna uniflora</i> (Mill.) H.S.Irwin & Barneby               | s   | f   | <i>C. Whitefoord</i> 9036 (BM)     |
| <b>Fabaceae: Papilionoideae</b>                                 |     |     |                                    |
| <i>Abrus precatorius</i> L.                                     | v   | f   | <i>J. Meerman</i> pers. obs.       |
| <i>Acosmium panamense</i> (Benth.) Yakovlev                     | t   | f   | <i>L. Urban</i> 349 (E)            |
| <i>Aeschynomene</i> sp.   | h   | f   | <i>C. Aubrey</i> 10 (E)            |
| <i>Andira inermis</i> (W.Wright) DC.                            | t   | f   | <i>L. Urban</i> 113 (E)            |
| <i>Ateleia gummifera</i> (DC.) D.Dietr.                         | t   | r   | <i>L. Urban</i> 236 (E)            |
| <i>Canavalia villosa</i> Benth.                                 | v   | f   | <i>I. Holmes-Smith</i> 5 (E)       |

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| <i>Centrosema pubescens</i> Benth.   | v   | f | <i>A. Monro</i> 1170 (BM)       |
| <i>Centrosema virginianum</i> (L.) Benth.                                  | v   | f | <i>C. Whitefoord</i> 10405 (BM) |
| <b><i>Clitoria mexicana</i> Link</b>                                       | v   | f | <i>M. Peña</i> 1059 (BM)        |
| <i>Crotalaria acapulcensis</i> Hook. & Arn.                                | s   | f | <i>C. Whitefoord</i> 10216 (BM) |
| <i>Crotalaria cajanifolia</i> Kunth  | h   | r | <i>L. Urban</i> 85 (E)          |
| <i>Crotalaria pumila</i> Ortega  | s   | f | <i>C. Whitefoord</i> 10095 (BM) |
| <i>Dalbergia cubilquitzensis</i> (Donn.Sm.) Pittier                        | t   | f | <i>A. Monro</i> 1822 (BM)       |
| <i>Dalbergia glabra</i> (Mill.) Standl.                                    | t   | f | <i>C. Whitefoord</i> 9215 (BM)  |
| <i>Dalbergia stevensonii</i> Standl.                                       | t   | f | <i>C. Whitefoord</i> 9274 (BM)  |
| <i>Desmodium incanum</i> DC.   | h   | r | <i>L. Urban</i> 143 (E)         |
| <i>Desmodium infractum</i> DC.   | v   | f | <i>M. Short</i> 238 (BM)        |
| <i>Desmodium intortum</i> (Mill.) Urb.                                     | h   | f | <i>J. Dwyer</i> 12315 (MO)      |
| <i>Desmodium macrodesmum</i> (S.F.Blake)<br>Standl. & Steyerm.             | v   | f | <i>C. Whitefoord</i> 9201 (BM)  |
| <i>Erythrina folkersii</i> Krukoff & Moldenke                              | t   | f | <i>A. Monro</i> 2657 (BM)       |
| <b><i>Erythrina mexicana</i> Krukoff</b>                                   | t   | f | <i>C. Whitefoord</i> 10245 (BM) |
| <i>Galactia striata</i> (Jacq.) Urb.                                       | h   | r | <i>C. Whitefoord</i> 10256 (BM) |
| <i>Gliricidia sepium</i> (Jacq.) Steud.                                    | t   | f | <i>A. Monro</i> 1181 (BM)       |
| <i>Indigofera suffruticosa</i> Mill.                                       | s   | f | <i>T. Hawkins</i> 1085 (MO)     |
| <i>Indigofera trita</i> L. subsp. <i>scabra</i> (Roth)<br>de Kort & Tjisse | v   | f | <i>P. Gentle</i> 2337 (MO)      |
| <i>Lonchocarpus castilloi</i> Standl.                                      | t   | f | <i>C. Whitefoord</i> 2870 (BM)  |
| <i>Lonchocarpus guatemalensis</i> Benth.                                   | t   | f | <i>A. Monro</i> 952 (BM)        |
| <i>Lonchocarpus luteomaculatus</i> Pittier                                 | t   | f | <i>A. Ibáñez García</i> 98 (BM) |
| <i>Lonchocarpus rugosus</i> Benth.   | t   | r | <i>L. Urban</i> 167 (E)         |
| <i>Machaerium floribundum</i> Benth. +                                     | t/s | f | <i>S. Brewer</i> 1786 (WNC)     |
| <i>Machaerium kegelii</i> Meisn.   | v   | f | <i>S. Bridgewater</i> 2790 (E)  |
| <i>Machaerium seemannii</i> Benth.   | v   | f | <i>C. Whitefoord</i> 9530 (BM)  |
| <i>Macroptilium atropurpureum</i> (DC.) Urb.                               | v   | f | <i>C. Brown</i> 17 (E)          |
| <i>Mucuna argyrophylla</i> Standl.   | v   | f | <i>M. Short</i> 254 (BM)        |
| <i>Mucuna rostrata</i> Benth.  | v   | r | <i>L. Urban</i> 73 (E)          |
| <i>Ormosia isthmensis</i> Sw. +  | t   | f | <i>S. Bridgewater</i> 3913 (BM) |
| <i>Ormosia schippii</i> Pierce ex Standl. & Steyerm.                       | t   | f | <i>C. Whitefoord</i> 2893 (BM)  |
| <b><i>Oxyrhynchus trinervius</i> (Donn.Sm.) Rudd</b>                       | v   | f | <i>M. Short</i> 250 (MO)        |
| <i>Pachyrhizus erosus</i> (L.) Urb.  | v   | f | <i>A. Monro</i> 939 (BM)        |
| <i>Platymiscium dimorphandrum</i> Donn.Sm.                                 | t   | f | <i>A. Monro</i> 1798 (BM)       |
| <i>Pterocarpus rohrii</i> Vahl   | t   | f | <i>A. Monro</i> 1001 (BM)       |
| <i>Rhynchosia longiracemosa</i> M.Martens & Galeotti                       | v   | f | <i>C. Whitefoord</i> 10372 (BM) |
| <i>Rhynchosia minima</i> (L.) DC.  | v   | f | <i>C. Whitefoord</i> 9537 (BM)  |
| <i>Stylosanthes</i> sp.  | s   | r | <i>S. Suksuwan</i> 5 (E)        |
| <i>Swartzia cubensis</i> (Britton & P.Wilson) Standl.                      | t   | f | <i>C. Whitefoord</i> 9514 (BM)  |
| <b><i>Swartzia phaneroptera</i> Standl. +</b>                              | t   | f | <i>S. Brewer</i> 1673 (WNC)     |
| <i>Tephrosia belizensis</i> Lundell  | h   | f | <i>S. Cafferty</i> 143 (BM)     |
| <i>Tephrosia nitens</i> Benth.   | h   | f | <i>M. Balick</i> 3342 (NY)      |
| <i>Vatairea hundellii</i> (Standl.) Killip ex Record                       | t   | f | <i>C. Whitefoord</i> 9263 (BM)  |
| <i>Vigna luteola</i> (Jacq.) Benth.  | v   | r | <i>L. Urban</i> 84 (E)          |
| <i>Zornia reticulata</i> Sm.   | h   | f | <i>C. Whitefoord</i> 10288 (BM) |
| <b>Fagaceae</b>  |     |   |                                 |
| <b><i>Quercus acutifolia</i> Née</b>                                       | t   | f | <i>C. Whitefoord</i> 9239 (BM)  |
| <i>Quercus corrugata</i> Hook.   | t   | f | <i>S. Cafferty</i> 2629 (BM)    |

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| <i>Quercus cortesii</i> Liebm. +   | t    | f  | <i>S. Brewer</i> 1687 (WNC)     |
| <i>Quercus insignis</i> M.Martens & Galeotti +                           | t    | f  | <i>S. Brewer</i> 1701 (WNC)     |
| <i>Quercus oleoides</i> Schltld. & Cham.                                 | t    | ps | <i>L. Urban</i> 333 (BM)        |
| <i>Quercus sapotifolia</i> Liebm.  | t    | ps | <i>A. Monro</i> 1733 (BM)       |
| <i>Quercus segoviensis</i> Née   | t    | f  | <i>C. Whitefoord</i> 9284 (BM)  |
| <b>Flacourtiaceae</b> (see <i>Salicaceae</i> )                           |      |    |                                 |
| <b>Gelsemiaceae</b>  |      |    |                                 |
| <i>Gelsemium sempervirens</i> (L.) A.St.-Hil.                            | v    | f  | <i>S. Cafferty</i> 147 (BM)     |
| <b>Gentianaceae</b>  |      |    |                                 |
| <i>Lisianthus skinneri</i> (Hemsl.) Kuntze                               | h    | f  | <i>C. Whitefoord</i> 9339 (BM)  |
| <i>Schultesia lisianthoides</i> (Griseb.) Benth.<br>& Hook.f. ex Hemsl.  | h    | r  | <i>L. Urban</i> 191 (E)         |
| <i>Voyria flavescens</i> Griseb. +                                       | h/sa | f  | <i>S. Brewer</i> 1678 (WNC)     |
| <i>Voyria parasitica</i> (Schltld. & Cham.)<br>Ruyters & Maas            | h/sa | f  | <i>C. Whitefoord</i> 9245 (BM)  |
| <i>Voyria tenella</i> Hook.  | h/sa | f  | <i>A. Monro</i> 1743 (BM)       |
| <i>Zeltnera quitensis</i> (Kunth) G.Mans.                                | h    | f  | <i>C. Whitefoord</i> 10183 (BM) |
| <b>Gesneriaceae</b>  |      |    |                                 |
| <i>Achimenes admirabilis</i> Wiehler                                     | h    | r  | <i>T. Hawkins</i> 1204 (MO)     |
| <i>Achimenes erecta</i> (Lam.) H.P.Fuchs                                 | h    | r  | <i>J. Dwyer</i> 12324 (MO)      |
| <i>Besleria laxiflora</i> Benth.   | h    | f  | <i>S. Bridgewater</i> 3998 (BM) |
| <i>Columnnea sulfurea</i> Donn.Sm. +                                     | h/e  | f  | <i>B. Holst</i> 5209 (SEL)      |
| <i>Kohleria spicata</i> (Kunth) Oerst.                                   | h    | f  | <i>T. Hawkins</i> 1207 (MO)     |
| <b>Hamamelidaceae</b>  |      |    |                                 |
| <i>Liquidambar styraciflua</i> L.  | t    | f  | <i>A. Monro</i> 2626 (BM)       |
| <b>Heliconiaceae</b>   |      |    |                                 |
| <i>Heliconia aurantiaca</i> Ghiesbr.                                     | h    | f  | <i>T. Lai</i> 1 (E)             |
| <i>Heliconia hirsuta</i> L.f.  | h    | f  | <i>C. Whitefoord</i> 9462 (BM)  |
| <i>Heliconia latispatha</i> Benth.                                       | h    | r  | <i>C. Whitefoord</i> 9437 (BM)  |
| <i>Heliconia spissa</i> Griggs   | h    | f  | <i>S.H. Khaw</i> 772 (E)        |
| <b>Hydrocharitaceae</b>  |      |    |                                 |
| <i>Najas wrightiana</i> A.Braun  | h/a  | r  | <i>L. Urban</i> 192 (E)         |
| <b>Icacinaceae</b>   |      |    |                                 |
| <i>Calatola costaricensis</i> Standl. +                                  | t    | f  | <i>S. Brewer</i> 1754 (WNC)     |
| <b>Iridaceae</b>   |      |    |                                 |
| <i>Cipura campanulata</i> Ravenna  | h    | ps | <i>A. Monro</i> 1014 (BM)       |
| <i>Neomarica variegata</i> (M.Martens &<br>Galeotti) Henrich & Goldblatt | h    | f  | <i>C. Whitefoord</i> 9237 (BM)  |
| <i>Sisyrinchium subcernuum</i> (E.P.Bicknell)<br>Henrich & Goldblatt     | h    | f  | <i>A. Gentry</i> 7694 (MO)      |
| <i>Sisyrinchium tinctorium</i> Kunth                                     | h    | f  | <i>C. Whitefoord</i> 9177 (BM)  |
| <b>Juncaceae</b>   |      |    |                                 |
| <i>Juncus marginatus</i> Rostk.  | h    | r  | <i>C. Whitefoord</i> 9435 (BM)  |
| <b>Lacistemataceae</b>   |      |    |                                 |
| <i>Lacistema aggregatum</i> (P.J.Bergius) Rusby                          | t    | f  | <i>A. Monro</i> 1167 (BM)       |

**Lamiaceae**

|  |   |   |                                 |
|--|---|---|---------------------------------|
| <i>Aegiphila monstrosa</i> Moldenke              | t | f | <i>C. Whitefoord</i> 9221 (BM)  |
| <i>Aegiphila</i> cf. <i>pauciflora</i> Standl.   | t | f | <i>C. Whitefoord</i> 9453 (BM)  |
| <i>Callicarpa acuminata</i> Kunth                | s | f | <i>J. Dwyer</i> 11569 (MO)      |
| <i>Cornutia pyramidata</i> L.                    | t | f | <i>J. Dwyer</i> 11580 (MO)      |
| <b><i>Hyptis umbrosa</i> Salzm. ex Benth.</b>    | h | r | <i>L. Urban</i> 273 (E)         |
| <i>Hyptis urticoides</i> Kunth                   | h | f | <i>T. Croat</i> 2371 (MO)       |
| <i>Marsypianthes chamaedrys</i> (Vahl) Kuntze    | h | r | <i>J. Meerman</i> pers. obs.    |
| <i>Ocimum campechianum</i> Mill.                 | h | f | <i>T. Croat</i> 23632 (MO)      |
| <b><i>Salvia excelsa</i> Benth.</b>              | h | f | <i>J. Dwyer</i> 10897 (MO)      |
| <i>Salvia miniata</i> Fernald                    | h | f | <i>C. Whitefoord</i> 9140 (BM)  |
| <i>Salvia urica</i> Epling                       | h | r | <i>L. Urban</i> 242 (E)         |
| <i>Scutellaria longifolia</i> Benth.             | h | f | <i>C. Whitefoord</i> 9375 (BM)  |
| <i>Scutellaria hundellii</i> Epling              | h | f | <i>C. Whitefoord</i> 9375 (BM)  |
| <i>Scutellaria orichalcea</i> Donn.Sm.           | h | r | <i>K. Wangchuck</i> 19 (E)      |
| <b><i>Scutellaria whitefoordii</i> Klitgaard</b> | h | f | <i>C. Whitefoord</i> 91100 (BM) |
| <i>Teucrium vesicarium</i> Mill.                 | h | f | <i>C. Whitefoord</i> 10054 (BM) |
| <i>Vitex gumeri</i> Greenm.                      | t | f | <i>S. Queensborough</i> 39 (E)  |

**Lauraceae**

|   |     |      |                                 |
|---|-----|------|---------------------------------|
| <i>Cassytha filiformis</i> L.                       | h   | f/ps | <i>L. Urban</i> 340 (E)         |
| <i>Cinnamomum areolatum</i> (Lundell) Kosterm. +    | t   | f    | <i>S. Brewer</i> 1668 (WNC)     |
| <i>Licaria capitata</i> (Cham. & Schltdl.) Kosterm. | t   | f    | <i>A. Monro</i> 1296 (BM)       |
| <i>Licaria misantlae</i> (Brandegee) Kosterm.       | t   | f    | <i>C. Whitefoord</i> 10362 (BM) |
| <i>Licaria peckii</i> (I.M.Johnst.) Kosterm.        | t   | f    | <i>C. Whitefoord</i> 10370 (BM) |
| <i>Nectandra colorata</i> Lundell                   | t   | f    | <i>C. Whitefoord</i> 9072 (BM)  |
| <i>Nectandra cuspidata</i> Nees +                   | s/t | f    | <i>S. Brewer</i> 1712 (WNC)     |
| <i>Nectandra longicaudata</i> (Lundell) C.K.Allen   | t   | f    | <i>A. Monro</i> 936 (BM)        |
| <i>Nectandra nitida</i> Mez                         | t   | f    | <i>A. Youngson</i> 8 (E)        |
| <i>Nectandra salicifolia</i> (Kunth) Nees           | t   | f    | <i>C. Whitefoord</i> 10012 (BM) |
| <i>Ocotea cernua</i> (Nees) Mez                     | t   | f    | <i>H. Irving</i> 190 (E)        |
| <i>Ocotea effusa</i> (Meisn.) Hemsl. +              | s/t | f    | <i>S. Brewer</i> 1710 (WNC)     |
| <i>Ocotea helicterifolia</i> (Meisn.) Hemsl. +      | s/t | f    | <i>S. Brewer</i> 1653 (WNC)     |
| <i>Ocotea leucoxydon</i> (Sw.) Laness. +            | t   | f    | <i>S. Brewer</i> 1684 (WNC)     |
| <b><i>Ocotea veraguensis</i> (Meisn.) Mez +</b>     | t   | f    | <i>S. Brewer</i> pers. obs.     |
| <i>Persea schiedeana</i> Nees +                     | t   | f    | <i>S. Brewer</i> 1756 (WNC)     |

**Loganiaceae** (see also *Gelsemiaceae*)

|   |   |   |                                |
|---|---|---|--------------------------------|
| <i>Spigelia anthelmia</i> L.                  | h | f | <i>C. Whitefoord</i> 2106 (BM) |
| <i>Spigelia humboldtiana</i> Cham. & Schltdl. | h | f | <i>C. Whitefoord</i> 9544 (BM) |
| <b><i>Spigelia palmeri</i> Rose</b>           | h | f | <i>J. Dwyer</i> 10881 (MO)     |
| <i>Strychnos brachistantha</i> Standl.        | v | f | <i>A. Gentry</i> 7717 (MO)     |
| <i>Strychnos panamensis</i> Seem.             | v | f | <i>C. Whitefoord</i> 9398 (BM) |
| <i>Strychnos peckii</i> B.L.Rob.              | v | f | <i>A. Monro</i> 2609 (BM)      |

**Loranthaceae**

|   |   |   |                                 |
|---|---|---|---------------------------------|
| <i>Oryctanthus cordifolius</i> (C.Presl) Urb.       | p | f | <i>C. Whitefoord</i> 10369 (BM) |
| <i>Phthirusa pyrifolia</i> (Kunth) Eichler          | p | r | <i>L. Urban</i> 220 (E)         |
| <i>Psittacanthus pinicola</i> Kuijt                 | p | f | <i>A. Monro</i> 2625 (BM)       |
| <i>Struthanthus cassythoides</i> Millsp. ex Standl. | p | f | <i>A. Monro</i> 1002 (BM)       |
| <i>Struthanthus interruptus</i> (Kunth) G.Don       | p | f | <i>C. Whitefoord</i> 10281 (BM) |
| <i>Struthanthus orbicularis</i> (Kunth) Blume       | p | f | <i>A. Monro</i> 9011 (BM)       |

**Lythraceae**

|  |   |     |                             |
|--|---|-----|-----------------------------|
| <i>Cuphea appendiculata</i> Benth.                                     | s | f   | <i>A. Monro</i> 1074 (BM)   |
| <i>Cuphea calophylla</i> Cham. & Schltld.                              | s | f/r | <i>L. Urban</i> 25 (E)      |
| <i>Cuphea carthagenensis</i> (Jacq.) J.F.Macbr.                        | s | f   | <i>T. Croat</i> 23498 (MO)  |
| <i>Cuphea decandra</i> Aiton var. <i>purpusii</i><br>(Brandege) Bacig. | s | r   | <i>J. Dwyer</i> 10750 (MO)  |
| <i>Cuphea hyssopifolia</i> Kunth                                       | s | r   | <i>T. Hawkins</i> 1077 (MO) |
| <i>Cuphea utriculosa</i> Koehne  | s | r   | <i>L. Urban</i> 21 (E)      |

**Magnoliaceae**

|                                 |   |   |                             |
|---------------------------------|---|---|-----------------------------|
| <i>Magnolia yoroconte</i> Dandy | t | f | <i>S. Cafferty</i> 139 (BM) |
|---------------------------------|---|---|-----------------------------|

**Malpighiaceae**

|   |     |     |                                  |
|---|-----|-----|----------------------------------|
| <i>Bunchosia lindeniana</i> A.Juss.             | s/t | f   | <i>M. Balick</i> 3150 (NY)       |
| <i>Byrsonima crassifolia</i> (L.) Kunth         | t   | f   | <i>C. Whitefoord</i> 9510 (BM)   |
| <i>Heteropterys brachiata</i> (L.) DC.          | v   | r   | <i>J. Dwyer</i> 12327 (MO)       |
| <i>Heteropterys laurifolia</i> (L.) A.Juss.     | v   | f/r | <i>L. Urban</i> 425 (E)          |
| <i>Heteropterys lindeniana</i> A.Juss.          | v   | r   | <i>C. Whitefoord</i> 9415 (BM)   |
| <i>Hiraea reclinata</i> Jacq.                   | v   | f   | <i>C. Whitefoord</i> 10356 (BM)  |
| <i>Hiraea smilacina</i> Standl. +               | v   | f   | <i>B. Allen</i> 15184 (MO)       |
| <i>Malpighia glabra</i> L.                      | s/t | f   | <i>S. Queensborough</i> 322 (E)  |
| <i>Mascagnia</i> sp.                            | v   | f   | <i>C. Whitefoord</i> 9228 (BM)   |
| <i>Stigmaphyllon ellipticum</i> (Kunth) A.Juss. | v   | f   | <i>C. Whitefoord</i> 9017 (BM)   |
| <i>Stigmaphyllon lindenianum</i> A.Juss.        | v   | f   | <i>C. Whitefoord</i> 9513 (BM)   |
| <i>Tetrapteryx arcana</i> C.V.Morton            | v   | f   | <i>C. Whitefoord</i> 9380 (BM)   |
| <i>Tetrapteryx schiedeana</i> Schltld. & Cham.  | v   | f   | <i>A. Ibáñez García</i> 110 (MO) |

**Malvaceae**

|  |     |   |                                 |
|--|-----|---|---------------------------------|
| <i>Allosidastrum pyramidatum</i> (Cav.) Krapov.,<br>Fryxell & D.M.Bates        | s   | f | <i>C. Whitefoord</i> 10007 (BM) |
| <i>Bernoullia flammea</i> Oliv.  | t   | f | <i>C. Whitefoord</i> 9147 (BM)  |
| <i>Byttneria aculeata</i> (Jacq.) Jacq.  | ss  | f | <i>K. Armstrong</i> 506 (E)     |
| <i>Byttneria catalpifolia</i> Jacq.  | ss  | f | <i>M. Short</i> 249 (BM)        |
| <i>Ceiba pentandra</i> (L.) Gaertn.  | t   | f | <i>C. Lundell</i> 6320 (MO)     |
| <i>Corchorus siliquosus</i> L.   | h/s | f | <i>T. Croat</i> 23669 (MO)      |
| <i>Guazuma ulmifolia</i> Lam.  | t   | f | <i>A. Gentry</i> 7792 (MO)      |
| <i>Hampea stipitata</i> S.Watson   | t   | f | <i>I. Holmes-Smith</i> 3 (E)    |
| <i>Hampea trilobata</i> Standl.  | s/t | f | <i>L. Urban</i> 268 (E)         |
| <i>Helicteres guazumifolia</i> Kunth   | s   | f | <i>A. Monro</i> 1174 (BM)       |
| <i>Heliocarpus americanus</i> L.   | t   | f | <i>C. Whitefoord</i> 10031 (BM) |
| <i>Herissantia crispa</i> (L.) Brizicky  | h   | r | <i>L. Urban</i> 229 (E)         |
| <i>Hibiscus costatus</i> A.Rich.   | s   | f | <i>J. Dwyer</i> 10787 (MO)      |
| <i>Hibiscus trilobus</i> Aubl. subsp. <i>hirsutus</i><br>O.J.Blanch. & Fryxell | h   | f | <i>G. Proctor</i> 30054 (MO)    |
| <i>Luehea speciosa</i> Willd.  | t   | f | <i>L. Urban</i> 338 (E)         |
| <i>Malachra alceifolia</i> Jacq.   | h   | f | <i>D. Spellman</i> 1375 (MO)    |
| <i>Malachra fasciata</i> Jacq.   | h   | f | <i>C. Whitefoord</i> 9035 (BM)  |
| <i>Malvastrum coromandelianum</i> (L.) Garcke                                  | h/s | f | <i>T. Croat</i> 23381 (MO)      |
| <i>Malvaviscus arboreus</i> Cav.   | s   | f | <i>T. Hawkins</i> 1052 (MO)     |
| <i>Melochia lupulina</i> Sw.   | s   | f | <i>C. Whitefoord</i> 10140 (BM) |
| <i>Melochia pyramidata</i> L.  | h   | f | <i>C. Whitefoord</i> 9566 (BM)  |
| <i>Ochroma pyramidale</i> (Lam.) Urb.  | t   | f | <i>A. Monro</i> 1194 (MO)       |
| <i>Pavonia paniculata</i> Cav.   | h   | f | <i>J. Dwyer</i> 12308 (MO)      |

|  |     |      |                                 |
|--|-----|------|---------------------------------|
| <i>Pavonia schiedeana</i> Steud.   | s   | f    | <i>C. Whitefoord</i> 2097 (BM)  |
| <i>Petenaea cordata</i> Lundell  | t   | f    | <i>M. Peña</i> 1009 (BM)        |
| <i>Quararibea funebris</i> (La Llave) Vischer                                | t   | f    | <i>A. Monro</i> 1575 (MO)       |
| <i>Sida acuta</i> Burm.f.  | s   | f    | <i>D. Sutton</i> 33 (BM)        |
| <i>Sida rhombifolia</i> L.   | s   | f    | <i>T. Croat</i> 23377 (MO)      |
| <i>Trichospermum grewiifolium</i> (A.Rich.) Kosterm.                         | t   | f    | <i>C. Whitefoord</i> 9229 (BM)  |
| <i>Triumfetta bogotensis</i> DC.   | s   | f    | <i>T. Croat</i> 23681 (MO)      |
| <i>Triumfetta semitriloba</i> Jacq.  | s   | f    | <i>T. Hawkins</i> 1310 (MO)     |
| <i>Waltheria indica</i> L.   | h   | f    | <i>L. Urban</i> 68 (E)          |
| <i>Wissadula excelsior</i> (Cav.) C.Presl                                    | s   | f    | <i>C. Whitefoord</i> 9340 (BM)  |
| <b>Marantaceae</b>   |     |      |                                 |
| <i>Calathea crotalifera</i> S.Watson   | h   | f    | <i>A. Monro</i> 10258 (BM)      |
| <i>Calathea lutea</i> (Aubl.) G.Mey.   | h   | r    | <i>C. Whitefoord</i> 10257 (BM) |
| <i>Maranta arundinacea</i> L.  | h   | f    | <i>A. Gentry</i> 7835 (MO)      |
| <i>Maranta gibba</i> Sm.   | h   | f/r  | <i>L. Urban</i> 99 (E)          |
| <i>Pleiochachya pruinosa</i> (Regel) K.Schum.                                | h   | f    | <i>S. Khaw</i> 777 (E)          |
| <i>Stromanthe hjalmarssonii</i> (Körn.) Petersen                             | h   | f    | <i>C. Whitefoord</i> 9420 (BM)  |
| <b><i>Stromanthe tonckat</i> (Aubl.) Eichler +</b>                           | h   | f    | <i>S. Bridgewater</i> 3924 (BM) |
| <b>Marcgraviaceae</b>  |     |      |                                 |
| <i>Marcgravia schippii</i> Standl. +   | v   | f    | <i>S. Brewer</i> 1753B (WNC)    |
| <i>Ruyschia enervia</i> Lundell  | s/e | f    | <i>C. Lundell</i> 6308 (MO)     |
| <i>Souroubea loczyi</i> (V.A.Richt.) de Roon +                               | s   | f    | <i>S. Brewer</i> 1667 (WNC)     |
| <b>Melastomataceae</b>   |     |      |                                 |
| <i>Arthrostemma ciliatum</i> Pav. ex D.Don                                   | h   | f    | <i>A. Monro</i> 787 (BM)        |
| <i>Arthrostemma parvifolium</i> Cogn.  | h   | f    | <i>J. Dwyer</i> 10859 (MO)      |
| <i>Blakea cuneata</i> Standl. +  | s/e | f    | <i>S. Bridgewater</i> 3936 (BM) |
| <i>Clidemia capitellata</i> (Bonpl.) D.Don                                   | s   | ps   | <i>C. Whitefoord</i> 9180 (BM)  |
| <i>Clidemia involucrata</i> DC. +  | s   | f    | <i>S. Bridgewater</i> 3968 (BM) |
| <i>Clidemia petiolaris</i> (Schltdl. & Cham.)<br>Schltdl. ex Triana          | s   | f    | <i>C. Whitefoord</i> 10197 (BM) |
| <i>Clidemia sericea</i> D.Don  | s   | ps   | <i>C. Whitefoord</i> 9188 (BM)  |
| <i>Conostegia icosandra</i> (Sw. ex Wikstr.) Urb.                            | t   | f    | <i>A. Monro</i> 2644 (BM)       |
| <b><i>Conostegia montana</i> (Sw.) D.Don ex DC. +</b>                        | s   | f    | <i>S. Bridgewater</i> 3898 (BM) |
| <i>Conostegia plumosa</i> L.O.Williams                                       | s   | r    | <i>M. Balick</i> 3104 (MO)      |
| <i>Conostegia xalapensis</i> D.Don   | s   | f    | <i>C. Whitefoord</i> 10365 (BM) |
| <i>Graffenrieda galeotti</i> (Naudin) L.O.Williams +                         | s   | f    | <i>B. Allen</i> 15211 (MO)      |
| <i>Henriettea fascicularis</i> (Sw.) M.Gómez                                 | t   | r    | <i>C. Whitefoord</i> 9417 (BM)  |
| <i>Heterocentron subtriplinervium</i> (Link & Otto.)<br>A.Braun & C.D.Bouché | s   | f/ps | <i>C. Whitefoord</i> 9506 (BM)  |
| <i>Miconia affinis</i> DC.   | s   | f    | <i>K. Wangchuck</i> 17 (E)      |
| <i>Miconia albicans</i> (Sw.) Triana   | s   | f    | <i>A. Ibáñez García</i> 170 (E) |
| <i>Miconia argentea</i> (Sw.) DC.  | t   | f    | <i>P. Gentle</i> 2485 (MO)      |
| <i>Miconia centrodesma</i> Naudin  | s   | f    | <i>A. Monro</i> 2671 (BM)       |
| <i>Miconia desmantha</i> Benth.  | s   | f/ps | <i>T. Croat</i> 23389 (MO)      |
| <i>Miconia fulvostellata</i> L.O.Williams                                    | s   | f    | <i>C. Whitefoord</i> 3002 (BM)  |
| <b><i>Miconia glaberrima</i> (Schltdl.) Naudin +</b>                         | s   | f    | <i>S. Bridgewater</i> 3974 (BM) |
| <b><i>Miconia gracilis</i> Triana +</b>                                      | s   | f    | <i>B. Allen</i> 15277 (MO)      |
| <i>Miconia holosericea</i> (L.) DC.  | t   | f    | <i>C. Whitefoord</i> 9364 (BM)  |
| <i>Miconia ibaguensis</i> (Bonpl.) Triana                                    | s   | f    | <i>T. Croat</i> 23339 (MO)      |
| <i>Miconia impetolaris</i> (Sw.) D.Don ex DC.                                | s   | f    | <i>C. Whitefoord</i> 10333 (BM) |



|  |     |      |                                |
|--|-----|------|--------------------------------|
| <i>Miconia lacera</i> (Bonpl.) Naudin          | s   | f/ps | <i>C. Whitefoord</i> 9190 (BM) |
| <i>Miconia laevigata</i> (L.) D.Don            | s   | f/ps | <i>J. Dwyer</i> 10184 (MO)     |
| <i>Miconia matthaei</i> Naudin                 | t   | f    | <i>C. Whitefoord</i> 9343 (BM) |
| <b><i>Miconia nutans</i> Donn.Sm. +</b>        | h   | f    | <i>B. Allen</i> 15212 (MO)     |
| <i>Miconia oinochrophylla</i> Donn.Sm.         | s   | f    | <i>A. Monro</i> 220 (BM)       |
| <i>Miconia prasina</i> (Sw.) DC.               | s   | r    | <i>L. Urban</i> 193 (E)        |
| <i>Miconia punctata</i> (Desr.) D.Don ex DC. + | s   | f    | <i>S. Brewer</i> 1662 (WNC)    |
| <i>Miconia reducens</i> Triana                 | s/t | f    | <i>A. Monro</i> 2616 (BM)      |
| <i>Miconia schlimii</i> Triana                 | t   | f    | <i>J. Dwyer</i> 10904 (MO)     |
| <i>Miconia serrulata</i> (DC.) Naudin          | s   | f    | <i>C. Whitefoord</i> 9335 (BM) |
| <i>Miconia stenostachya</i> DC.                | s   | f    | <i>L. Urban</i> 408 (E)        |
| <i>Pterolepis stenophylla</i> Gleason          | h   | r    | <i>D. Spellman</i> 1392 (MO)   |

**Meliaceae**

|                                       |   |   |                                 |
|---------------------------------------|---|---|---------------------------------|
| <i>Cedrela odorata</i> L.             | t | f | <i>A. Monro</i> 682 (BM)        |
| <i>Guarea glabra</i> Vahl             | t | f | <i>S. Queensborough</i> 145 (E) |
| <i>Guarea grandifolia</i> DC.         | t | f | <i>A. Monro</i> 1400 (BM)       |
| <i>Swietenia macrophylla</i> King     | t | f | <i>C. Whitefoord</i> 9149 (BM)  |
| <i>Trichilia erythrocarpa</i> Lundell | t | f | <i>H. Irving</i> 178 (E)        |
| <i>Trichilia havanensis</i> Jacq.     | t | f | <i>C. Whitefoord</i> 10174 (BM) |
| <i>Trichilia minutiflora</i> Standl.  | t | f | <i>C. Whitefoord</i> 10313 (BM) |
| <i>Trichilia moschata</i> Sw.         | t | f | <i>A. Monro</i> 677 (BM)        |
| <i>Trichilia pallida</i> Sw.          | t | f | <i>A. Gentry</i> 7709 (MO)      |

**Memecylaceae**

|   |   |   |                                |
|---|---|---|--------------------------------|
| <i>Mouriri exilis</i> Gleason           | t | f | <i>C. Whitefoord</i> 9397 (BM) |
| <i>Mouriri myrtilloides</i> (Sw.) Poir. | t | f | <i>H. Irving</i> 177 (E)       |

**Menispermaceae**

|   |   |   |                              |
|---|---|---|------------------------------|
| <i>Abuta panamensis</i> (Standl.) Krukoff & Barneby + | v | f | <i>S. Brewer</i> pers. obs.  |
| <i>Abuta steyermarkii</i> (Standl.) Standl.           | v | f | <i>A. Gentry</i> 7705 (MO)   |
| <i>Cissampelos pareira</i> L.                         | v | f | <i>A. Chapman</i> 16 (E)     |
| <i>Disciphania calocarpa</i> Standl.                  | v | r | <i>J. Meerman</i> pers. obs. |

**Monimiaceae**

|   |   |   |                                |
|---|---|---|--------------------------------|
| <i>Mollinedia guatemalensis</i> Perkins           | s | f | <i>C. Whitefoord</i> 9122 (BM) |
| <i>Siparuna thecaphora</i> (Poepp. & Endl.) A.DC. | t | f | <i>A. Monro</i> 1489 (BM)      |

**Moraceae**

|   |   |   |                                 |
|---|---|---|---------------------------------|
| <i>Brosimum alicastrum</i> Sw.                  | t | f | <i>A. Monro</i> 1012 (BM)       |
| <i>Brosimum lactescens</i> (S.Moore) C.C.Berg + | t | f | <i>S. Brewer</i> 1782 (WNC)     |
| <i>Castilla elastica</i> Sessé                  | t | f | <i>L. Urban</i> 314 (E)         |
| <b><i>Clarisia</i> sp.</b>                      | h | f | <i>A. Monro</i> 3193 (BM)       |
| <i>Dorstenia belizensis</i> C.C.Berg            | h | f | <i>J. Meerman</i> pers. obs.    |
| <i>Dorstenia contrajerva</i> L.                 | h | f | <i>T. Hawkins</i> 1124 (MO)     |
| <i>Dorstenia lindeniana</i> Bureau              | h | f | <i>A. Monro</i> 3193 (BM)       |
| <i>Ficus colubrinae</i> Standl.                 | t | f | <i>C. Whitefoord</i> 2801 (BM)  |
| <i>Ficus crassiuscula</i> Warb. ex Standl. +    | t | f | <i>B. Holst</i> 5278 (SEL)      |
| <i>Ficus insipida</i> Willd.                    | t | f | <i>L. Urban</i> 117 (E)         |
| <i>Ficus maxima</i> Mill.                       | t | f | <i>C. Whitefoord</i> 2997 (BM)  |
| <i>Ficus pertusa</i> L.f.                       | t | f | <i>A. Monro</i> 1165 (BM)       |
| <i>Ficus popenoei</i> Standl.                   | t | f | <i>A. Monro</i> 990 (BM)        |
| <i>Ficus trigonata</i> L.                       | t | f | <i>A. Ibáñez García</i> 91 (MO) |

|   |     |       |                                   |
|---|-----|-------|-----------------------------------|
| <i>Ficus turrialbana</i> W.C.Burger               | t   | f     | <i>T. Hawkins</i> 1089 (MO)       |
| <i>Maclura tinctoria</i> (L.) D.Don ex Steud.     | t   | f     | <i>J. Meerman</i> pers. obs.      |
| <i>Pseudolmedia spuria</i> (Sw.) Griseb.          | t   | f     | <i>C. Whitefoord</i> 9150 (BM)    |
| <i>Trophis mexicana</i> (Liebm.) Bureau           | t   | f     | <i>A. Monro</i> 1458 (BM)         |
| <i>Trophis racemosa</i> (L.) Urb.                 | t   | f     | <i>C. Whitefoord</i> 9045 (BM)    |
| <b>Myricaceae</b>                                 |     |       |                                   |
| <i>Myrica cerifera</i> L.                         | s/t | ps    | <i>S. Cafferty</i> 1 (BM)         |
| <b>Myristacaceae</b>                              |     |       |                                   |
| <i>Virola</i> sp.                                 | t   | f     | <i>S. Bridgewater</i> pers. obs.  |
| <b>Myrsinaceae</b>                                |     |       |                                   |
| <i>Anagallis pumila</i> Sw.                       | h   | r     | <i>J. Dwyer</i> 12330 (MO)        |
| <i>Ardisia compressa</i> Kunth                    | t   | r     | <i>C. Whitefoord</i> 9418 (BM)    |
| <i>Ardisia densiflora</i> Krug & Urb.             | s   | f     | <i>A. Gentry</i> 7672 (MO)        |
| <i>Ardisia nigrescens</i> Oerst.                  | s   | f     | <i>A. Monro</i> 2699 (BM)         |
| <i>Ardisia nigropunctata</i> Oerst.               | s   | f     | <i>A. Monro</i> 3201 (BM)         |
| <i>Ardisia paschalis</i> Donn.Sm.                 | s   | f     | <i>A. Monro</i> 790 (BM)          |
| <i>Parathesis cubana</i> (A.DC.) Molinet & Gómez  | s   | f     | <i>C. Whitefoord</i> 10048 (BM)   |
| <i>Parathesis donnell-smithii</i> Mez             | s   | f     | <i>P. Gentle</i> 2615 (MO)        |
| <i>Parathesis membranacea</i> Lundell             | s/t | f     | <i>J. Dwyer</i> 10909A (BRH)      |
| <i>Parathesis oblanceolata</i> Lundell            | t   | r     | <i>T. Hawkins</i> 1248 (MO)       |
| <i>Parathesis sessilifolia</i> Donn.Sm.           | s   | f     | <i>C. Whitefoord</i> 9448 (BM)    |
| <b>Myrtaceae</b>                                  |     |       |                                   |
| <i>Calyptranthes bartlettii</i> Standl.           | s   | r     | <i>L. Urban</i> 14 (E)            |
| <i>Calyptranthes chytraculia</i> (L.) Sw.         | s   | r     | <i>M. Peña</i> 1004 (BM)          |
| <i>Calyptranthes lindeniana</i> O.Berg            | s   | r     | <i>L. Urban</i> 112 (E)           |
| <i>Eugenia capuli</i> (Schltdl. & Cham.) O.Berg   | s   | f     | <i>C. Whitefoord</i> 10049 (BM)   |
| <i>Eugenia oerstediana</i> O.Berg                 | s   | f     | <i>P. Gentle</i> 2533 (MO)        |
| <i>Eugenia rhombea</i> (O.Berg) Krug & Urb.       | s   | f     | <i>G. Proctor</i> 29831 (BM)      |
| <i>Eugenia vacana</i> Lundell                     | s   | f/r   | <i>C. Whitefoord</i> 2807 (BM)    |
| <b><i>Eugenia venezuelensis</i> O.Berg</b>        | s   | f     | <i>T. Croat</i> 23628 (MO)        |
| <i>Myrcia splendens</i> (Sw.) DC.                 | t   | f     | <i>A. Ibáñez García</i> 62 (MO)   |
| <i>Myrcianthes fragrans</i> (Sw.) McVaugh         | t   | f     | <i>A. Ibáñez García</i> 84 (MO)   |
| <i>Pimenta dioica</i> (L.) Merr.                  | t   | f     | <i>R. Linares-Palomino</i> 15 (E) |
| <i>Psidium guajava</i> L.                         | t   | cult. | <i>D. Spellman</i> 1389 (MO)      |
| <b>Najadaceae</b> (see <i>Hydrocharitaceae</i> )  |     |       |                                   |
| <b>Nyctaginaceae</b>                              |     |       |                                   |
| <i>Guapira linearibracteata</i> (Heimerl) Lundell | s   | r     | <i>L. Urban</i> 322 (E)           |
| <i>Mirabilis jalapa</i> L.                        | h   | f     | <i>T. Croat</i> 23794 (MO)        |
| <i>Neea psychotrioides</i> Donn.Sm.               | t   | f     | <i>C. Whitefoord</i> 9271 (BM)    |
| <i>Pisonia aculeata</i> L.                        | v   | f     | <i>S. Perez Espona</i> 11 (E)     |
| <b>Ochnaceae</b>                                  |     |       |                                   |
| <i>Elvasia bispala</i> Sastre & C.Whitefoord +    | t   | f     | <i>S. Bridgewater</i> 3987 (BM)   |
| <i>Ouratea lucens</i> (Kunth) Engl.               | t   | f     | <i>S. Queensborough</i> 36 (E)    |
| <i>Ouratea nitida</i> (Sw.) Engl.                 | t   | f/r   | <i>L. Urban</i> 188 (E)           |
| <b>Olacaceae</b>                                  |     |       |                                   |
| <i>Heisteria media</i> S.F.Blake                  | t   | f     | <i>G. Proctor</i> 30100 (MO)      |
| <i>Schoepfia schreberi</i> J.F.Gmel.              | s/t | f     | <i>G. Proctor</i> 29858 (MO)      |

**Oleaceae**

*Chionanthus ob lanceolatus* (B.L.Rob.) P.S. Green s fl/r A. Monro 1799 (BM)

**Onagraceae**

*Hauya elegans* DC. subsp. *lucida* (Donn.Sm. & Rose) P.H.Raven & Breedlove t f C. Lundell 6318 (MO)

*Ludwigia octovalvis* (Jacq.) P.H.Raven h fl/r C. Whitefoord 10141 (BM)

*Ludwigia peruviana* (L.) H.Hara h f C. Whitefoord 9307 (BM)

**Orchidaceae**

*Anathallis sertularioides* (Sw.) Pridgeon & M.W.Chase (= *Pleurothallis sertularioides* (Sw.) Spreng.) h/e f B. Sayers 97/290

*Arpophyllum giganteum* Lindl. h/e f BBG1997-0101

*Brassia maculata* R.Br. h f B. Holst 7853 (SEL)

*Bulbophyllum aristatum* (Rchb.f.) Hemsl. h/e f B. Sayers 97/342

*Bulbophyllum oerstedii* (Rchb.f.) Hemsl. h/e f B. Sayers 97/305

*Campylocentrum micranthum* (Lindl.) Rolfe h/e f B. Sayers 97/267

*Cattleya bowringiana* Veitch h/e ps BBG2003-0233

*Chysis bractescens* Lindl. h/e f BBG2003-0249

*Coelia bella* (Lem.) Rchb.f. h f T. Hawkins 1233 (MO)

*Cyclopogon* sp. h f A. Monro 1350 (BM)

*Cynoches ventricosum* Bateman h/e f T. Hawkins 1172 (MO)

*Dichaea glauca* (Sw.) Lindl. h/e f B. Sayers 97/281

*Dichaea muricatoides* Hamer & Garay h/e f B. Sayers (sight record)

*Dichaea panamensis* Lindl. h/e f BBG2003-0242

*Dimerandra emarginata* (G.Mey.) Hoehne h/e f P. Gentle 2541 (MO)

*Dryadella linearifolia* (Ames) Luer h/e f B. Sayers 97/240

*Elleanthus caricoides* Nash h/e f B. Sayers 97/228

*Elleanthus linifolius* C.Presl h/e f BBG1997-0096

*Encyclia asperula* Dressler & G.E.Pollard h/e f B. Holst 7582 (SEL; SC)

*Encyclia belizensis* (Rchb.f.) Schltr. subsp. *belizensis* h ps B. Sayers (sight record)

*Encyclia polybulbon* (Sw.) Dressler h/e f B. Sayers (sight record)

*Encyclia porrecta* B.R.Adams & P.J.Cribb h/e f B. Sayers 00/817

*Epidendrum ciliare* L. h/e f B. Sayers 97/201

*Epidendrum cristatum* Ruiz & Pav. h/e f B. Holst 7575 (SEL; SC)

*Epidendrum diffusum* Sw. h/e f B. Sayers 97/343

*Epidendrum ibaguense* Kunth h f C. Whitefoord 10284 (BM)

*Epidendrum imatophyllum* Lindl. h f B. Adams pers. obs.

*Epidendrum nocturnum* Jacq. h/e f BBG2004-0434

*Epidendrum paranthicum* Rchb.f. (= *Epidanthus paranthicus* (Rchb.f.) L.O.Williams) + h/e f B. Holst 5199 (SEL)

*Epidendrum paniculatum* Ruiz & Pav. h/e f BBG1997-0037

*Epidendrum polyanthum* Lindl. h/e f B. Sayers 97/484

*Epidendrum rigidum* Jacq. h/e fl/r BBG1997-0037

*Epidendrum stanfordianum* Bateman h/e f B. Holst 7995 (SEL; SC)

*Epidendrum verrucosa* (Sw.) (= *Oerstedella verrucosa* (Sw.) Hágsater) h/e f C. Whitefoord 10207 (BM)

*Erycina pusilla* (L.) N.H.Williams & M.W.Chase (= *Psycmorchis pusilla* (L.) Dodson & Dressler) h/e f BBG2003-0240

|  |     |    |                                 |
|--|-----|----|---------------------------------|
| <i>Galeandra batemanii</i> Rolfe   | h/e | ps | BBG2004-0428                    |
| <i>Galeottia grandiflora</i> A.Rich. & Galeotti  | h/e | f  | <i>B. Sayers</i> 00/818         |
| <i>Gongora cassidea</i> Rchb.f.  | h/e | f  | <i>B. Sayers</i> 00/820         |
| <i>Gongora truncata</i> Lindl.   | h/e | f  | <i>M. Short</i> 233 (BM)        |
| <i>Gongora unicolor</i> Schltr.  | h/e | f  | <i>T. Hawkins</i> 1269 (MO)     |
| <b>Goodyera sp. +</b>  | h/e | f  | <i>B. Allen</i> 15176 (MO)      |
| <i>Habenaria monorrhiza</i> (Sw.) Rchb.f.  | h   | f  | <i>J. Dwyer</i> 12279 (MO)      |
| <i>Ionopsis urticularioides</i> (Sw.) Lindl.   | h/e | f  | <i>B. Sayers</i> 97/277         |
| <i>Isochilus carnosiflorus</i> Lindl.  | h   | f  | <i>T. Hawkins</i> 1225 (MO)     |
| <i>Jacquiiniella globosa</i> (Jacq.) Schltr.   | h/e | f  | BBG2004-0436                    |
| <i>Jacquiiniella teretifolia</i> (Sw.) Britton & Wilson  | h/e | f  | <i>B. Sayers</i> 97/372         |
| <i>Kraenzlinella erinacea</i> (Rchb.f.) Ames (= <i>Pleurothallis erinacea</i> Rchb.f.)                                     | h/e | f  | <i>T. Croat</i> 23747 (MO)      |
| <b>Lepanthes arachnion</b> Luer & Dressler   | h/e | f  | <i>B. Sayers</i> 97/768         |
| <b>Lepathopsis floripecten</b> (Rchb.f.) Ames  | h/e | f  | <i>B. Sayers</i> 00/801         |
| <i>Lycaste cochleata</i> Lindl.  | h/e | f  | <i>B. Sayers</i> 97/292         |
| <i>Malaxis</i> sp.   | h   | f  | <i>A. Monro</i> 684 (BM)        |
| <i>Masdevallia floribunda</i> Lindl.   | h   | f  | <i>T. Hawkins</i> 1200 (MO)     |
| <i>Maxillaria aciantha</i> Rchb.f.   | h/e | f  | <i>T. Hawkins</i> 1223 (MO)     |
| <i>Maxillaria crassifolia</i> (Lindl.) Rchb.f.   | h/e | f  | <i>B. Sayers</i> pers. obs.     |
| <i>Maxillaria densa</i> Lindl.   | h/e | f  | <i>T. Croat</i> 23614 (MO)      |
| <i>Maxillaria elatior</i> Rchb.f.  | h/e | f  | BBG1997-0006                    |
| <i>Maxillaria friedrichsthallii</i> Rchb.f.  | h/e | f  | BBG2003-0237                    |
| <i>Maxillaria hedwigae</i> Hamer & Dodson  | h/e | f  | <i>T. Hawkins</i> 1228 (MO)     |
| <i>Maxillaria rufescens</i> Lindl.   | h/e | f  | BBG1997-0050                    |
| <i>Maxillaria tenuifolia</i> Lindl.  | h/e | f  | <i>B. Sayers</i> 97/300         |
| <i>Maxillaria uncata</i> Lindl.  | h/e | f  | <i>T. Croat</i> 23746 (MO)      |
| <i>Maxillaria variabilis</i> Bateman ex Lindl.   | h/e | f  | <i>T. Hawkins</i> 1067 (MO)     |
| <b>Mesadenus polyanthus</b> (Rchb.f.) Schltr.  | h/e | f  | <i>B. Sayers</i> 97/379         |
| <i>Mormolyca ringens</i> (Lindl.) Schltr.  | h/e | f  | <i>T. Hawkins</i> 1056 (MO)     |
| <i>Nidema boothii</i> (Lindl.) Schltr.   | h/e | f  | <i>C. Lundell</i> 6413 (MO)     |
| <i>Oncidium sphacelatum</i> Lindl.   | h/e | f  | <i>C. Whitefoord</i> 10207 (BM) |
| <i>Ornithocephalus gladius</i> Hook.   | h/e | f  | <i>A. Gentry</i> 7823 (MO)      |
| <i>Pelexia adnata</i> (Sw.) Spreng.  | h   | f  | <i>B. Holst</i> 7389 (SEL; SC)  |
| <b>Platystele minimiflora</b> (Schltr.) Garay  | h/e | f  | <i>B. Sayers</i> 97/304 (BS)    |
| <i>Platystele stenostachya</i> (Rchb.f.) Garay   | h/e | f  | <i>S. Ingram</i> 1915 (MO)      |
| <i>Platythelys querceticola</i> (Lindl.) Garay   | h   | f  | <i>B. Sayers</i> 00/825         |
| <i>Pleurothallis angustifolia</i> Lindl.   | h/e | f  | <i>B. Sayers</i> 00/813         |
| <i>Pleurothallis cardiothallis</i> Rchb.f.   | h/e | f  | <i>B. Sayers</i> 00/823         |
| <i>Pleurothallis lewisae</i> Ames  | h/e | f  | <i>B. Sayers</i> 97/357         |
| <i>Polystachya foliosa</i> (Hook.) Rchb.f.   | h/e | f  | <i>B. Sayers</i> 97/198         |
| <i>Ponera striata</i> Lindl.   | h   | f  | <i>B. Sayers</i> 97/406         |
| <i>Prescottia stachyodes</i> (Sw.) Lindl.  | h   | f  | <i>B. Sayers</i> 00/814         |
| <i>Prosthechea baculus</i> (Rchb.f.) W.E.Higgins   | h/e | f  | BBG1997-0003                    |
| <i>Prosthechea chacaoensis</i> (Rchb.f.) W.E.Higgins   | h/e | f  | <i>T. Croat</i> 23786 (MO)      |
| <i>Prosthechea cochleata</i> (L.) W.E.Higgins<br>(= <i>Encyclia cochleata</i> L.Lemée)                                     | h/e | f  | <i>A. Gentry</i> 7818 (MO)      |
| <i>Prosthechea michuacana</i> (La Llave & Lex.)<br>W.E.Higgins (= <i>Encyclia michuacana</i><br>(La Llave & Lex.) Schltr.) | h   | ps | BBG2005-0009                    |

|  |     |   |                                 |
|--|-----|---|---------------------------------|
| <i>Prosthechea pygmaea</i> (Hook.) W.E.Higgins<br>(= <i>Encyclia pygmaea</i> (Hook.) W.E.Higgins)                              | h/e | f | <i>S. Ingram</i> 1942 (MO)      |
| <i>Psilochilus</i> sp. +   | h/e | f | <i>B. Allen</i> 15276 (MO)      |
| <i>Sarcoglottis rosulata</i> (Lindl.) P.N.Don  | h   | f | <i>B. Holst</i> 7905 (SEL; SC)  |
| <i>Sarcoglottis sceptrodes</i> (Rchb.f.) Schltr.   | h   | f | BBG1997-0119                    |
| <i>Scaphyglottis lindeniana</i> (A.Rich. & Galeotti)<br>L.O.Williams   | h/e | f | <i>P. Catling</i> B60.5 (MO)    |
| <i>Scaphyglottis prolifera</i> Cogn.   | h/e | f | <i>J. Dwyer</i> 10915 (MO)      |
| <i>Sobralia decora</i> Bateman   | h/e | f | BBG1997-0116                    |
| <i>Sobralia fragrans</i> Lindl.  | h/e | f | BBG2003-0241                    |
| <i>Sobralia macrantha</i> Lindl.   | h   | f | BBG2004-0498                    |
| <i>Specklinia brighamii</i> (S.Watson) Pridgeon &<br>M.W.Chase (= <i>Pleurothallis brighamii</i><br>S.Watson)                  | h/e | f | <i>C. Whitefoord</i> 10316 (BM) |
| <i>Specklinia grobyi</i> (Bateman ex Lindl.)<br>F.Barros (= <i>Pleurothallis grobyi</i> Bateman<br>ex Lindl.)                  | h/e | f | BBG2003-0245                    |
| <i>Specklinia setosa</i> (C.Schweinf.) Pridgeon &<br>M.W.Chase (= <i>Pleurothallis setosa</i><br>C.Schweinf.)                  | h/e | f | <i>T. Croat</i> 23622 (MO)      |
| <i>Specklinia tribuloides</i> (Sw.) Lindl.<br>(= <i>Pleurothallis setosa</i> C.Schweinf.)                                      | h/e | f | <i>B. Sayers</i> 97/338         |
| <i>Stanhopea oculata</i> (Lodd.) Lindl.  | h/e | f | <i>B. Holst</i> 7831 (SEL; SC)  |
| <i>Stelis ciliaris</i> Lindl.  | h/e | f | <i>A. Gentry</i> 7827 (MO)      |
| <i>Stelis gelida</i> (Lindl.) Pridgeon & M.W.Chase   | h/e | f | <i>T. Hawkins</i> 1212 (MO)     |
| <i>Stelis gracilis</i> Ames  | h/e | f | <i>B. Allen</i> 15286 (MO)      |
| <i>Stelis quadrifida</i> (La Llave & Lex.) Lindl.  | h/e | f | <i>B. Sayers</i> 97/254         |
| <i>Teuscheria pickiana</i> (Schltr.) Garay   | h/e | f | <i>B. Sayers</i> 97/239         |
| <i>Trichocentrum ascendens</i> (Lindl.) M.W.Chase &<br>N.H.Williams (= <i>Oncidium ascendens</i> Lindl.)                       | h/e | f | BBG2004-0437                    |
| <i>Trichocentrum carthagenense</i> (Jacq.)<br>M.W.Chase & N.H.Williams (= <i>Oncidium</i><br><i>carthagenense</i> (Jacq.) Sw.) | h/e | f | BBG2003-0245                    |
| <i>Trichocentrum cebolleta</i> (Jacq.) M.W.Chase &<br>N.H.Williams (= <i>Oncidium cebolleta</i> (Jacq.)<br>Sw.)                | h/e | f | <i>C. Whitefoord</i> 10125 (BM) |
| <i>Trichocentrum lindenii</i> (Brongn.) M.W.Chase &<br>N.H.Williams (= <i>Oncidium lindenii</i> Brongn.)                       | h/e | f | <i>B. Holst</i> 7411 (SEL; SC)  |
| <b><i>Trichocentrum undulatum</i> (Sw.) Ackerman &amp;<br/>M.W.Chase</b>   | h/e | f | <i>B. Holst</i> 7411 (SEL; SC)  |
| <i>Trichosalpinx blaisdellii</i> (S.Watson) Luer   | h/e | f | <i>B. Sayers</i> 97/219         |
| <i>Trichosalpinx ciliaris</i> (Lindl.) Luer  | h/e | f | <i>B. Sayers</i> 97/499         |
| <i>Trigonidium egertonianum</i> Bateman ex Lindl.  | h/e | f | <i>T. Hawkins</i> 1242 (MO)     |
| <i>Vanilla hartii</i> Rolfe  | h/e | f | BBG2005-0056                    |
| <i>Vanilla planifolia</i> G.Jackson  | h/v | f | <i>B. Sayers</i> 97/319         |
| <b>Orobanchaceae</b>   |     |   |                                 |
| <b><i>Castilleja arvensis</i> Schldl. &amp; Cham.</b>  | h/p | f | <i>C. Whitefoord</i> 10168 (BM) |
| <b>Oxalidaceae</b>   |     |   |                                 |
| <i>Biophytum dendroides</i> (Kunth) DC.  | h   | r | <i>C. Whitefoord</i> 2067 (BM)  |
| <i>Oxalis frutescens</i> L.  | h   | f | <i>C. Whitefoord</i> 10039 (BM) |

|   |     |     |                                 |
|---|-----|-----|---------------------------------|
| <i>Oxalis latifolia</i> s.l. Kunth  | h   | r   | <i>C. Whitefoord</i> 10420 (BM) |
| <b>Papaveraceae</b>   |     |     |                                 |
| <i>Argemone mexicana</i> L.   | h   | r   | <i>L. Urban</i> 39 (E)          |
| <i>Bocconia frutescens</i> L.   | s   | f   | <i>T. Croat</i> 23792 (MO)      |
| <b>Passifloraceae</b>   |     |     |                                 |
| <i>Passiflora adenopoda</i> DC.   | v   | f   | <i>M. Peña</i> 1031 (BM)        |
| <i>Passiflora ambigua</i> Hemsl.  | v   | f   | <i>C. Whitefoord</i> 9064 (BM)  |
| <i>Passiflora biflora</i> Lam.  | v   | f   | <i>T. Croat</i> 23564 (MO)      |
| <i>Passiflora foetida</i> L.  | v   | f   | <i>L. Urban</i> 5 (E)           |
| <i>Passiflora guatemalensis</i> S.Watson                                      | v   | f   | <i>A. Gentry</i> 7742 (MO)      |
| <i>Passiflora helleri</i> Peyr.   | v   | f   | <i>S. Cafferty</i> 167 (BM)     |
| <i>Passiflora mayarum</i> J.M.MacDougal                                       | v   | f   | <i>A. Gentry</i> 7733 (MO)      |
| <i>Passiflora oerstedii</i> Mast. var. <i>choconiana</i><br>(S.Watson) Killip | v   | f   | <i>J. Dwyer</i> 11558 (MO)      |
| <i>Passiflora serratifolia</i> L.   | v   | f   | <i>L. Seed</i> 10 (E)           |
| <i>Passiflora sexflora</i> Juss.  | v   | f   | <i>M. Short</i> 236 (BM)        |
| <i>Passiflora xiizodz</i> J.M.MacDougal                                       | v   | f   | <i>A. Smith</i> 8 (E)           |
| <b>Pentaphragaceae</b>  |     |     |                                 |
| <i>Ternstroemia tepezapote</i> Schlttdl. & Cham.                              | t   | f/r | <i>C. Whitefoord</i> 10266 (BM) |
| <b>Phyllanthaceae</b>   |     |     |                                 |
| <i>Astrocasia tremula</i> (Griseb.) G.L.Webster                               | t   | f   | <i>P. Gentle</i> 2179 (MO)      |
| <i>Phyllanthus liebmannianus</i> Müll.Arg.                                    | h   | f   | <i>C. Whitefoord</i> 10276 (BM) |
| <b>Phytolaccaceae</b>   |     |     |                                 |
| <i>Phytolacca rivinoides</i> Kunth & C.D.Bouché                               | s   | f   | <i>A. Monro</i> 1226 (BM)       |
| <i>Phytolacca thyrsoiflora</i> Fenzl ex J.A.Schmidt                           | h   | f   | <i>A. Monro</i> 754 (BM)        |
| <i>Rivina humilis</i> L.  | h   | f   | <i>C. Sharp</i> 6 (E)           |
| <b>Piperaceae</b>   |     |     |                                 |
| <i>Peperomia alata</i> Ruiz & Pav.  | h/e | f   | <i>A. Gentry</i> 7832 (MO)      |
| <i>Peperomia angustata</i> Kunth  | h/e | r   | <i>T. Hawkins</i> 1313 (MO)     |
| <i>Peperomia deppeana</i> Schlttdl. & Cham.                                   | h/e | f   | <i>C. Whitefoord</i> 10026 (BM) |
| <i>Peperomia hirta</i> C.DC. (= <i>P. costaricensis</i><br>C.DC.)             | h/e | f   | <i>T. Hawkins</i> 1208 (MO)     |
| <i>Peperomia obtusifolia</i> (L.) A.Dietr.                                    | h/e | f   | <i>A. Monro</i> 1130 (BM)       |
| <i>Peperomia matlalucaensis</i> C.DC.   | h/e | f   | <i>B. Holst</i> 5191 (MO)       |
| <i>Peperomia petrophila</i> C.DC.   | h/e | f   | <i>M. Pena</i> 991 (MO)         |
| <i>Peperomia portobellensis</i> Beurl.  | h/e | f   | <i>T. Croat</i> 23326 (MO)      |
| <i>Peperomia rhombea</i> Ruiz & Pav.  | h/e | f   | <i>T. Croat</i> 23755 (MO)      |
| <i>Peperomia</i> aff. <i>tetraphylla</i> (G.Forst.) Hook.<br>& Arn.           | h/e | f   | <i>C. Whitefoord</i> 9105 (BM)  |
| <i>Peperomia versicolor</i> Trel. +   | h/e | f   | <i>B. Holst</i> 5251 (MO)       |
| <i>Piper aduncum</i> L.   | t   | f   | <i>C. Whitefoord</i> 9292 (BM)  |
| <i>Piper aequale</i> Vahl   | s   | f   | <i>A. Monro</i> 1446 (BM)       |
| <i>Piper amalago</i> L.   | s   | f   | <i>L. Urban</i> 107 (E)         |
| <i>Piper auritum</i> Kunth  | h/s | f   | <i>A. Gentry</i> 7746 (MO)      |
| <i>Piper hispidum</i> Sw.   | s   | r   | <i>L. Urban</i> 309 (E)         |
| <i>Piper jacquemontianum</i> Kunth  | s   | f   | <i>K. Armstrong</i> 505 (E)     |
| <i>Piper marginatum</i> Jacq.   | s   | f   | <i>C. Whitefoord</i> 2049 (BM)  |
| <i>Piper pseudofulgineum</i> C.DC.  | s   | f   | <i>A. Gentry</i> 7798 (MO)      |

|  |   |      |                                 |
|--|---|------|---------------------------------|
| <i>Piper pseudolindenii</i> C.DC.                                | s | f    | <i>R. Arvigo</i> 247 (MO)       |
| <i>Piper psilorhachis</i> C.DC.                                  | s | f    | <i>A. Gentry</i> 7665 (MO)      |
| <i>Piper sancti-felicis</i> Trel.                                | s | f    | <i>A. Monro</i> 716 (BM)        |
| <i>Piper tuberculatum</i> Jacq.                                  | s | f    | <i>P. Gentle</i> 2472 (MO)      |
| <i>Piper villiramulum</i> C.DC.                                  | s | f    | <i>C. Whitefoord</i> 9077 (BM)  |
| <i>Piper yucatanense</i> C.DC.                                   | s | f    | <i>A. Gentry</i> 7830 (MO)      |
| <b>Plantaginaceae</b>  |   |      |                                 |
| <i>Angelonia ciliaris</i> B.L.Rob.                               | h | f    | <i>A. Monro</i> 1236 (BM)       |
| <i>Bacopa lacertosa</i> Standl.                                  | h | f    | <i>C. Whitefoord</i> 10186 (BM) |
| <i>Mecardonia procumbens</i> (Mill.) Small                       | h | fl/r | <i>C. Whitefoord</i> 10185 (BM) |
| <i>Russelia campechiana</i> Standl.                              | s | f    | <i>C. Whitefoord</i> 10020 (BM) |
| <b><i>Russelia parvifolia</i> Carlson</b>                        | h | r    | <i>T. Hawkins</i> 1023 (MO)     |
| <i>Russelia sarmentosa</i> Jacq.                                 | s | f    | <i>M. Short</i> 217 (BM)        |
| <i>Scoparia dulcis</i> L.  | h | f    | <i>J. Dwyer</i> 10761 (MO)      |
| <i>Stemodia durantifolia</i> (L.) Sw.                            | h | f    | <i>C. Whitefoord</i> 9060 (BM)  |
| <i>Stemodia fruticosa</i> Lundell                                | h | f    | <i>P. Gentle</i> 2252 (MO)      |
| <b><i>Stemodia peduncularis</i> Benth.</b>                       | h | f    | <i>C. Whitefoord</i> 10350 (BM) |
| <b>Poaceae</b>   |   |      |                                 |
| <i>Andropogon bicornis</i> L.                                    | h | f    | <i>M. Peña</i> 1060 (BM)        |
| <i>Arundinella berteroniana</i> (Schult.) Hitchc.<br>& Chase     | h | r    | <i>T. Croat</i> 23538 (MO)      |
| <i>Arundinella deppeana</i> Nees ex Steud.                       | h | r    | <i>C. Whitefoord</i> 10139 (BM) |
| <i>Chloris radiata</i> (L.) Sw.                                  | h | f    | <i>T. Croat</i> 23501 (MO)      |
| <i>Cryptochloa strictiflora</i> (E.Fourn.) Swallen               | h | r    | <i>A. Monro</i> 3262 (BM)       |
| <i>Dichantherium dichotomum</i> (L.) Gould                       | h | f    | <i>S. Cafferty</i> 120 (BM)     |
| <i>Dichantherium sciurotoides</i> (Zuloaga &<br>Morrone) Davidse | h | f    | <i>A. Monro</i> 3208 (BM)       |
| <i>Digitaria ciliaris</i> (Retz.) Koeler                         | h | f    | <i>T. Croat</i> 23503 (MO)      |
| <i>Digitaria horizontalis</i> Willd.                             | h | f    | <i>A. Monro</i> 2681 (BM)       |
| <i>Eleusine indica</i> (L.) Gaertn.                              | h | f    | <i>C. Whitefoord</i> 2119 (BM)  |
| <i>Eragrostis atrovirens</i> (Desf.) Trin. ex Steud.             | h | f    | <i>A. Monro</i> 3236 (BM)       |
| <i>Eragrostis maypurensis</i> (Kunth) Steud.                     | h | ps   | <i>C. Whitefoord</i> 9189 (BM)  |
| <i>Eragrostis rufescens</i> Schrad.                              | h | f    | <i>P. Gentle</i> 2281 (MO)      |
| <i>Gynierium sagittatum</i> (Aubl.) P.Beauv.                     | h | f    | <i>T. Hawkins</i> 1317 (MO)     |
| <i>Homolepis aturensis</i> (Kunth) Chase                         | h | f    | <i>T. Croat</i> 23634 (MO)      |
| <i>Hymenachne amplexicaulis</i> (Rudge) Nees                     | h | r    | <i>T. Hawkins</i> 1297 (MO)     |
| <i>Hyparrhenia rufa</i> (Nees) Stapf                             | h | f    | <i>A. Monro</i> 751 (BM)        |
| <i>Ichmanthus mexicanus</i> E.Fourn.                             | h | f    | <i>A. Monro</i> 3260 (MO)       |
| <i>Ichmanthus tenuis</i> (J.Presl) Hitchc. & Chase               | h | f    | <i>A. Monro</i> 3260 (BM)       |
| <i>Lasiacis divaricata</i> (L.) Hitchc.                          | h | f    | <i>C. Whitefoord</i> 2024 (BM)  |
| <i>Lasiacis grisebachii</i> (Nash) Hitchc.                       | h | f    | <i>C. Whitefoord</i> 2025 (BM)  |
| <i>Lasiacis nigra</i> Davidse                                    | h | f    | <i>A. Monro</i> 409 (BM)        |
| <i>Lasiacis procerrima</i> (Hack.) Hitchc.                       | h | f    | <i>M. Peña</i> 1055 (BM)        |
| <i>Lasiacis rugelii</i> (Griseb.) Hitchc.                        | h | r    | <i>J. Dwyer</i> 12284 (MO)      |
| <i>Lasiacis scabrior</i> Hitchc.                                 | h | f    | <i>M. Short</i> 185 (BM)        |
| <i>Lasiacis sloanei</i> (Griseb.) Hitchc.                        | h | f    | <i>D. Sutton</i> 41 (BM)        |
| <i>Leersia ligularis</i> Trin.                                   | h | f    | <i>T. Croat</i> 23496 (MO)      |
| <i>Leptochloa virgata</i> (L.) P.Beauv.                          | h | f    | <i>A. Monro</i> 2679 (BM)       |
| <i>Lithachne pauciflorus</i> (Sw.) P.Beauv.                      | h | f    | <i>C. Whitefoord</i> 10234 (BM) |
| <b><i>Muhlenbergia tenella</i> (Kunth) Trin.</b>                 | h | f    | <i>T. Hawkins</i> 1292 (MO)     |

|  |     |     |                                 |
|--|-----|-----|---------------------------------|
| <i>Olyra glaberrima</i> Raddi                                      | h   | f   | <i>A. Monro</i> 1450 (BM)       |
| <i>Olyra latifolia</i> L.  | h   | f   | <i>A. Monro</i> 1224 (BM)       |
| <i>Oplismenus hirtellus</i> (L.) P.Beauv.                          | h   | r   | <i>C. Lundell</i> 6312 (MO)     |
| <i>Panicum bartlettii</i> Swallen                                  | h   | f   | <i>A. Monro</i> 1020 (BM)       |
| <i>Panicum hirsutum</i> Sw.  | h   | f   | <i>C. Whitefoord</i> 2090 (BM)  |
| <i>Panicum pilosum</i> Sw.   | h   | f   | <i>M. Short</i> 251 (BM)        |
| <i>Panicum polygonatum</i> Schrad.                                 | h   | f   | <i>C. Whitefoord</i> 9309 (BM)  |
| <i>Panicum pulchellum</i> Raddi                                    | h   | f   | <i>A. Monro</i> 2645 (BM)       |
| <i>Panicum trichoides</i> Sw.                                      | h   | f   | <i>T. Hawkins</i> 1040 (MO)     |
| <i>Paspalum botterii</i> (E.Fourn.) Chase                          | h   | f   | <i>T. Croat</i> 23700 (MO)      |
| <i>Paspalum caespitosum</i> Flügge                                 | h   | f   | <i>J. Dwyer</i> 10779 (MO)      |
| <i>Paspalum conjugatum</i> P.J.Bergius                             | h   | f   | <i>S. Cafferty</i> 165 (BM)     |
| <i>Paspalum corcovadense</i> Raddi                                 | h   | f   | <i>M. Peña</i> 995 (BM)         |
| <i>Paspalum paniculatum</i> L.                                     | h   | f   | <i>T. Croat</i> 23789 (MO)      |
| <i>Paspalum virgatum</i> L.  | h   | f   | <i>A. Gentry</i> 7750 (MO)      |
| <i>Pharus parvifolius</i> Nash                                     | h   | f   | <i>A. Monro</i> 1207 (BM)       |
| <i>Phragmites australis</i> (Cav.) Trin. ex Steud.                 | h   | f   | <i>T. Hawkins</i> 1316 (MO)     |
| <i>Rhipidocladum bartlettii</i> (McClure) McClure                  | h   | f   | <i>A. Monro</i> 2744 (BM)       |
| <i>Setaria paniculifera</i> (Steud.) E.Fourn. ex Hemsl.            | h   | f   | <i>S. Cafferty</i> 36 (BM)      |
| <i>Setaria parviflora</i> (Poir.) Kerguelen                        | h   | f   | <i>C. Whitefoord</i> 2118 (BM)  |
| <b><i>Setaria poiretiana</i> (Schult.) Kunth</b>                   | h   | f   | <i>S. Cafferty</i> 36 (BM)      |
| <i>Steinchisma laxa</i> (Sw.) Zuloaga (= <i>Panicum laxum</i> Sw.) | h   | r   | <i>J. Dwyer</i> 10755 (MO)      |
| <b><i>Tripsacum andersonii</i> J.R.Gray</b>                        | h   | f   | <i>S. Matola</i> s.n. (MO)      |
| <i>Tripsacum latifolium</i> Hitchc.                                | h   | f   | <i>S. Cafferty</i> 164 (BM)     |
| <b><i>Urochloa fusca</i> (Sw.) B.F.Hansen &amp; Wunderlin</b>      | h   | f   | <i>D. Sutton</i> 83 (BM)        |
| <b>Podostemaceae</b>   |     |     |                                 |
| <i>Marathrum oxycarpum</i> Tul.                                    | h/a | r   | <i>C. Whitefoord</i> 9359 (BM)  |
| <i>Tristicha trifaria</i> (Bory ex Willd.) Spreng.                 | h/a | r   | <i>T. Hawkins</i> 1188 (MO)     |
| <b>Polemoniaceae</b>   |     |     |                                 |
| <i>Loeselia glandulosa</i> (Cav.) G.Don                            | h   | f/r | <i>C. Whitefoord</i> 10046 (BM) |
| <b>Polygalaceae</b>  |     |     |                                 |
| <i>Bredemeyera lucida</i> (Benth.) Klotzsch ex Hassk.              | s   | f/r | <i>C. Whitefoord</i> 9381 (BM)  |
| <i>Polygala aparinoides</i> Hook. & Arn.                           | h   | f   | <i>C. Whitefoord</i> 9341 (BM)  |
| <i>Polygala hondurana</i> Chodat                                   | h   | f   | <i>J. Dwyer</i> 12301 (MO)      |
| <i>Polygala paniculata</i> L.                                      | h   | r   | <i>L. Urban</i> 353 (E)         |
| <i>Securidaca diversifolia</i> (L.) S.F.Blake                      | v   | f   | <i>A. Monro</i> 1478 (BM)       |
| <i>Securidaca sylvestris</i> Schltld.                              | v   | f   | <i>A. Monro</i> 988 (BM)        |
| <b>Polygonaceae</b>  |     |     |                                 |
| <i>Coccoloba acapulcensis</i> Standl.                              | t   | f   | <i>C. Whitefoord</i> 9205 (BM)  |
| <i>Coccoloba barbadensis</i> Jacq.                                 | t   | f   | <i>A. Monro</i> 948 (BM)        |
| <i>Coccoloba belizensis</i> Standl.                                | t   | r   | <i>L. Urban</i> 184 (E)         |
| <i>Coccoloba tuerckheimii</i> Donn.Sm.                             | t   | f   | <i>A. Gentry</i> 7845 (MO)      |
| <i>Polygonum persicarioides</i> Kunth                              | h   | r   | <i>L. Urban</i> 226 (E)         |
| <i>Polygonum punctatum</i> Elliott                                 | h   | r   | <i>T. Hawkins</i> 1291 (MO)     |
| <b>Pontederiaceae</b>  |     |     |                                 |
| <i>Pontederia cordata</i> L.                                       | h/a | r   | <i>T. Hawkins</i> 1296 (MO)     |



**Portulacaceae**

*Portulaca* sp. h f *T. Edgall* 13 (E)

**Primulaceae** (see *Myrsinaceae*)**Proteaceae**

*Roupala glaberrima* Pittier + s f *S. Brewer* 1698 (WNC)

*Roupala montana* Aubl. s f *L. Urban* 154 (E)

**Putranjivaceae**

*Drypetes brownii* Standl. t f *A. Caldwell* 8 (E)

**Rhamnaceae**

*Gouania eurycarpa* Standl. v f *T. Hawkins* 1156 (MO)

*Gouania lupuloides* (L.) Urb. s f *T. Hawkins* 1596 (MO)

**Rhizophoraceae**

*Cassipourea guianensis* Aubl. t f *C. Whitefoord* 9360 (BM)

**Rosaceae**

*Photinia microcarpa* Standl. t f *A. Monro* 1234 (BM)

*Prunus* aff. *tikalana* Lundell + t f *S. Brewer* 1702 (WNC)

**Rubiaceae**

*Alseis yucatanensis* Standl. t f *S. Bridgewater* pers. obs.

*Amaioua corymbosa* Kunth s/t f *A. Monro* 1111 (BM)

*Appunia guatemalensis* Donn.Sm. s/t f *C. Whitefoord* 9326 (BM)

*Augusta rivalis* (Benth.) J.H.Kirkbr. s/t r *C. Whitefoord* 1220 (BM)

(= *Lindenia rivalis* Benth.)

*Chiococca alba* (L.) Hitchc. v f *A. Monro* 673 (BM)

*Chiococca belizensis* Lundell v f *A. Ibáñez García* 72 (MO)

*Chomelia protracta* (Bartl. ex DC.) Standl. t f *C. Gantz* 9(E)

*Coccocypselum herbaceum* P.Browne + h f *S. Bridgewater* 4009 (BM)

*Coccocypselum hirsutum* Bartl. ex DC. h f *A. Monro* 1740 (BM)

*Diodia brasiliensis* Spreng. h/s f *J. Dwyer* 10895 (MO)

*Diodia sarmentosa* Sw. h f *I. Holmes-Smith* 13 (E)

*Exostema mexicanum* A.Gray t f *A. Ibáñez García* 81 (MO)

*Faramea brachysiphon* Standl. + s/t f *S. Bridgewater* 3899 (BM)

*Faramea occidentalis* (L.) A.Rich. s/t f *C. Whitefoord* 9401 (BM)

*Geophila macropoda* (Ruiz & Pav.) DC. v f *M. Balick* 2009 (MO)

*Geophila repens* (L.) I.M.Johnst. h f *A. Forrest* 54 (E)

*Guettarda combsii* Urb. t f *A. Ibáñez García* 105 (MO)

*Guettarda deamii* Standl. s/t r *L. Urban* 249 (E)

*Guettarda macrosperma* Donn.Sm. t f *T. Hawkins* 1245 (MO)

*Guettarda tikalana* Lundell v f *C. Whitefoord* 9296 (BM)

*Hamelia axillaris* Sw. s/t f *C. Whitefoord* 2063 (BM)

*Hamelia calycosa* Donn.Sm. t f *S. Queensborough* 110 (E)

*Hamelia patens* Jacq. s/t f *J. Dwyer* 10776 (MO)

*Hillia panamensis* Standl. + s f *S. Brewer* 1675 (WNC)

*Hillia tetrandra* Sw. s/t f *J. Dwyer* 10797 (MO)

*Hoffmannia ghiesbreghtii* (Lem.) Hemsl. s/t f *A. Monro* 3162 (BM)

*Manettia reclinata* L. v f *T. Hawkins* 1289 (MO)

*Mitracarpus hirtus* (L.) DC. h r *J. Dwyer* 10171 (MO)

*Morinda panamensis* Seem. s/t f *C. Whitefoord* 9169 (BM)

*Notopleura uliginosa* (Sw.) Bremek. s f *S. Brewer* 1788 (WNC)

(= *Psychotria uliginosa* Sw.) +

|  |     |     |                           |
|--|-----|-----|---------------------------|
| <i>Oldenlandia corymbosa</i> L.  | h   | f   | J. Dwyer 12331 (MO)       |
| <i>Palicourea guianensis</i> Aubl. +   | s   | f   | S. Bridgewater 3930 (BM)  |
| <i>Palicourea padifolia</i> (Willd. ex Roem. & Schult.) C.M.Taylor & Lorence             | t   | f   | A. Ibáñez García 117 (MO) |
| <i>Posoqueria latifolia</i> (Rudge) Roem. & Schult.                                      | t   | f   | C. Whitefoord 9432 (BM)   |
| <i>Psychotria acuminata</i> Benth.   | s/t | f   | A. Monro 382 (BM)         |
| <i>Psychotria berteriana</i> DC.   | t   | f   | C. Whitefoord 9333 (BM)   |
| <i>Psychotria buchtienii</i> (H.J.P.Winkl.) Standl. +                                    | s   | f   | S. Brewer 1789 (WNC)      |
| <i>Psychotria chiapensis</i> Standl.   | s/t | f   | C. Whitefoord 9459 (BM)   |
| <i>Psychotria costivenia</i> Griseb.   | s   | f   | C. Whitefoord 10283 (BM)  |
| <i>Psychotria deflexa</i> DC.  | s   | f   | M. Short 172 (BM)         |
| <i>Psychotria domingensis</i> Jacq.  | s   | f   | T. Croat 23739 (MO)       |
| <i>Psychotria elata</i> (Sw.) Hammel   | s   | f   | C. Whitefoord 9321 (BM)   |
| <i>Psychotria fruticetorum</i> Standl.   | s   | f   | J. Dwyer 10847 (MO)       |
| <i>Psychotria gracilentia</i> Müll.Arg.  | s   | f   | A. Monro 3249 (MO)        |
| <i>Psychotria guadalupensis</i> (DC.) R.A.Howard +                                       | s   | f   | S. Bridgewater 3948 (BM)  |
| <i>Psychotria hoffmannseggiana</i> (Willd. ex Roem. & Schult.) Müll.Arg.                 | s   | f   | A. Monro 3249 (BM)        |
| <i>Psychotria limonensis</i> K.Krause  | t   | f   | A. Monro 1318 (BM)        |
| <i>Psychotria lundellii</i> Standl.  | t   | f   | C. Gantz 5 (E)            |
| <i>Psychotria marginata</i> Sw.  | s   | f   | A. Monro 1346 (BM)        |
| <i>Psychotria mexicae</i> Standl.  | t   | f   | A. Ibáñez García 2 (MO)   |
| <i>Psychotria nervosa</i> Sw.  | s   | f/r | C. Whitefoord 2078 (BM)   |
| <i>Psychotria panamensis</i> Standl.   | t   | f   | A. Monro 3290 (BM)        |
| <i>Psychotria poeppigiana</i> Müll.Arg.  | s   | f   | J. Dwyer 10807 (MO)       |
| <i>Psychotria pubescens</i> Sw.  | s   | f   | C. Whitefoord 9070 (BM)   |
| <i>Psychotria quinqueradiata</i> Pol.  | s   | f   | J. Dwyer 10912 (MO)       |
| <i>Psychotria uliginosa</i> Sw.  | s   | f   | A. Monro 3230 (BM)        |
| <i>Randia aculeata</i> L.  | s   | f   | C. Whitefoord 10364 (BM)  |
| <b><i>Randia cookii</i> Standl.</b>  | t   | f   | A. Monro 1305 (BM)        |
| <i>Randia lundelliana</i> Standl.  | s   | f   | L. Urban 145 (E)          |
| <i>Randia matudae</i> Lorence & Dwyer  | t   | f   | S. Cafferty 145 (BM)      |
| <b><i>Randia retroflexa</i> Lorence &amp; M.Nee</b>                                      | v   | f   | C. Whitefoord 9407 (BM)   |
| <i>Richardia scabra</i> L.   | s   | r   | T. Croat 23499 (MO)       |
| <i>Rogiera stenosphon</i> (Hemsl.) Borhidi (= <i>Rondeletia stenosphon</i> Hemsl.)       | t   | f   | J. Dwyer 10852 (MO)       |
| <i>Ronabea latifolia</i> Aubl. (= <i>Psychotria erecta</i> (Aubl.) Standl. & Steyerm.) + | s   | f   | S. Brewer 1734 (WNC)      |
| <i>Rondeletia buddleioides</i> Benth.  | s   | f   | A. Monro 3256 (BM)        |
| <i>Sabicea panamensis</i> Wernham +  | v   | f   | B. Allen 15214 (MO)       |
| <i>Simira salvadorensis</i> (Standl.) Steyerm.   | t   | f   | S. Bridgewater pers. obs. |
| <i>Spermacoce assurgens</i> Ruiz & Pav.  | h   | f   | C. Whitefoord 9484 (BM)   |
| <i>Spermacoce ocyimifolia</i> Willd. ex Roem. & Schult.                                  | h   | f   | M. Short 219 (BM)         |
| <i>Spermacoce prostrata</i> Aubl.  | h   | f   | C. Whitefoord 9443 (BM)   |
| <i>Spermacoce tenuior</i> L.   | h   | f   | T. Croat 23368 (MO)       |
| <i>Spermacoce verticillata</i> L.  | h   | f   | L. Urban 357 (E)          |
| <b>Ruscaceae</b>   |     |     |                           |
| <i>Dracaena americana</i> Donn.Sm.   | t   | f   | P. Gentle 2505 (MO)       |

**Rutaceae**

|                                       |   |   |                                |
|---------------------------------------|---|---|--------------------------------|
| <i>Amyris belizensis</i> Lundell      | t | t | <i>M. Baden</i> 4 (E)          |
| <i>Amyris elemifera</i> L.            | t | f | <i>A. Monro</i> 1856 (BM)      |
| <i>Zanthoxylum juniperinum</i> Poepp. | t | f | <i>A. Monro</i> 1610 (BM)      |
| <i>Zanthoxylum riedelianum</i> Engl.  | t | f | <i>J. Meerman</i> pers. obs.   |
| <i>Zanthoxylum setulosum</i> P.Wilson | t | f | <i>C. Whitefoord</i> 2593 (MO) |

**Salicaceae**

|   |     |   |                                 |
|---|-----|---|---------------------------------|
| <i>Casearia arborea</i> (Rich.) Urb.  | t   | f | <i>A. Monro</i> 1169 (BM)       |
| <i>Casearia commersoniana</i> Cambess.                                      | s/t | f | <i>A. Monro</i> 1304 (BM)       |
| <b><i>Casearia coronata</i> Standl. &amp; L.O.Williams +</b>                | s   | f | <i>S. Brewer</i> 1741 (WNC)     |
| <i>Casearia corymbosa</i> Kunth   | s   | f | <i>A. Ibáñez García</i> 22 (MO) |
| <i>Casearia sylvestris</i> Sw.  | s   | f | <i>C. Whitefoord</i> 10003 (BM) |
| <i>Casearia tremula</i> (Griseb.) Griseb. ex C.Wright                       | t   | f | <i>C. Whitefoord</i> 9068 (BM)  |
| <i>Laetia thammia</i> L.  | s   | f | <i>C. Whitefoord</i> 9533 (BM)  |
| <i>Macrohasseltia macroterantha</i> (Standl. & L.O.Williams) L.O.Williams + | t   | f | <i>S. Brewer</i> 1689 (WNC)     |
| <i>Pleuranthodendron lindenii</i> (Turcz.) Sleumer                          | t   | r | <i>G. Proctor</i> 30086 (MO)    |
| <i>Xylosma flexuosum</i> (Kunth) Hemsl.                                     | s   | f | <i>C. Whitefoord</i> 10301 (BM) |
| <i>Zuelania guidonia</i> (Sw.) Britton & Millsp.                            | t   | f | <i>L. Urban</i> 250 (E)         |

**Sapindaceae**

|  |   |   |                                 |
|--|---|---|---------------------------------|
| <i>Allophylus camptostachys</i> Radlk.                                 | t | f | <i>C. Whitefoord</i> 10327 (BM) |
| <i>Allophylus cominia</i> (L.) Sw.                                     | t | f | <i>T. Hawkins</i> 1229 (MO)     |
| <i>Allophylus psilospermus</i> Radlk.                                  | t | f | <i>A. Gentry</i> 7706 (MO)      |
| <i>Cardiospermum grandiflorum</i> Sw.                                  | v | r | <i>L. Urban</i> 289 (E)         |
| <i>Cupania belizensis</i> Standl.                                      | t | f | <i>C. Whitefoord</i> 10002 (BM) |
| <i>Exothea paniculata</i> (Juss.) Radlk.                               | t | f | <i>P. Gentle</i> 2182 (MO)      |
| <i>Matayba apetala</i> Radlk.  | t | f | <i>C. Whitefoord</i> 10289 (BM) |
| <i>Paullinia clavigera</i> Schltld.                                    | v | f | <i>J. Dwyer</i> 10837 (MO)      |
| <i>Paullinia costaricensis</i> Radlk.                                  | v | f | <i>A. Monro</i> 1149 (BM)       |
| <i>Paullinia costata</i> Schltld. & Cham.                              | v | f | <i>N. Garwood</i> 4012 (MO)     |
| <i>Paullinia pinnata</i> L.  | v | f | <i>A. Ibáñez García</i> 89 (MO) |
| <i>Sapindus saponaria</i> L.   | t | f | <i>L. Urban</i> 180 (E)         |
| <b><i>Serjania acuta</i> Triana &amp; Planchon</b>                     | v | f | <i>C. Whitefoord</i> 10094 (BM) |
| <i>Serjania atrolineata</i> Sauvalle & C.Wright                        | v | f | <i>C. Whitefoord</i> 9012 (BM)  |
| <i>Serjania caracasana</i> (Jacq.) Willd.                              | v | f | <i>J. Dwyer</i> 12356 (MO)      |
| <b><i>Serjania goniocarpa</i> Radlk. (Balick et al.</b>                | v | f | <i>C. Whitefoord</i> 9008 (BM)  |
| believe this name might be misapplied to<br><i>S. lundellii</i> Croat) |   |   |                                 |
| <i>Serjania lundellii</i> Croat  | v | f | <i>C. Whitefoord</i> 2788 (BM)  |
| <i>Serjania macrocarpa</i> Standl. & Steyerf.                          | v | f | <i>K. Armstrong</i> 508 (E)     |
| <i>Serjania mexicana</i> (L.) Willd.                                   | v | f | <i>A. Gentry</i> 7789 (MO)      |
| <i>Serjania racemosa</i> Schum.  | v | f | <i>A. Monro</i> 1153 (BM)       |
| <i>Thinouia tomocarpa</i> Standl.                                      | v | f | <i>G. MacMaster</i> 12 (E)      |
| <i>Urvillea ulmacea</i> Kunth  | v | f | <i>C. Whitefoord</i> 10008 (BM) |

**Sapotaceae**

|  |   |   |                                |
|--|---|---|--------------------------------|
| <i>Chrysophyllum mexicanum</i> Brandegees ex Standl. | t | f | <i>J. Dwyer</i> 12325 (MO)     |
| <i>Manilkara staminodella</i> Gilly                  | t | f | <i>A. Gentry</i> 7697 (MO)     |
| <i>Manilkara zapota</i> (L.) P.Royen                 | t | f | <i>C. Whitefoord</i> 9162 (BM) |
| <i>Pouteria amygdalina</i> (Standl.) Baehni          | t | f | <i>C. Whitefoord</i> 9251 (BM) |

|  |     |       |                                    |
|--|-----|-------|------------------------------------|
| <i>Pouteria belizensis</i> (Standl.) Cronquist +                                   | t   | f     | <i>S. Brewer</i> 1771 (WNC)        |
| <i>Pouteria campechiana</i> (Kunth) Baehni   | t   | f     | <i>S. Queensborough</i> 132 (E)    |
| <i>Pouteria durlandii</i> (Standl.) Baehni   | t   | f     | <i>A. Young</i> 7 (E)              |
| <i>Pouteria reticulata</i> (Engl.) Eyma  | t   | f     | <i>S. Gulliver</i> 11 (E)          |
| <i>Sideroxylon foetidissimum</i> Jacq.   | t   | f     | <i>C. Whitefoord</i> 9275 (BM)     |
| <i>Sideroxylon salicifolium</i> (L.) Lam. +  | s/t | f     | <i>S. Brewer</i> 1781 (WNC)        |
| <i>Sideroxylon stevensonii</i> (Standl.) T.D.Penn.                                 | t   | f     | <i>A. Gentry</i> 7764 (MO)         |
| <b>Schlegeliaceae</b>  |     |       |                                    |
| <i>Schlegelia nicaraguensis</i> Standl. +  | v   | f     | <i>S. Brewer</i> 1708 (WNC)        |
| <b>Scrophulariaceae</b> (see also <i>Plantaginaceae</i> and <i>Orobanchaceae</i> ) |     |       |                                    |
| <i>Buddleja americana</i> L.   | s   | f     | <i>C. Whitefoord</i> 9129 (BM)     |
| <b>Simaroubaceae</b>   |     |       |                                    |
| <i>Picramnia antidesma</i> Sw.   | t   | r     | <i>L. Urban</i> 297 (E)            |
| <i>Simarouba glauca</i> DC.  | t   | f     | <i>J. Meerman</i> pers. obs.       |
| <b>Smilacaceae</b>   |     |       |                                    |
| <i>Smilax domingensis</i> Willd.   | v   | f     | <i>A. Monro</i> 3226 (BM)          |
| <i>Smilax mollis</i> Humb. & Bonpl. ex Willd.                                      | v   | f     | <i>T. Hawkins</i> 1080 (MO)        |
| <i>Smilax spinosa</i> Mill.  | v   | f     | <i>C. Whitefoord</i> 2829 (BM)     |
| <i>Smilax velutina</i> Killip & C.V.Morton   | v   | f     | <i>J. Dwyer</i> 12275 (MO)         |
| <b>Solanaceae</b>  |     |       |                                    |
| <i>Athenaea cernua</i> Donn.Sm.  | h/s | f     | <i>C. Lundell</i> 6187 (NY)        |
| <i>Capsicum annuum</i> L.  | s   | f/r   | <i>L. Urban</i> 308 (E)            |
| <i>Capsicum frutescens</i> L.  | h/s | f     | <i>T. Croat</i> 23459 (MO)         |
| <i>Cestrum megalophyllum</i> Dunal   | s   | f     | <i>A. Monro</i> 2650 (BM)          |
| <i>Cestrum nocturnum</i> L.  | t   | f/r   | <i>C. Whitefoord</i> 9046 (BM)     |
| <i>Cestrum racemosum</i> Ruiz & Pav.   | s   | f     | <i>C. Gantz</i> 2 (E)              |
| <i>Lycianthes gorgonea</i> Bitter  | v   | f     | <i>L. Ronse de Craene</i> 1434 (E) |
| <i>Lycianthes heteroclite</i> (Sendtn.) Bitter                                     | s   | f     | <i>A. Monro</i> 2697 (BM)          |
| <i>Lycianthes hypoleuca</i> Standl.  | ss  | f     | <i>A. Gentry</i> 7668 (MO)         |
| <i>Lycianthes lenta</i> (Cav.) Bitter  | v   | f     | <i>T. Croat</i> 23552 (MO)         |
| <i>Lycianthes nitida</i> Bitter  | v   | f     | <i>M. Peña</i> 1043 (BM)           |
| <i>Nicotiana tabacum</i> L.  | s   | f     | <i>A. Gentry</i> 7782 (MO)         |
| <i>Physalis gracilis</i> Miers   | h   | f     | <i>T. Croat</i> 23384 (MO)         |
| <i>Physalis philadelphica</i> Lam.   | h   | cult. | <i>T. Croat</i> 23798 (MO)         |
| <i>Physalis pubescens</i> L.   | h   | f     | <i>H. Irving</i> 183 (E)           |
| <i>Solanum americanum</i> Mill.  | h   | f     | <i>T. Croat</i> 23380 (MO)         |
| <b><i>Solanum appendiculatum</i> Dunal</b>   | h   | f     | <i>C. Whitefoord</i> 9478 (BM)     |
| <i>Solanum capsicoides</i> All.  | s   | f     | <i>C. Whitefoord</i> 10300 (BM)    |
| <i>Solanum cordovense</i> Sessé & Moc.   | s   | f     | <i>C. Brown</i> 22 (E)             |
| <i>Solanum erianthum</i> D.Don   | s   | f     | <i>J. Clayton</i> 3 (E)            |
| <i>Solanum erythrorichum</i> Fernald   | s   | f     | <i>C. Whitefoord</i> 10204 (BM)    |
| <i>Solanum jamaicense</i> Mill.  | s   | f     | <i>S. Cafferty</i> 66 (BM)         |
| <i>Solanum lanceifolium</i> Jacq.  | v   | f     | <i>C. Brown</i> 13 (E)             |
| <i>Solanum lepidotum</i> Dunal   | s   | f     | <i>A. Monro</i> 3148 (BM)          |
| <i>Solanum nudum</i> Dunal   | s   | f     | <i>C. Whitefoord</i> 2050 (BM)     |
| <i>Solanum phaseoloides</i> Pol.   | h   | f     | <i>A. Monro</i> 2689 (BM)          |
| <i>Solanum rudepannum</i> Dunal  | s   | f     | <i>K. Armstrong</i> 507 (E)        |
| <i>Solanum schlechtendalium</i> Walp.  | s   | f     | <i>M. Peña</i> 976 (BM)            |

|  |     |     |                                 |
|--|-----|-----|---------------------------------|
| <i>Solanum suaveolens</i> Kunth & C.D.Bouché               | h   | f   | <i>T. Hawkins</i> 1120 (MO)     |
| <i>Solanum torvum</i> Sw.                                  | s   | f   | <i>J. Clayton</i> 4 (E)         |
| <i>Solanum tuerckheimii</i> Greenm.                        | s   | f   | <i>A. Monro</i> 1860 (MO)       |
| <i>Witheringia solanacea</i> L'Hér.                        | s   | f   | <i>A. Gentry</i> 7804 (MO)      |
| <b>Staphyleaceae</b>                                       |     |     |                                 |
| <i>Turpinia occidentalis</i> (Sw.) G.Don                   | t   | f   | <i>C. Whitefoord</i> 9527 (BM)  |
| <b>Sterculiaceae</b> (see <i>Malvaceae</i> )               |     |     |                                 |
| <b>Styracaceae</b>   |     |     |                                 |
| <i>Styrax argenteus</i> C.Presl                            | t   | f   | <i>C. Whitefoord</i> 9255 (BM)  |
| <i>Styrax glabrescens</i> Benth. +                         | t   | f   | <i>S. Bridgewater</i> 3917 (BM) |
| <b>Symplocaceae</b>  |     |     |                                 |
| <i>Symplocos martinicensis</i> Jacq.                       | t   | f   | <i>A. Monro</i> 2608 (BM)       |
| <b>Theaceae</b> (see <i>Pentaphylaceae</i> )               |     |     |                                 |
| <b>Theophrastaceae</b>                                     |     |     |                                 |
| <i>Deherainia smaragdina</i> (Planch. ex Linden)<br>Decne. | s   | f   | <i>T. Croat</i> 23764 (MO)      |
| <b>Tiliaceae</b> (see <i>Malvaceae</i> )                   |     |     |                                 |
| <b>Tovariaceae</b>   |     |     |                                 |
| <i>Tovaria pendula</i> Ruiz & Pav.                         | s   | f   | <i>R. Rees</i> 9 (MO)           |
| <b>Trigoniaceae</b>  |     |     |                                 |
| <i>Trigonia eriosperma</i> (Lam.) Fromm & Santos           | v   | f   | <i>C. Whitefoord</i> 9535 (BM)  |
| <b>Turneraceae</b>   |     |     |                                 |
| <i>Erblichia odorata</i> Seem.                             | t   | f   | <i>C. Skema</i> 7 (E)           |
| <i>Turnera aromatica</i> Arbo                              | h/s | f   | <i>L. Urban</i> 127 (E)         |
| <b>Ulmaceae</b> (see also <i>Cannabaceae</i> )             |     |     |                                 |
| <i>Ampelocera hottlei</i> (Standl.) Standl.                | t   | f   | <i>L. Urban</i> 104 (E)         |
| <b>Urticaceae</b>  |     |     |                                 |
| <i>Boehmeria caudata</i> Sw.                               | s   | f   | <i>C. Whitefoord</i> 10231 (BM) |
| <i>Boehmeria ramiflora</i> Jacq.                           | s   | f   | <i>C. Whitefoord</i> 2026 (BM)  |
| <i>Boehmeria ulmifolia</i> Wedd.                           | s   | f   | <i>R. Rees</i> 171 (MO)         |
| <i>Cecropia obtusifolia</i> Bertol.                        | t   | f   | <i>N. Garwood</i> observation   |
| <i>Cecropia peltata</i> L.                                 | t   | f   | <i>N. Garwood</i> observation   |
| <i>Coussapoa oligocephala</i> Donn.Sm.                     | t   | f   | <i>A. Monro</i> 971 (BM)        |
| <i>Myriocarpa longipes</i> Liebm.                          | t   | f   | <i>A. Monro</i> 1200 (BM)       |
| <i>Myriocarpa obovata</i> Donn.Sm.                         | t   | f   | <i>A. Monro</i> 1117 (BM)       |
| <i>Pilea hyalina</i> Fenzl                                 | h   | f   | <i>A. Monro</i> 3284 (BM)       |
| <i>Pilea microphylla</i> (L.) Liebm.                       | h   | f/r | <i>A. Monro</i> 756 (BM)        |
| <i>Pilea pubescens</i> Liebm.                              | h   | f   | <i>T. Hawkins</i> 1029 (BM)     |
| <b><i>Pilea riparia</i> Donn.Sm.</b>                       | h   | f   | <i>T. Croat</i> 23806 (MO)      |
| <i>Urera alceifolia</i> Gaudich.                           | s   | f   | <i>S. Cafferty</i> 16 (BM)      |
| <i>Urera baccifera</i> (L.) Gaudich.                       | s   | f   | <i>A. Monro</i> 671 (BM)        |
| <b><i>Urera simplex</i> Wedd.</b>                          | t   | f   | <i>T. Croat</i> 23728 (MO)      |
| <b>Valerianaceae</b>                                       |     |     |                                 |
| <i>Valeriana scandens</i> L.                               | v   | f   | <i>C. Whitefoord</i> 9097 (BM)  |

**Verbenaceae** (see also *Lamiaceae*)

|   |     |   |                                    |
|---|-----|---|------------------------------------|
| <i>Citharexylum caudatum</i> L.   | s/t | r | <i>L. Ronse de Craene</i> 1443 (E) |
| <i>Citharexylum hexangulare</i> Greenm.   | s/t | r | <i>T. Hawkins</i> 1293 (MO)        |
| <i>Cornutia grandifolia</i> (Schltdl. & Cham.) Schauer  | s   | r | <i>C. Whitefoord</i> 9408 (BM)     |
| <i>Lantana camara</i> L.  | s   | f | <i>L. Urban</i> 243 (E)            |
| <i>Lantana trifolia</i> L.  | s   | f | <i>A. Gentry</i> 7744 (MO)         |
| <i>Lippia myriocephala</i> Schltdl. & Cham.   | s   | f | <i>C. Whitefoord</i> 10075 (BM)    |
| <i>Petrea volubilis</i> L.  | v   | f | <i>A. Gentry</i> 7794 (MO)         |
| <i>Phyla fruticosa</i> (Mill.) K.Kenn. & Rueda<br>(= <i>Lippia strigulosa</i> (M.Martens & Galeotti)<br>Moldenke) | h   | f | <i>C. Whitefoord</i> 9519 (MO)     |
| <i>Priva lappulacea</i> (L.) Pers.  | h   | f | <i>C. Whitefoord</i> 9567 (BM)     |
| <i>Stachytarpheta cayennensis</i> (Rich.) Vahl  | s   | f | <i>G. MacMaster</i> 1 (E)          |
| <i>Tamonea spicata</i> Aubl.  | h   | f | <i>C. Whitefoord</i> 10192 (BM)    |

**Violaceae**

|  |   |     |                                 |
|--|---|-----|---------------------------------|
| <i>Hybanthus oppositifolius</i> (L.) Taub.       | h | r/f | <i>L. Urban</i> 52 (E)          |
| <i>Rinorea guatemalensis</i> (S.Watson) Bartlett | t | f   | <i>C. Whitefoord</i> 10358 (BM) |
| <i>Rinorea hummelii</i> Sprague                  | t | f   | <i>C. Whitefoord</i> 9101 (BM)  |

**Viscaceae**

|   |   |    |                             |
|---|---|----|-----------------------------|
| <i>Dendrophthora guatemalensis</i> Standl.                | p | f  | <i>T. Hawkins</i> 1055 (MO) |
| <i>Phoradendron chrysocladon</i> A.Gray                   | p | f  | <i>A. Gentry</i> 7700 (MO)  |
| <i>Phoradendron crassifolium</i> (Pohl ex DC.)<br>Eichler | p | ps | <i>S. Cafferty</i> 4 (BM)   |
| <i>Phoradendron hexastichum</i> (DC.) Griseb. +           | p | f  | <i>B. Holst</i> 5279 (SEL)  |
| <i>Phoradendron heydeanum</i> Trel.                       | p | f  | <i>T. Hawkins</i> 1116 (MO) |
| <i>Phoradendron nervosum</i> Oliver                       | p | f  | <i>A. Monro</i> 1480 (MO)   |
| <i>Phoradendron pedicellatum</i> (Tiegh.) Kuijt           | p | f  | <i>S. Cafferty</i> 9 (BM)   |
| <i>Phoradendron piperoides</i> (Kunth) Trel.              | p | f  | <i>T. Hawkins</i> 1252 (MO) |

**Vitaceae**

|  |   |   |                                  |
|--|---|---|----------------------------------|
| <i>Cissus biformifolia</i> Standl.                           | v | f | <i>C. Whitefoord</i> 10279 (BM)  |
| <i>Cissus gossypifolia</i> Standl.                           | v | f | <i>A. Ibáñez García</i> 109 (MO) |
| <i>Cissus microcarpa</i> Vahl                                | v | f | <i>M. Balick</i> 3109 (MO)       |
| <i>Cissus verticillata</i> (L.) Nicolson & C.E.Jarvis        | v | f | <i>T. Hawkins</i> 1259 (MO)      |
| <i>Vitis tiliifolia</i> Humb. & Bonpl. ex Roem.<br>& Schult. | v | f | <i>C. Whitefoord</i> 10130 (BM)  |

**Vochysiaceae**

|                                     |   |   |                                |
|-------------------------------------|---|---|--------------------------------|
| <i>Vochysia hondurensis</i> Sprague | t | f | <i>C. Whitefoord</i> 9240 (BM) |
|-------------------------------------|---|---|--------------------------------|

**Zingiberaceae**

|  |   |   |                           |
|--|---|---|---------------------------|
| <i>Renealmia alpinia</i> (Rottb.) Maas         | h | f | <i>A. Monro</i> 1729 (BM) |
| <i>Renealmia aromatica</i> (Aubl.) Griseb.     | h | f | <i>D. Sutton</i> 57 (MO)  |
| <i>Renealmia mexicana</i> Klotzsch ex Petersen | h | f | <i>A. Monro</i> 776 (BM)  |

**PINOPHYTA****Cupressaceae**

|                                   |   |       |                                |
|-----------------------------------|---|-------|--------------------------------|
| <i>Cupressus lusitanica</i> Mill. | t | cult. | <i>C. Whitefoord</i> 9521 (BM) |
|-----------------------------------|---|-------|--------------------------------|

**Pinaceae**

|  |   |    |                          |
|--|---|----|--------------------------|
| <i>Pinus caribaea</i> Morelet var. <i>hondurensis</i><br>(Sénécl.) W.H.Barrett & Golfari | t | ps | <i>M. Peña</i> 1003 (BM) |
|--|---|----|--------------------------|

|   |     |    |                                 |
|---|-----|----|---------------------------------|
| <i>Pinus oocarpa</i> Schldl.                            | t   | ps | <i>A. Monro</i> 2627 (BM)       |
| <b>Podocarpaceae</b>                                    |     |    |                                 |
| <i>Podocarpus guatemalensis</i> Standl.                 | t   | f  | <i>A. Monro</i> 1811 (BM)       |
| <b>CYCADOPHYTA</b>                                      |     |    |                                 |
| <b>Zamiaceae</b>  |     |    |                                 |
| <i>Ceratozamia robusta</i> Miq.                         | s   | f  | <i>A. Monro</i> 1210 (BM)       |
| <i>Zamia polymorpha</i> D.W.Stev., A.Moretti & L.Gaudio | s   | f  | <i>J. Meerman</i> pers. obs.    |
| <b>POLYPODIOPHYTA</b>                                   |     |    |                                 |
| <b>Adiantaceae</b>                                      |     |    |                                 |
| <i>Adiantopsis radiata</i> (L.) Fée                     | f   | f  | <i>A. Monro</i> 250 (BM)        |
| <i>Adiantum concinnum</i> Humb. & Bonpl. ex Willd.      | f   | f  | <i>C. Whitefoord</i> 10263 (BM) |
| <i>Adiantum</i> cf. <i>latifolium</i> Lam.              | f   | f  | <i>T. Croat</i> 23752 (MO)      |
| <i>Adiantum macrophyllum</i> Sw.                        | f   | f  | <i>T. Croat</i> 23492 (MO)      |
| <i>Adiantum petiolatum</i> Desv.                        | f   | f  | <i>A. Forrest</i> 50 (E)        |
| <i>Adiantum pulverulentum</i> L.                        | f   | f  | <i>A. Forrest</i> 46 (E)        |
| <i>Adiantum tenerum</i> Sw.                             | f   | f  | <i>A. Forrest</i> 44 (E)        |
| <i>Adiantum tetraphyllum</i> Humb. & Bonpl. ex Willd.   | f   | f  | <i>A. Monro</i> 49 (BM)         |
| <i>Adiantum trapeziforme</i> L.                         | f   | f  | <i>A. Forrest</i> 72 (E)        |
| <i>Pityrogramma calomelanos</i> (L.) Link               | f   | f  | <i>M. Peña</i> 1023 (BM)        |
| <i>Pteris altissima</i> Poir.                           | f   | f  | <i>A. Forrest</i> 84 (E)        |
| <i>Pteris grandifolia</i> L.                            | f   | f  | <i>M. Peña</i> 963 (BM)         |
| <i>Pteris longifolia</i> L.                             | f   | f  | <i>M. Peña</i> 955 (BM)         |
| <i>Vittaria graminifolia</i> Kaulf.                     | f/e | f  | <i>T. Croat</i> 23767 (MO)      |
| <b>Aspleniaceae</b>                                     |     |    |                                 |
| <i>Arachniodes denticulata</i> (Sw.) Ching +            | f   | f  | <i>S. Bridgewater</i> 3912 (BM) |
| <i>Asplenium auritum</i> Sw.                            | f   | f  | <i>G.R. Proctor</i> 29851 (BRH) |
| <i>Asplenium cirrhatum</i> Rich. ex Willd. +            | f   | f  | <i>S. Bridgewater</i> 3951 (BM) |
| <i>Asplenium cristatum</i> Lam.                         | f   | f  | <i>A. Forrest</i> 82 (E)        |
| <i>Asplenium formosum</i> Willd.                        | f   | f  | <i>A. Forrest</i> 75 (E)        |
| <i>Asplenium juglandifolium</i> Lam.                    | f   | f  | <i>S. Cafferty</i> 120 (BM)     |
| <i>Asplenium pteropus</i> Kaulf. +                      | f   | f  | <i>B. Holst</i> 5195 (SEL)      |
| <b><i>Asplenium rutaceum</i> (Willd.) Mett.</b>         | f/e | f  | <i>T. Croat</i> 23773 (MO)      |
| <i>Asplenium serra</i> Langsd. & Fisch. +               | f/e | f  | <i>B. Allen</i> 15177 (MO)      |
| <i>Asplenium serratum</i> L.                            | f   | f  | <i>S. Cafferty</i> 100 (BM)     |
| <i>Didymochlaena truncatula</i> (Sw.) J.Sm.             | f   | f  | <i>M. Short</i> 189 (BM)        |
| <i>Diplazium plantaginifolium</i> (L.) Urb.             | f   | f  | <i>A. Monro</i> 3118 (BM)       |
| <i>Elaphoglossum latifolium</i> (Sw.) J.Sm.             | f   | f  | <i>S. Cafferty</i> 28 (BM)      |
| <b><i>Elaphoglossum peltatum</i> (Sw.) Urb. +</b>       | f   | f  | <i>B. Allen</i> 15275 (MO)      |
| <i>Lomariopsis recurvata</i> Fée                        | f   | f  | <i>T. Croat</i> 23800 (MO)      |
| <i>Olfersia cervina</i> (L.) Kunze                      | f   | f  | <i>A. Monro</i> 3229 (BM)       |
| <i>Polybotrya polybotryoides</i> (Baker) H.Christ +     | f   | f  | <i>S. Bridgewater</i> 3945 (BM) |
| <b>Blechnaceae</b>                                      |     |    |                                 |
| <i>Blechnum</i> × <i>caudatum</i> Cav.                  | f   | r  | <i>C. Whitefoord</i> 9137 (BM)  |

|   |     |     |                                 |
|---|-----|-----|---------------------------------|
| <i>Blechnum fragile</i> (Liebm.) C.V.Morton & Lellingner +  | f   | f   | <i>B. Holst</i> 5303 (SEL)      |
| <i>Blechnum gracile</i> Kaulf.  | f   | f   | <i>A. Monro</i> 3155 (BM)       |
| <i>Blechnum occidentale</i> L.  | f   | f/r | <i>A. Monro</i> 3205 (BM)       |
| <i>Salpichlaena volubilis</i> (Kaulf.) J.Sm. +  | f/e | f   | <i>B. Holst</i> 5319 (SEL)      |
| <b>Cyatheaceae</b>  |     |     |                                 |
| <i>Alsophila firma</i> (Baker) D.S.Conant   | tf  | f   | <i>A. Monro</i> 3144 (BM)       |
| <i>Cyathea divergens</i> Kunze +  | tf  | f   | <i>B. Allen</i> 15224 (MO)      |
| <i>Cyathea multiflora</i> Sm.   | tf  | f   | <i>M. Peña</i> 1053 (BM)        |
| <i>Cyathea myosuroides</i> (Liebm.) Domin (= <i>Sphaeropteris myosuroides</i> (Liebm.) Domin)       | tf  | f   | <i>A. Monro</i> 2623 (BM)       |
| <i>Cyathea schiedeana</i> (C.Presl) Domin   | tf  | f   | <i>A. Monro</i> 3169 (BM)       |
| <b>Davalliaceae</b>   |     |     |                                 |
| <i>Nephrolepis cordifolia</i> (L.) C.Presl  | f/e | f   | <i>G. Proctor</i> 29861 (BM)    |
| <i>Nephrolepis pendula</i> (Raddi) J.Sm.  | f/e | f   | <i>A. Forrest</i> 73 (E)        |
| <i>Nephrolepis undulata</i> (Afzel ex Sw.) J.Sm.  | f/e | f   | <i>D. Sutton</i> 47 (BM)        |
| <b>Dennstaedtiaceae</b>   |     |     |                                 |
| <i>Dennstaedtia bipinnata</i> (Cav.) Maxon  | f   | f   | <i>A. Monro</i> 3197 (BM)       |
| <i>Lindsaea lancea</i> (L.) Bedd.   | f   | f   | <i>A. Monro</i> 3276 (BM)       |
| <i>Lindsaea quadrangularis</i> Raddi subsp. <i>subalata</i> K.U.Kramer +                            | f   | f   | <i>S. Bridgewater</i> 3995 (BM) |
| <i>Odontosoria schlechtendalii</i> (C.Presl) C.Chr.   | f   | f   | <i>M. Peña</i> 944 (BM)         |
| <i>Pteridium caudatum</i> (L.) Maxon  | f   | f   | <i>T. Croat</i> 23674 (MO)      |
| <b>Dicksoniaceae</b>  |     |     |                                 |
| <i>Cibotium regale</i> Versch. & Lem.   | tf  | f   | <i>A. Monro</i> 3277 (BM)       |
| <b>Gleicheniaceae</b>   |     |     |                                 |
| <i>Dicranopteris pectinata</i> (Willd.) Underw.   | f   | f   | <i>A. Monro</i> 3270 (BM)       |
| <i>Sticherus bifidus</i> (Willd.) Underw.   | f   | f   | <i>M. Peña</i> 1045 (BM)        |
| <i>Sticherus palmatus</i> (W.Schaffn. ex E.Fourn.) Copel. +   | f   | f   | <i>S. Bridgewater</i> 3979 (BM) |
| <b>Grammitidaceae</b>   |     |     |                                 |
| <i>Cochlidium linearifolium</i> (Desv.) Maxon ex C.Chr. +   | f/e | f   | <i>B. Holst</i> 5247 (MO)       |
| <i>Micropolypodium taenifolium</i> (Jenman) A.R.Sm. +   | f/e | f   | <i>B. Holst</i> 5248 (SEL)      |
| <i>Terpsichore asplenifolia</i> (L.) A.R.Sm. +  | f   | f   | <i>S. Bridgewater</i> 3959 (BM) |
| <i>Terpsichore lehmanniana</i> (Hieron.) A.R.Sm.  | f   | f   | <i>B. Allen</i> 15215 (MO)      |
| <b>Hymenophyllaceae</b>   |     |     |                                 |
| <i>Abrodictyum rigidum</i> (Sw.) Ebihara & Dubuisson (= <i>Trichomanes rigidum</i> Sw.)             | f   | f   | <i>M. Short</i> 156 (BM)        |
| <i>Didymoglossum kraussii</i> (Hook. & Grev.) C.Presl (= <i>Trichomanes kraussii</i> Hook. & Grev.) | f   | f   | <i>C. Whitefoord</i> 10303 (BM) |
| <i>Hymenophyllum apiculatum</i> Kuhn  | f/e | f   | <i>S. Cafferty</i> 23 (BM)      |
| <i>Hymenophyllum fucoides</i> Cav. +  | f/e | f   | <i>B. Holst</i> 5213 (SEL)      |
| <i>Polyphebiium capillaceum</i> (L.) Ebihara & Dubuisson (= <i>Trichomanes capillaceum</i> L.)      | f/e | f   | <i>A. Monro</i> 3150 (BM)       |



|  |     |     |                                 |
|--|-----|-----|---------------------------------|
| <i>Polyphlebium diaphanum</i> (Kunth) Ebihara & Dubuisson (= <i>Trichomanes diaphanum</i> Kunth)   | f   | r   | <i>A. Monro</i> 3254 (BM)       |
| <i>Trichomanes crispum</i> L. +  | f/e | f   | <i>B. Holst</i> 5297 (SEL)      |
| <i>Trichomanes galeottii</i> E.Fourn.  | f   | f   | <i>A. Monro</i> 3248 (BM)       |
| <i>Trichomanes polypodioides</i> L.  | f   | r   | <i>M. Short</i> 157 (BM)        |
| <i>Vandenboschia collariata</i> (Bosch) Ebihara & K.Iwats (= <i>Trichomanes collariatum</i> Bosch) | f/e | f   | <i>M. Short</i> 181 (BM)        |
| <b>Marattiaceae</b>  |     |     |                                 |
| <i>Danaea nodosa</i> (L.) Sm.  | f   | r   | <i>S. Cafferty</i> 63 (BM)      |
| <i>Marattia excavata</i> Underw. +   | f   | f   | <i>B. Holst</i> 5300 (SEL)      |
| <b>Ophioglossaceae</b>   |     |     |                                 |
| <i>Cheiroglossa palmata</i> (L.) C.Presl +   | f/e | f   | <i>B. Allen</i> 15170 (MO)      |
| <b>Polypodiaceae</b>   |     |     |                                 |
| <i>Campyloneurum fasciale</i> (Humb. & Bonpl. ex Willd.) C.Presl                                   | f/e | f   | <i>C. Whitefoord</i> 2044 (BM)  |
| <i>Microgramma percussa</i> (Cav.) de la Sota  | f/e | f   | <i>T. Hawkins</i> 1062 (MO)     |
| <i>Neurodium lanceolatum</i> (L.) Fée  | f/e | f   | <i>S. Ingram</i> 1938 (MO)      |
| <i>Niphidium crassifolium</i> (L.) Lellinger   | f/e | f   | <i>T. Croat</i> 23754 (MO)      |
| <b><i>Pecluma alfredii</i> (Rosenst.) M.G.Price</b>  | f   | f   | <i>J. Dwyer</i> 12342 (MO)      |
| <i>Pecluma divaricata</i> (E.Fourn.) Mickel & Beitel +   | f/e | f   | <i>B. Holst</i> 5289 (SEL)      |
| <i>Phlebodium</i> sp.  | f/e | f   | <i>M. Peña</i> 950 (BM)         |
| <i>Pleopeltis</i> sp.  | f/e | f/r | <i>A. Monro</i> 3213 (BM)       |
| <i>Polypodium dissimile</i> L. +   | f   | f   | <i>S. Bridgewater</i> 3970 (BM) |
| <i>Polypodium fallax</i> Schldt. & Cham.   | f   | f   | <i>C. Whitefoord</i> 9082 (BM)  |
| <b><i>Polypodium fraxinifolium</i> Jacq.</b>   | f/e | f   | <i>M. Peña</i> 1044 (BM)        |
| <b><i>Polypodium hispidulum</i> Bartlett</b>   | f/e | f   | <i>T. Hawkins</i> 1078 (MO)     |
| <i>Polypodium polypodioides</i> (L.) Watt  | f/e | f   | <i>T. Hawkins</i> 1315 (MO)     |
| <i>Polypodium triseriale</i> Sw.   | f/e | f   | <i>S. Cafferty</i> 73 (BM)      |
| <b>Schizaeaceae</b>  |     |     |                                 |
| <i>Anemia adiantifolia</i> (L.) Sw.  | f   | r   | <i>T. Hawkins</i> 1271 (MO)     |
| <i>Anemia pastinacaria</i> Moritz ex Prantl  | f   | r   | <i>T. Hawkins</i> 1031 (MO)     |
| <i>Anemia speciosa</i> C.Presl   | f   | f   | <i>T. Hawkins</i> 1205 (MO)     |
| <i>Lygodium heterodoxum</i> Kunze  | f   | f   | <i>T. Hawkins</i> 1173 (MO)     |
| <i>Lygodium venustum</i> Sw.   | f   | f   | <i>D. Sutton</i> 6 (BM)         |
| <i>Lygodium volubile</i> Sw.   | f   | r   | <i>K. Vint</i> 13 (E)           |
| <i>Schizaea poeppigiana</i> J.W.Sturm  | f   | f   | <i>S. Cafferty</i> 29 (BM)      |
| <b>Tectariaceae</b>  |     |     |                                 |
| <i>Ctenitis melanosticta</i> (Kunze) Copel.  | f   | f   | <i>C. Whitefoord</i> 9456 (BM)  |
| <i>Ctenitis nigrovenia</i> (H.Christ) Copel.   | f   | f   | <i>A. Forrest</i> 74 (E)        |
| <i>Lastreopsis effusa</i> (Sw.) Tindale  | f   | f   | <i>A. Monro</i> 3138 (BM)       |
| <b><i>Lastreopsis exulta</i> (Mett.) Tindale</b>   | f   | f   | <i>S. Cafferty</i> 103 (BM)     |
| <i>Tectaria heracleifolia</i> (Willd.) Underw.   | f   | f   | <i>A. Monro</i> 3134 (BM)       |
| <i>Tectaria mexicana</i> (Fée) C.V.Morton  | f   | f   | <i>A. Forrest</i> 51 (E)        |
| <i>Tectaria rivalis</i> (Mett. ex Kuhn) C.Chr.   | f   | r   | <i>T. Hawkins</i> 1273 (MO)     |
| <b>Thelypteridaceae</b>  |     |     |                                 |
| <i>Thelypetris biolleyi</i> (C.Christ) Proctor   | f   | f   | <i>A. Monro</i> 428 (BM)        |
| <i>Thelypetris blanda</i> (Fée) C.F.Reed   | f   | f   | <i>T. Hawkins</i> 1197 (MO)     |

|   |   |   |                             |
|---|---|---|-----------------------------|
| <i>Thelypetris kunthii</i> (Desv.) C.V.Morton     | f | f | <i>T. Croat</i> 23353 (MO)  |
| <i>Thelypetris obliterated</i> (Sw.) Proctor      | f | f | <i>A. Forrest</i> 70 (E)    |
| <i>Thelypetris patens</i> (Sw.) Small             | f | r | <i>T. Hawkins</i> 1275 (MO) |
| <i>Thelypetris poiteana</i> (Bory) Proctor        | f | f | <i>T. Hawkins</i> 1162 (MO) |
| <i>Thelypetris praetermissa</i> (Maxon) A.R.Sm.   | f | f | <i>A. Monro</i> 3141 (BM)   |
| <i>Thelypetris reptans</i> (J.F.Gmel.) C.V.Morton | f | f | <i>T. Croat</i> 23489 (MO)  |
| <i>Thelypetris tetragona</i> A.R.Sm.              | f | f | <i>T. Croat</i> 23490 (MO)  |

## LYCOPODIOPHYTA

### Lycopodiaceae

|   |   |   |                             |
|---|---|---|-----------------------------|
| <i>Huperzia dichaeoides</i> (Maxon) Holub + | h | f | <i>S. Brewer</i> 1749 (WNC) |
| <i>Huperzia linifolia</i> (L.) Trevis. +    | h | f | <i>B. Allen</i> 15280 (MO)  |
| <i>Lycopodiella cernua</i> (L.) Pic.Serm.   | h | f | <i>M. Peña</i> 977 (BM)     |

### Selaginellaceae

|  |   |     |                                |
|--|---|-----|--------------------------------|
| <i>Selaginella huehuetenangensis</i> Hieron.   | h | r   | <i>C. Whitefoord</i> 9442 (BM) |
| <i>Selaginella idiospora</i> Alston            | h | f/r | <i>T. Hawkins</i> 1035 (MO)    |
| <i>Selaginella mollis</i> A.Braun              | h | f   | <i>A. Forrest</i> 47 (E)       |
| <i>Selaginella pallescens</i> (C.Presl) Spring | h | f/r | <i>A. Forrest</i> 76 (E)       |
| <i>Selaginella sertata</i> Spring              | h | f   | <i>A. Forrest</i> 83 (E)       |

## APPENDIX 2

### *Preliminary checklist of the 100 most frequently observed tree species of the Chiquibul with their common names (if known)*

The common names listed are those used by the local staff of the Las Cuevas Research Station.

| Species                            | Common name        |
|------------------------------------|--------------------|
| <b>Anacardiaceae</b>               |                    |
| <i>Astronium graveolans</i>        | jobillo            |
| <i>Mosquitoxylum jamaicense</i>    | ridge redwood      |
| <i>Spondias radlkoferi</i>         | hogplum            |
| <b>Annonaceae</b>                  |                    |
| <i>Annona reticulata</i>           | wild custard apple |
| <i>Cymbopetalum mayanum</i>        |                    |
| <b>Apocynaceae</b>                 |                    |
| <i>Aspidosperma megalocarpon</i>   | mylady             |
| <i>Stemmadenia donnell-smithii</i> | Horse's balls      |
| <i>Tabernaemontana alba</i>        | Dog's balls        |
| <b>Aquifoliaceae</b>               |                    |
| <i>Ilex guianensis</i>             | birdberry          |
| <b>Araliaceae</b>                  |                    |
| <i>Dendropanax arboreus</i>        | white gumbolimbo   |

| Species                              | Common name           |
|--------------------------------------|-----------------------|
| <b>Asteraceae</b>                    |                       |
| <i>Koanophyllon galeottii</i>        |                       |
| <b>Bignoniaceae</b>                  |                       |
| <i>Tabebuia chrysantha</i>           | cortez                |
| <b>Boraginaceae</b>                  |                       |
| <i>Cordia alliodora</i>              | salmwood              |
| <b>Burseraceae</b>                   |                       |
| <i>Bursera simaruba</i>              | red gumbolimbo        |
| <i>Protium copal</i>                 | copal                 |
| <b>Celastraceae</b>                  |                       |
| <i>Crossopetalum eucyosum</i>        |                       |
| <i>Zinowiewia pallida</i>            |                       |
| <b>Chrysobalanaceae</b>              |                       |
| <i>Hirtella americana</i>            | Pigeon plum           |
| <i>Hirtella racemosa</i>             | Pigeon plum           |
| <b>Clusiaceae</b>                    |                       |
| <i>Calophyllum brasiliense</i>       | Santa Maria           |
| <b>Combretaceae</b>                  |                       |
| <i>Bucida buceras</i>                | bullet tree           |
| <i>Terminalia amazonia</i>           | nargusta              |
| <b>Euphorbiaceae</b>                 |                       |
| <i>Acalypha diversifolia</i>         |                       |
| <i>Alchornea latifolia</i>           | male grape/cajetón    |
| <i>Sebastiania tuerckheimiana</i>    | white poisonwood      |
| <b>Lamiaceae</b>                     |                       |
| <i>Cornutia pyramidata</i>           |                       |
| <i>Vitex gaumeri</i>                 | fiddlewood            |
| <b>Lauraceae</b>                     |                       |
| <i>Licaria capitata</i>              | laurel                |
| <i>Licaria peckii</i>                | timbersweet           |
| <i>Nectandra salicifolia</i>         | laurel                |
| <b>Leguminosae: Caesalpinioideae</b> |                       |
| <i>Dialium guianense</i>             | ironwood              |
| <i>Schizolobium parahyba</i>         | quamwood              |
| <b>Leguminosae: Mimosoideae</b>      |                       |
| <i>Abarema idiopoda</i>              |                       |
| <i>Acacia cookii</i>                 | cockspur              |
| <i>Acacia polyphylla</i>             | cantemo               |
| <i>Cojoba arborea</i>                | barba jalote/tamarind |
| <i>Inga punctata</i>                 |                       |
| <i>Lysiloma acapulcense</i>          | bastard mahogany      |
| <b>Leguminosae: Papilionoideae</b>   |                       |
| <i>Acosmium panamense</i>            | Billy Webb            |

| <b>Species</b>                     | <b>Common name</b>       |
|------------------------------------|--------------------------|
| <i>Andira inermis</i>              | white cabbage bark       |
| <i>Dalbergia stevensonii</i>       | rosewood                 |
| <i>Gliricidia sepium</i>           | madre de cacao           |
| <i>Lonchocarpus castilloi</i>      | black cabbage bark       |
| <i>Myroxylon balsamum</i>          | balsam                   |
| <i>Ormosia schippii</i>            | John Crow wood           |
| <i>Platymiscium dimorphandrum</i>  | granadillo               |
| <i>Pterocarpus rohrii</i>          |                          |
| <i>Swartzia cubensis</i>           | bastard rosewood         |
| <i>Vatairea lundellii</i>          | bitterwood               |
| <b>Malvaceae</b>                   |                          |
| <i>Bernoullia flammea</i>          | red mapola/pumpkin tree  |
| <i>Ceiba pentandra</i>             | ceiba-cotton tree        |
| <i>Guazuma ulmifolia</i>           | bay cedar                |
| <i>Hampea stipitata</i>            | moho                     |
| <i>Heliocarpus americanus</i>      | broadleaf moho           |
| <i>Heliocarpus donnell-smithii</i> | broadleaf moho           |
| <i>Luehea speciosa</i>             | moho                     |
| <i>Trichospermum grewiiifolium</i> | red moho                 |
| <b>Meliaceae</b>                   |                          |
| <i>Cedrela odorata</i>             | cedar/cedro              |
| <i>Guarea glabra</i>               | cedrillo                 |
| <i>Guarea grandifolia</i>          | big-leaved cedrillo      |
| <i>Swietenia macrophylla</i>       | mahogany                 |
| <i>Trichilia erythrocarpa</i>      |                          |
| <i>Trichilia havanensis</i>        |                          |
| <i>Trichilia minutiflora</i>       |                          |
| <i>Trichilia pallida</i>           |                          |
| <b>Moraceae</b>                    |                          |
| <i>Brosimum alicastrum</i>         | breadnut                 |
| <i>Castilla elastica</i>           | rubber                   |
| <i>Machura tinctoria</i>           |                          |
| <i>Pseudolmedia spuria</i>         | cherry                   |
| <i>Trophis mexicana</i>            |                          |
| <i>Trophis racemosa</i>            | red breadnut/white ramon |
| <b>Myrtaceae</b>                   |                          |
| <i>Myrcia splendens</i>            |                          |
| <i>Myrcianthes fragrans</i>        |                          |
| <i>Pimenta dioica</i>              | allspice                 |
| <b>Nyctaginaceae</b>               |                          |
| <i>Neea psychotrioides</i>         |                          |
| <b>Olacaceae</b>                   |                          |
| <i>Heisteria media</i>             | cuero de sapo            |
| <b>Polygonaceae</b>                |                          |
| <i>Coccoloba belizensis</i>        | big-leaved wild grape    |

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| <b>Species</b>                 | <b>Common name</b> |
|--------------------------------|--------------------|
| <b>Putranjivaceae</b>          |                    |
| <i>Drypetes brownii</i>        | male bullhoof      |
| <b>Rhizophoraceae</b>          |                    |
| <i>Cassipourea guianensis</i>  | waterwood          |
| <b>Rubiaceae</b>               |                    |
| <i>Guettarda combosii</i>      | glassywood         |
| <i>Simira salvadorensis</i>    |                    |
| <b>Rutaceae</b>                |                    |
| <i>Zanthoxylum riedelianum</i> | prickly yellow     |
| <b>Salicaceae</b>              |                    |
| <i>Casearia arborea</i>        |                    |
| <i>Zuelania guidonia</i>       |                    |
| <b>Sapindaceae</b>             |                    |
| <i>Cupania belizensis</i>      | grand betty        |
| <i>Matayba apetala</i>         |                    |
| <i>Sapindus saponaria</i>      | soapseed tree      |
| <b>Sapotaceae</b>              |                    |
| <i>Chrysophyllum mexicanum</i> | wild apple         |
| <i>Manilkara zapota</i>        | chicle             |
| <i>Pouteria amygdalina</i>     | red sillón         |
| <i>Pouteria campechiana</i>    | mamey cerilla      |
| <i>Pouteria durlandii</i>      |                    |
| <i>Pouteria reticulata</i>     | sapotillo          |
| <b>Simaroubaceae</b>           |                    |
| <i>Simarouba glauca</i>        | negritto           |
| <b>Styracaceae</b>             |                    |
| <i>Styrax argenteus</i>        |                    |
| <b>Turneraceae</b>             |                    |
| <i>Erblichia odorata</i>       | conop              |
| <b>Ulmaceae</b>                |                    |
| <i>Ampelocera hottlei</i>      | female bullhoof    |
| <b>Urticaceae</b>              |                    |
| <i>Cecropia obtusifolia</i>    | trumpet tree       |
| <i>Cecropia peltata</i>        | trumpet tree       |
| <b>Vochysiaceae</b>            |                    |
| <i>Vochysia hondurensis</i>    | yemeri             |