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## Plant Records from Natural Forest Communities in the Bladen Nature Reserve, Maya Mountains, Belize

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**ABSTRACT.**—During 1993 a study was carried out in the Bladen Nature Reserve, which lies in the Maya Mountains of the Toledo District of Belize. Eight main vegetation types were distinguished during two field trips. A total of 24 detailed vegetation records were made in the Reserve, and approximately 300 plant specimens were identified. A total of 218 flowering plant species were reported, representing 70 families, in addition to nine fern species. *Astrocaryum mexicanum* and *Cecropia* sp. were the only plants recorded from more than three community types. A small number of plants represent new records for Belize. Three species appeared to be certainly new to Belize, and perhaps new to science.

### INTRODUCTION

The Maya Mountains lie in the west of the Toledo District of Belize, and extend into eastern Guatemala (Fig. 1). They support much of the remaining moist subtropical broadleaf forest in Belize, and much of the area is protected to varying degrees by law. In most other parts of Central America the native forests have been heavily impacted by human activity and are not as extensive as those in Belize. Of all the protected areas in the Maya Mountains, the Bladen Nature Reserve has the strictest protection status. This Reserve was the site of two recent ecological surveys (Iremonger and Sayre, 1994; Brokaw and Lloyd-Evans, 1987). The vegetation analysis and botanical data from the 1993 survey are reported in the present publication.

The Bladen Nature Reserve (BNR), at about 350km<sup>2</sup>, is the largest Nature Reserve in Belize. This Reserve is essentially the watershed for the Bladen Branch of the Monkey River, and is almost completely surrounded by other Reserves (Fig. 2). The northern boundary with the Chiquibul National Park follows the "main divide", a series of peaks dividing the Bladen Branch watershed from the Chiquibul Branch watershed. A number of smaller rivers and creeks feed into the Bladen Branch, flow-

ing from their sources near the main divide south to the southwest-to northeast-flowing Bladen Branch. The Reserve is underlain by both limestone and volcanic substrata. Elevation ranges from about 50m in the main river valley to over 1000m in the northwest. The vegetation changes with altitude and with substratum (Iremonger and Sayre, 1994).

Until the 20th Century there was not much collecting of plant specimens done in Belize. In 1933-1934 Schipp published "Flora of British Honduras", which was superseded by Standley and Record (1936). Much collecting of plants occurred subsequently, building an information base which has recently been published in the form of two checklists, one for monocotyledons (Spellman et al., 1975), and the other for dicotyledons (Dwyer and Spellman, 1981). The number of monocotyledons in Belize is estimated at about 1500. The number of dicotyledons is about 2500. A flora of Guatemala, completed in 1977 (Standley et al., 1946-1977) included the geographical area that is Belize.

Most plants growing in Belize have a wide distribution along the Atlantic slope of Central America, many extending into southern Mexico and some into northern South America. Thus the character of the flora is predominantly Mesoamerican. The Yucatán Peninsula extends into the north-

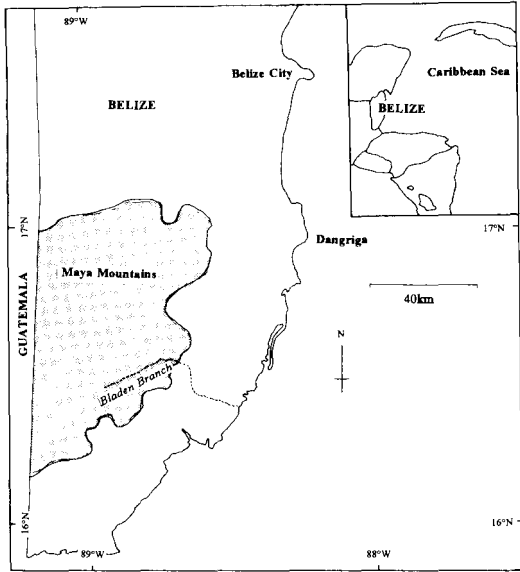


FIG. 1. Position of Maya Mountains in Belize

ern half of Belize, as does much of its flora. Standley and Record (1936) suggested that the Yucatán Peninsula should be considered a distinct floristic area. Belize also supports plants which have not been found elsewhere in Central America but are represented in the floras of West Indian islands. Dwyer and Spellman (1981) stated that although a number of species in their list would most probably be reduced to synonymy by specialists, there would be other species added to the list through further botanical exploration of relatively seldom-visited areas, such as the Maya Mountains. This was confirmed later by Parker et al. (1993), Brokaw and Lloyd-Evans (1987), Gerrit Davidse (pers. comm.).

The present investigation centered on an area of about 16km<sup>2</sup> within one day's hike from the confluence of Ramos Creek and the Bladen Branch.

#### MATERIALS AND METHODS

Field work took place between 9-19 March 1993. One-day excursions were made from a base camp at the confluence of Ramos Creek and the Bladen Branch. Four "survey sites" were investigated (Fig. 2). A record was made of the vegetation structure and condition, soil, bedrock, aspect and slope at each of 24 Observation Points

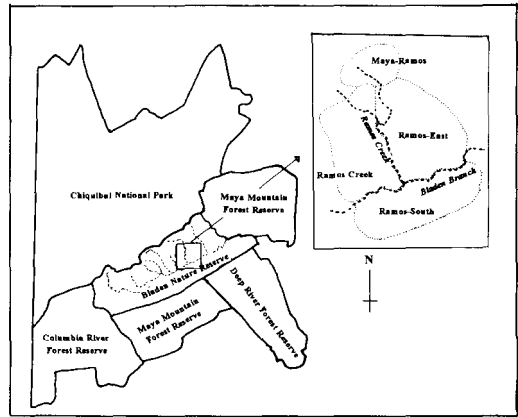


FIG. 2. The Bladen Nature Reserve and surrounding protected areas. Inset shows the four survey sites (outlined with dotted line) in the vicinity of Ramos Creek.

(OP). Exact Latitude and Longitude were recorded at a number of these OPs, using a Global Positioning System. In cases where an exact reading was not obtained, the approximate location was pinpointed on a 1:50,000 map. At a number of these OPs 20m × 20m plots were laid out and permanently marked. Detailed records of the plant species, tree diameter and height were made within these plots. All trees with diameter at breast height (dbh) over 10cm were measured and identified to species. Species in the understory, shrub layer(s) and herb layer(s) were also recorded. Specimens were collected if there was uncertainty about the identity of a plant. The number of OPs and detailed plots recorded for each survey site are:

1. Ramos Creek: 8 Observation Points, 2 Plots (at OPs 7 and 8)
2. Maya-Ramos: 9 Observation Points, 3 Plots (at OPs 6, 8 and 9)
3. Ramos-South: 4 Observation Points, 3 Plots (at OPs 2, 3 and 4)
4. Ramos-East: 3 Observation Points, 3 Plots (at OPs 1,2 and 3)

Specimens collected were numbered with tags and stored between sheets of newspaper sprinkled with alcohol and wrapped in a plastic bag. They were subsequently pressed and dried and sent to the Missouri Botanical Garden for identi-

TABLE 1. Number of observation points (OP) and plots recorded in each vegetation type, by survey site. BAF = Bottomland Alluvial Forest, STV = Streamside Vegetation, LHF = Limestone Hill Forest, LKF = Limestone Knoll Forest, MLSF = Mountain Limestone Scrub Forest, LSF = Limestone Sinkhole Forest, MTF = Mountain Thatch Palm Forest, MPS = Mountain Pine Scrub Forest.

Survey site name	No. of OPs	No. of Plots	BAF	STV	LHF	LKF	MLSF	LSF	MTF	MPS
Ramos Creek	8	2	2	2	2	2				
Maya-Ramos	9	4			1		2		2	4
Ramos-South	4	3			2	1		1		
Ramos-East	3	3	2		1					
Totals	24	12	4	2	6	3	2	1	2	4

fication. The specimens were then sent back to Belize to be lodged in the herbarium of the Forest Conservation Department of the Ministry of Natural Resources in Belmopan. A few duplicate specimens were kept at the Missouri Botanical Garden herbarium. Vegetation data were analysed visually for patterns subsequent to the identifications.

## RESULTS AND DISCUSSION

### *Natural Communities*

Communities were described based on information gathered during our surveys, as well as by extrapolating from previous descriptions of natural communities currently in the BNR and adjoining areas (Wright et al., 1959; Brokaw and Lloyd-Evans, 1987; Standley and Record, 1936; Parker et al., 1993). The community descriptions were grouped into categories according to which substratum they overlay; Alluvium, Limestone or Granitic-Volcanic. A list of the vegetation types is given below, followed by a description of each type. The number of records made in each vegetation type is outlined in Table 1, along with the survey site and OP number.

### *Vegetation Types*

1. Communities over alluvium—Bottomland alluvial forest, Streamside vegetation.
2. Communities over limestone – Limestone hill forest, Limestone knoll forest, Mountain limestone scrub forest, Limestone sinkhole forest.
3. Communities over granitic-volcanics —Mountain thatch palm forest, Mountain pine scrub forest.

## Vegetation Descriptions

### 1. Communities over alluvium

#### Bottomland alluvial forest

Tall forest with a species-diverse canopy 15-25m or higher, a palm-dominated understory 4-10m, shrubs 1.5-3m and a mixed herb layer at 30cm-1m. Thick-stemmed lianas frequent to abundant, epiphytes relatively scarce. Maximum dbh recorded was 1.6m, for a large *Ficus*; otherwise maximum dbh was 68cm. Average dbh was 27cm, number of trunks per hectare was 500.

In terms of canopy tree diversity, this was the most diverse community recorded. Species frequent to abundant were *Spondias mombin*, *Ficus* sp., *Dialium guianense*, *Cymbopetalum penduliflorum*, *Pouteria durlandii* subsp. *durlandii*, *Stemmadenia donnell-smithii*, and *Quararibea funebris*. In some areas *Orbignya cohune* formed almost a monoculture in other areas it was absent. Perhaps its dominance is the result of disturbance earlier in this century, when there were logging activities in parts of the BNR (map in Forest Dept., 1940). The subcanopy species were almost all Arecaceae, e.g., *Astrocaryum mexicanum*, *Bactris trichophylla*, *Chamaedorea neurochlamys*, as well as some young *Orbignya cohune*. In areas where *O. cohune* was dominant, the shrub layer was composed almost entirely of Arecaceae, whereas under the more diverse canopy, there were a mixture of plant families represented, including Rubiaceae, Acanthaceae and Melastomataceae, and some macrophyll herbs. The lower herb layer was composed mainly of *Selaginella umbrosa* and other pteridophytes, as well as *Spathyphyl-lum blandum*. Thick-stemmed lianas were

abundant, including *Desmoncus* sp. and *Philodendron* sp.

#### Streamside vegetation

This vegetation was structurally diverse, ranging from graminoid-dominated swale to scrub and forest. Substrata were generally composed of sand, gravel and mixed rocks with little organic matter. Tree species present were as in the Bottomland alluvial forest, as well as species of disturbed areas such as *Cecropia* sp., *Ochroma lagopus*, *Virola* spp., *Guazuma* sp., and Leguminosae. Among the shrubs and tall herbs were *Lou-teridium donnell-smithii*, *Justicia magniflora*, *Croton schiedeanus*, *Heliconia* spp., *Costus* spp., *Anthurium* sp., Cyperaceae and Poaceae. Epiphytes were frequent on the trees overhanging the streams, and *Pitcairnia* sp. and *Begonia sericoneura* were frequent on rocks.

## 2. Communities over limestone

### Limestone hill forest

Canopy trees generally 15-24m high, with an understory about 10-15m. Shrub layer(s) one or two, between 1 and 4m, herb layer usually scant, at about 30cm. Soils well drained, loam, silty loam or organic loam. Maximum dbh recorded 71cm, average 27cm, with densities of 400-675 trunks per ha. One plot seemed to have sustained hurricane damage (probably from Hurricane Hattie, 1961). It had more low lianas than the other observation points, a lower canopy, and more dead wood on the ground.

*Calophyllum brasiliense*, *Sabal morrisiana*, *Pouteria durlandii* subsp. *durlandii*, *Trichilia minutiflora* and *Manilkara zapota*, along with some Myrtaceae, were relatively constant in the tree layers. Palms such as *Cryosophila argentea* and *Astrocaryum mexicanum* occurred in the shrub layer, along with Rubiaceae and Melastomataceae. *Justicia magniflora* was found in the herb layer, as well as juvenile trees and shrubs, and some ferns. Lianas were frequent, some large, such as *Dioscorea* sp. and *Bauhinia guianensis*, and Araceae. Bromeliaceae, Orchidaceae and *Peperomia rotundifolia* were recorded as epiphytes, but epiphytes were not particularly abundant in this forest type.

### Limestone knoll forest

Canopy height 15-18m, relatively open, understory at about 6m, shrub layer(s) at 1-2m and a varyingly dense herb layer 30-50cm, Maximum dbh recorded 50cm. Soils represented by pockets of organic matter or humus in limestone rock. Outcrops of limestone on these knolls were the most prominent feature, differentiating them from other community types. The nature of the substratum gave rise to a particular structure and species composition (lower canopy, abundance of epilithic plants).

Tree species were much the same as in Limestone hill forest, except for a more constant occurrence of *Clusia* sp., and fewer (or no) palms. *Aphelandra scabra* was well represented in the shrub or herb layers. *Philodendron* sp. occurred both as a ground-covering plant and as a climber, and other species in the herb layer were Orchidaceae, Bromeliaceae, *Begonia sericoneura*, *Anthurium schlechtendalii*, *Peperomia* spp. and *Pilea* sp. Species of *Pilea* were not recorded in other community types, and in this one were present only in a very open plot near a cave. Large and small Bromeliaceae and some Orchidaceae occurred as epiphytes.

### Mountain limestone scrub forest

Low scrub forest with canopy 5-8m, shrub layer at 2-3m and some herbs; climbing plants absent, epiphytes frequent. Maximum dbh 25cm, average 15, with a density of 1,100 trunks per ha. Soil was a well-drained loam over limestone.

*Glossostipula concinna*, *Byrsonima bucidae-folia*, *Amyris rhomboids*, *Clusia massoniana*, and *Guettarda* sp. were the woody species recorded; graminoids and *Gymnosiphon divaricatus* were recorded from the herb layer, and there were epiphytic Orchidaceae, Bromeliaceae and lichens.

### Limestone sinkhole forest

Tall forest, canopy to 24m or more, no distinct understory but the canopy with a range of heights, shrub layer at 3m, herb layer 20cm-1m. Thick-stemmed lianas abundant, few epiphytes. Maximum dbh 63cm, average 35cm, trunk density 325 per ha. Soil silty loam with moderate drainage.

Species composition had affinities with the Bottomland alluvial forests, with *Orbignya cohune* and *Spondias mombin* present in the canopy, as well as *Erblichia odorata*, *Protium schippii* and *Cecropia* sp. Several plant families were represented in the diverse shrub layer, such as Rubiaceae, Urticaceae, Araliaceae, Arecaceae and a tree fern, *Cyathea schiediana*. The herb layer was also diverse, with a number of ferns, two *Tradescantia* spp., *Spathiphyllum blandum*, *Pedilanthus tithymaloides*, *Selaginella* sp. and other plants. Climbers were thick-stemmed and abundant, and *Peperomia distachya* and *P. rotundifolia* grew epiphytically near ground level.

### 3. Communities over granitic-volcanics Mountain thatch palm forest

Canopy 7-16m, no distinct understory, shrub layer 1.5-4m, herb layer 50-75cm. Lianas occasional. Soil organic loam, well drained, over igneous bedrock.

The dominant tree was a thatch palm, *Schippia concolor*, identified from sterile material and therefore needing confirmation. Also present were various broadleaf trees, including *Calophyllum brasiliense* and *Myrcia leptoclada*. Shrub layer was composed of juvenile palms, Rubiaceae, *Miconia ciliata*, *Russelia sarmentosa*, *Bredemeyera lucida* and *Lisianthus* sp. The herb layer was dominated by graminoids *Ichnanthus lanceolatus*, *Rhynchospora* spp., and *Scleria latifolia*. Also present were *Canna tuerckheimii* and the parasitic *Helosis cayennensis* var. *cayennensis*. Lianas *Dioscorea* sp. and some Araceae were present, and a hemi-parasitic *Phoradendron* sp. was recorded.

### Mountain pine scrub forest

Canopy 5-10m, fairly open, no distinct understory, shrub layer at 1.5-2m and herb layer 30-60cm. Soil well drained sandy loam or sandy clay loam over igneous bedrock. Two distinct variants were recorded, one with a Cyperaceae herb layer, the other with a dense fern herb layer. In the former, maximum dbh was 30cm, average dbh was 16cm and number of trunks per ha was 750. In the latter there were a notable number of multitrunked individuals, maxi-

mum dbh was 42cm, average dbh was 19cm and number of trunks per ha was 1275.

In this community there was one abundant canopy species which was not identifiable from the sterile specimens collected. Two other tree species were not positively identified, and fertile specimens of all of these need to be collected. Other species common in the canopy were *Pinus caribaea* var. *hondurensis*, *Quercus sapotifolia*, *Purdiaea belizensis*, *Ilex guianensis*, *Ormosia velutina*, *Myrcia leptoclada* and *Roupala montana*. Melastomataceae and *Clusia massoniana* were recorded in the shrub layer, as well as *Ternstroemia tepezapote* and *Podocarpus guatemalensis* (juvenile). *Rhynchospora exaltata* dominated the Cyperaceous herb layer (see above), and *Dicranopteris flexuosa* the fern-dominated one. However, both plants occurred in both community variants. Orchidaceae, both epiphytic and ground-dwelling, were remarkably abundant in this community type. Some of these were *Arpophyllum giganteum*, *Sobralia* sp., *Scaphyglottis behrii*, *S. prolifera* and *Encyclia* cf. *bractescens*. The climbing orchid *Vanilla fragrans* was also recorded.

### Flora

Approximately 300 plant specimens were identified (Appendix). Plants readily identifiable were not collected. All plants recorded are listed in Table 2 for each community type. A total of 218 flowering plant species were recorded, representing 70 families. Nine fern species were recorded. The total number of species recorded for each vegetation type (Table 2) should not be taken as a general indication of the relative species richness of each type. Determining the relative species richness of each community was not an objective of this study, so sampling strategy was not designed for this.

Of the 209 flowering plant species recorded (includes species from which no specimens were taken and excludes unlocalized specimen records), most were only recorded from one community (153; 73%). This indicates a strong possibility of finding good "character species" for each community type. Some species can be used for quick recognition of a particular vegeta-

TABLE 2. Plant species presence in each community type.

Family	Species	Limestone hill			Mountain limestone			Bottom-land			Mountain		
		forest	knoll forest	scrub forest	limestone forest	scrub forest	limestone forest	alluvial forest	land forest	Streamside vegetation	thatch forest	Mountain pine scrub forest	
Acanthaceae	<i>Aphelandra scabra</i>	-	+	-	-	-	-	-	-	-	-	-	
	<i>Justicia bartlettii</i>	+	+	-	-	-	-	+	-	-	-	-	
	<i>Justicia magniflora</i>	+	-	-	-	-	-	-	-	+	-	-	
	<i>Loureiridium donnell-smithii</i>	+	-	-	-	-	-	+	-	+	-	-	
	<i>Odontonema callistachyum</i>	+	-	-	-	-	-	-	-	-	-	-	
	<i>Ruellia matagalpae</i>	+	-	-	-	-	-	-	-	+	-	-	
Anacardiaceae	<i>Spondias mombin</i>	+	-	-	+	-	-	+	-	-	-	-	
Annonaceae	<i>Cymbopetalum penduliflorum</i>	-	-	-	-	-	-	+	-	-	-	-	
	<i>Guatteria amplifolia</i>	-	-	-	-	-	-	+	-	-	-	-	
	<i>Guatteria</i> sp. (A)	-	-	-	-	-	-	+	-	-	-	-	
	<i>Guatteria</i> sp. (B)	+	-	-	-	-	-	-	-	-	-	-	
	<i>Guatteria</i> sp. (C)	+	-	-	-	-	-	-	-	-	-	-	
	<i>Aspidosperma megalocarpon</i>	+	-	-	-	-	-	-	-	+	-	-	
Apocynaceae	<i>Aspidosperma spruceanum</i>	+	-	-	-	-	-	-	-	-	-	-	
	<i>Cameraria belizensis</i>	+	-	-	-	-	-	-	-	-	-	-	
	<i>Stemmadenia donnell-smithii</i>	-	-	-	-	-	-	+	-	-	-	-	
	<i>Ilex belizensis</i>	+	-	-	-	-	-	-	-	-	-	+	
Aquifoliaceae	<i>Ilex guianensis</i>	-	-	-	-	-	-	-	-	-	-	-	
	<i>Anthurium huixtlense</i>	-	-	-	+	-	-	-	-	-	-	-	
Araceae	<i>Anthurium scandens</i>	-	-	-	-	-	-	-	-	+	-	-	
	<i>Anthurium schlechtendalii</i>	-	-	-	-	-	-	-	-	-	-	-	
	<i>Philodendron aurantiifolium</i>	-	-	-	-	-	-	-	+	-	-	-	
	<i>Philodendron schottii</i>	-	-	-	-	-	-	-	+	-	-	-	
	<i>Philodendron</i> sp.	-	-	-	+	-	-	+	+	-	-	-	
	<i>Spathiphyllum blandum</i>	-	-	-	+	-	-	+	+	-	-	-	
Araliaceae	<i>Syngonium</i> sp.	-	+	-	-	-	-	-	+	-	-	-	
	<i>Dendropanax arboreus</i>	-	-	-	-	-	-	-	-	-	-	-	
	<i>Oreopanax capitatus</i>	-	-	-	-	-	-	-	+	-	-	-	





Family	Species	Limestone			Mountain		Bottom-			Mountain		
		hill forest	knoll forest	forest	limestone scrub	limestone forest	land alluvial forest	Streamside vegetation	thatch palm forest	Mountain pine scrub forest		
	<i>Tillandsia dasylirifolia</i>	+	-	-	-	-	-	-	-	-	-	-
	<i>Tillandsia festucoides</i>	-	-	-	-	-	-	-	-	-	-	-
	<i>Tillandsia schiedeana</i>	-	-	-	-	-	-	-	-	-	-	-
	<i>Tillandsia</i> sp.	-	-	-	+	+	-	-	-	-	-	-
Burmanniaceae	<i>Gymnosiphon divaricatus</i>	-	-	-	+	+	-	-	-	-	-	-
Burseraceae	<i>Bursera simaruba</i>	+	-	-	-	-	-	-	-	-	-	-
	<i>Protium copal</i>	+	+	-	-	-	+	+	-	-	-	-
	<i>Protium schippii</i>	-	-	-	-	-	+	+	-	-	-	-
Caesalpinjiaceae	<i>Bauhinia guianensis</i>	+	-	-	-	-	-	-	-	-	-	-
	cf. <i>Cynometra hemitomophylla</i>	-	-	-	-	-	-	-	-	-	-	-
Cannaceae	<i>Canna tuerckheimii</i>	-	-	-	-	-	-	-	-	-	-	-
Capparidaceae	<i>Forchhammeria trifoliata</i>	-	-	-	-	-	-	-	-	-	-	+
Cecropiaceae	<i>Cecropia</i> sp.	+	-	-	-	-	-	-	-	+	-	-
Celastraceae	<i>Maytenus schippii</i>	+	-	-	-	-	-	-	-	-	-	-
	<i>Wimmeria bartlettii</i>	+	-	-	-	-	-	-	-	-	-	-
Chrysobalanaceae	<i>Hirtella americana</i>	+	-	-	-	-	-	-	-	-	-	-
	cf. <i>Licania platypus</i>	-	-	-	-	-	-	-	-	-	-	-
Clusiaceae	<i>Calophyllum brasiliense</i>	+	-	-	-	-	-	-	-	-	-	+
	<i>Clusia chanehana</i>	+	-	-	-	-	-	-	-	-	-	-
	<i>Clusia massoniana</i>	-	-	-	+	-	-	-	-	-	-	+
	<i>Clusia minor</i>	-	-	-	-	-	-	-	-	+	-	-
	<i>Clusia quadrangula</i>	-	-	-	-	-	-	-	-	-	-	-
	<i>Clusia</i> sp.	-	+	+	-	-	-	-	-	-	-	+
	<i>Garcinia intermedia</i>	+	-	-	-	-	-	-	+	-	-	-
	<i>Mammea americana</i>	-	-	-	-	-	-	-	-	+	-	-
Combretaceae	<i>Bucida buceras</i>	+	-	-	-	-	-	-	-	-	-	-
	<i>Terminalia amazonia</i>	+	+	-	-	-	-	-	-	+	-	-







TABLE 2. Continued.

Family	Species	Limestone hill		Limestone knoll		Mountain limestone scrub forest		Limestone sinkhole forest		Bottom-land alluvial forest		Streamside vegetation		Mountain thatch		Mountain pine scrub forest	
		forest	+	forest	+	forest	+	forest	+	forest	+	forest	+	forest	+	forest	+
	<i>Piper neesiana</i>	+		-		-		-		-		-		-		-	
	<i>Piper tuerckheimii</i>	+		-		-		-		-		-		-		-	
	<i>Piper yucatanense</i>	+		-		-		-		-		-		-		-	
	<i>Piper</i> sp.	-		-		-		-		+		-		-		-	
Poaceae	<i>Ichnananthus lanceolatus</i>	-		-		-		-		-		-		+		-	
Podocarpaceae	<i>Podocarpus guatemalensis</i>	-		-		-		-		-		-		-		+	
Polygalaceae	<i>Bredemeyera lucida</i>	-		-		-		-		-		-		+		-	
Polygonaceae	<i>Coccoloba belizensis</i>	+		-		-		-		-		-		-		-	
	<i>Coccoloba tuerckheimii</i>	+		-		-		-		-		-		-		-	
	<i>Coccoloba</i> sp.	+		-		-		-		-		-		-		-	
Proteaceae	<i>Roupala montana</i>	-		-		-		-		-		-		-		+	
Rubiaceae	<i>Alseis yucatanensis</i>	+		+		-		-		-		-		-		-	
	<i>Antirrhoea lucida</i>	+		-		-		-		-		-		-		-	
	<i>Appunia guatemalensis</i>	-		-		-		-		-		-		-		+	
	<i>Coccocypselum</i> sp.	-		-		-		-		-		-		-		-	
	<i>Guettarda macrosperma</i>	-		-		-		-		+		-		-		-	
	<i>Guettarda</i> sp.	-		-		-		-		-		-		-		-	
	<i>Posoqueria latifolia</i>	-		-		-		-		-		-		-		-	
	<i>Psychotria acuminata</i>	+		-		-		-		+		-		-		-	
	<i>Psychotria fruticetorum</i>	-		-		-		-		-		-		-		-	
	<i>Psychotria glomerulata</i>	-		-		-		-		-		-		-		-	
	<i>Psychotria marginata</i>	+		-		-		-		-		-		-		+	
	<i>Psychotria nervosa</i>	+		-		-		-		-		-		-		-	
	<i>Psychotria pleuropoda</i>	+		-		-		-		-		-		-		-	
	<i>Psychotria poeppigiana</i>	+		-		-		-		-		-		-		-	
	<i>Simira salvadorensis</i>	-		-		-		-		-		-		-		+	
		-		-		-		-		+		-		-		-	



TABLE 2. Continued.

Family	Species	Limestone hill forest		Limestone knoll forest		Limestone scrub forest		Mountain limestone sinkhole forest		Bottom-land alluvial forest		Streamside vegetation		Mountain thatch palm forest		Mountain pine scrub forest	
Pteridophyte	<i>Adiantum macrophyllum</i>	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
	<i>Blechnum gracile</i>	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
	<i>Cyathea schiediana</i>	+	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
	<i>Dicranopteris flexuosa</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
	<i>Selaginella pallescens</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	<i>Selaginella umbrosa</i>	+	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
	<i>Selaginella</i> sp.	-	-	-	-	-	-	-	+	-	+	-	-	-	-	-	-
<i>Vittaria lineata</i>	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Unidentified specimens																	
#601	Tree, cf. <i>Licania morii</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
#522	Epiphytic Pteridophyte	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
#1B, 515a, 596, 603	Tree	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
#757	Tree	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Unlocalized specimens																	
Araceae	<i>Anthurium lucens</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromeliaceae	<i>Aechmea</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smilacaceae	<i>Smilax</i> cf. <i>domingensis</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myrtaceae	<i>Eugenia</i> sp. (B) (aff. <i>E. confusa</i> )	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Piperaceae	<i>Piper marginatum</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubiaceae	<i>Erihalis fruticosa</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubiaceae	<i>Glossostipula concinna</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Urticaceae	<i>Pilea pubescens</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pteridophyte	<i>Cyathea myosauroides</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total species recorded in each community:		80	32	9	24	48	46	16	36								

tion type and may also be used to name the community, instead of using clumsy English names (such as are of necessity used in this text). More research will be needed before an alternative phytosociological nomenclature can be used, in particular an analysis of the relative abundance of each species and its importance in the community (for examples, see Grabherr and Kojima, 1993; Borhidi, 1991). Forty-seven species were recorded from two of the community types (22%) nine from three (4%), and only two from four (1%). The latter two species were an understory palm, *Astrocaryum mexicanum* and a secondary forest species *Cecropia* sp. No species were common to more than four communities.

At least three species appear to be new to Belize and possibly new to science, but they need to be collected in flower or fruit. One is a bromeliad in the genus *Aechmea*, and two are unknown tree species (specimen #s: 1B, 515a, 522, 596, 603, 601 and 757). The two trees were collected in the Mountain pine scrub forest, the bromeliad in the adjacent Mountain thatch palm forest. These were the most remote areas visited during the fieldwork, and they supported a little-investigated flora with many epiphytes. Other plants apparently unrecorded from Belize were: # 706 Araceae: *Anthurium huixtlense* Matuda, # 681 Araceae: *Geonoma interrupta* (R. & P.) Mart., # 487a Bombacaceae: *Pseudobombax ellipticoideum* A. Robyns (if really distinct from *P. ellipticum* (Kunth) Dugand), # 581,582,583,653,684 Meliaceae: *Trichilia quadrijuga* Kunth (probably subsp. *cinerascens* (C. DC) Pennington) (if really distinct from *T. erythrocarpa* Lundell), # 526 Orchidaceae: *Arpophyllum giganteum* Hartw. ex Lindl., # 645b Orchidaceae: *Epidendrum diffusum* Sw., # 588 Orchidaceae: *Mesandenella* sp. (no *Mesandenella* genus recorded before), # 488 Orchidaceae: *Sarcoglottis sceptrodes* (Reichb. f.) Schltr., # 707 Piperaceae: *Peperomia distachya* (L.) A. Dietrich, # 619 Rutaceae: *Zanthoxylum ekmanii* (I. Urban) Alain.

Plants which appeared not to have been recorded before from Belize because of name changes or because of their relatively recent collection were the Asteraceae *Bac-*

*charis salicifolia* (recently collected by G. Davidse), *Critonia belizeana* (recently split off from another species), *Oyedaea lundellii* (previously recorded as *Zyzyxia lundellii*, also collected by G. Davidse), *Telanthophora bartlettii* (name changed from *Senecio montadorensis*), and the pteridophytes *Blechnum gracile* (previously recorded as *Blechnum fraxinetum*) and *Cyathea schiedeana* (previously recorded as *Trichipteris schiedeana*).

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## APPENDIX

## Plant Specimen Identifications

Identified at Missouri Botanical Garden by Ron Liesner, aided by S. Iremonger. Other specialists who carried out identifications were:

R. Noyes  
G. Davidse  
J. Pipoly  
P. Goldblatt  
B. Hammel  
B. Hoist  
C. Taylor  
R. Moran  
R. Dressier  
T. Croat

Specimen numbers are S. Iremonger's collection numbers.

No.	Family	Species			
1B		Needs re-collecting-cannot det. from this material (same as specimens 515a, 596 and 603)			
1B	Arecaceae	? <i>Schippia concolor</i> Burret			
470	Asteraceae	<i>Critonia belizeana</i> B. Turner			
471	Myrtaceae	<i>Eugenia</i> sp. (C)			
472	Rubiaceae	<i>Psychotria fruticetorum</i> Standl.			
473	Acanthaceae	<i>Aphelandra scabra</i> (Vahl) Sm.			
474	Lauraceae				
475	Rubiaceae	<i>Guettarda macrosperma</i> J. D. Smith			
476	Myrtaceae	<i>Eugenia</i> sp. (A)			
477	Acanthaceae	<i>Odontonema callistachyum</i> (Schlecht. & Chain.) Ktze.			
478	Rubiaceae	<i>Psychotria pleuropoda</i> J.D. Smith			
479	Clusiaceae	<i>Garcinia intermedia</i> (Pittier) Hammel			
480	Sapotaceae	<i>Pouteria durlandii</i> (Standley) Baehni subsp. <i>durlandii</i> (= <i>Peteniodendron belizense</i> Lundell)			
481	Araceae	<i>Anthurium schlehtendalii</i> Kunth			
482	Acanthaceae	<i>Justicia bartlettii</i> (Leonard) D. Gibson			
483	Acanthaceae	<i>Aphelandra scabra</i> (Vahl) Sm.			
484	Combretaceae	<i>Bucida buceras</i> L.			
485	Piperaceae	<i>Peperomia</i> sp. (A) (same as # 571)			
486	Bignoniaceae	<i>Tabebuia roses</i> (Bertol.) DC.			
487	Sapindaceae	<i>Alphophyllus</i> sp.			
487a	Bombacaceae	<i>Pseudobombax ellipticoideum</i> A. Robyns			
488	Orchidaceae	<i>Sarcoglottis sceptrodes</i> (Reichb. f.) Schltr. ? <i>Spiranthes</i> , s.l.			
489	Orchidaceae				
490	Moraceae	<i>Ficus</i> sp.			
491	Burseraceae	<i>Protium schippii</i> Lundell			
492	Sapotaceae	<i>Pouteria izabalensis</i> (Standl.) Baehni			
493	Apocynaceae	<i>Stemmadenia donnell-smithii</i> (Rose) Woods.			
493a	Meliaceae	<i>Guarea glabra</i> Vahl			
494	Burseraceae	<i>Protium schippii</i> Lundell			
495	Meliaceae	<i>Guarea glabra</i> Vahl			
496	Moraceae	<i>Poulsenia armata</i> (Miq.) Standley			
497	Lauraceae				
498	Burseraceae	<i>Protium copal</i> (Schlecht. & Chain.) Engler			
499	Bombacaceae	<i>Quararibea funebris</i> (Llave) Vischer ssp. <i>funebris</i>			
500	Clusiaceae	<i>Garcinia intermedia</i> (Pittier) Hammel			
501	Burseraceae	<i>Protium schippii</i> Lundell			
502	Annonaceae	<i>Cymbopetalum penduliflorum</i> (Dunal) Baill.			
503	Araceae	<i>Spathiphyllum blandum</i> Schott			
505	Polygonaceae	<i>Coccoloba</i> sp.			
506	Annonaceae	<i>Guatteria</i> sp. (B)			
507	Sapotaceae	<i>Pouteria durlandii</i> (Standley) Baehni subsp. <i>durlandii</i>			
509	Aquifoliaceae	<i>Ilex belizensis</i> Lundell			
510	Melastomataceae	<i>Miconia</i> ? <i>holosericea</i> (L.) DC.			
510a	Euphorbiaceae	<i>Drypetes brownii</i> Standley			
510b	Rubiaceae	<i>Alseis yucatanensis</i> Standl.			
511	Euphorbiaceae	<i>Alchornea latifolia</i> Sw.			
511a	Cyrillaceae	<i>Purdiaea belizensis</i> (Smith & Standley) Thomas			
512	Malpighiaceae	<i>Byrsonima</i> sp.			
512a	Annonaceae	<i>Guatteria</i> sp. (C) (same as 548)			
513	Fagaceae	<i>Quercus sapotaefolia</i> Liebm.			
514	Meliaceae	<i>Trichilia minutiflora</i> Standley			
514a	Aquifoliaceae	<i>Ilex guianensis</i> (Aubl.) Kuntze			
515	Burseraceae	<i>Protium copal</i> (Schlecht. & Cham.) Engler			
515a	Same as IB, 596 and 603.	Needs fertile material for identification.			
516	Myrtaceae	<i>Myrcianthes fragrans</i> (Sw.) McVaugh			
516a	Oleaceae	<i>Chionanthus oblancoletus</i> (Robinson) P. S. Green			
516b	Arecaceae	<i>Chamaedorea ernesti-augustii</i> H. A. Wendl			
517	Caesalpiniaceae	<i>Bauhinia guianensis</i> Aubl.			
517a	Cyperaceae	<i>Rhynchospora exaltata</i> Kunth			

518	Acanthaceae	<i>Justicia magniflora</i> (Blake) D. Gibson	556	Clusiaceae	<i>Garcinia intermedia</i> (Pittier) Hammel
518a	Papilionaceae	<i>Ormosia velutina</i> Rudd	557	Rubiaceae	<i>Psychotria acuminata</i> Benth.
519	Apocynaceae	<i>Stemmadenia donnell-smithii</i> (Rose) Woods.	558	Urticaceae	<i>Myriocarpa longipes</i> Liebm.
519a	Melastomataceae	<i>Miconia ciliata</i> (L. C. Rich.) DC.	559	Combretaceae	<i>Terminalia amazonia</i> (J. F. Gmel.) Exell
520	Bromeliaceae	<i>Tillandsia bulbosa</i> Hook.	560	Bombacaceae	<i>Bernoullia flammea</i> Oliver
521	Orchidaceae	<i>Scaphyglottis behrii</i> (Reichb. f.) Benth. & Hook.	561	Lauraceae or Myristicaceae	
523	Melastomataceae	<i>Miconia ciliata</i> (L. C. Rich.) DC.	562	Rubiaceae	<i>Psychotria marginata</i> Jacq.
525	Melastomataceae	<i>Clidemia pustulata</i> DC.	563a	Asteraceae	<i>Telanthophora bartlettii</i> Robinson & Brettell
526	Orchidaceae	<i>Arpophyllum giganteum</i> Hartw. ex Lindl.	563	Clusiaceae	<i>Clusia chanekiana</i> Lundell
528	Balanophoraceae	<i>Helosis cayennensis</i> (Sw.) Spreng. var. <i>cayennensis</i> Hansen	564	Mimosaceae	<i>Inga belizensis</i> Standley
529	Orchidaceae	<i>Encyclia</i> ? <i>bractescens</i> (Lindl.) Schl.	565	Lauraceae	
530	Orchidaceae	<i>Scaphyglottis prolifera</i> Cogn.	566	Marcgraviaceae	<i>Ruyschia enerva</i> Lundell
530a	Arecaceae	? <i>Shippia concolor</i> Burret	567	Rubiaceae	<i>Psychotria nervosa</i> Sw.
531	Poaceae	<i>Ichnanthus lanceolatus</i> Scribner & J. G. Smith	568	Meliaceae	<i>Trichilia minutiflora</i> Standley
531a	Cannaceae	<i>Canna</i> ? <i>tuerckheimii</i> Kranzlin	569	Clusiaceae	<i>Clusia quadrangular</i> Bartlett
532	Theaceae	<i>Ternstroemia tepezapote</i> Schlecht. & Chain.	570	Begoniaceae	<i>Begonia sericoneura</i> Liebm.
533	Cyperaceae	<i>Rhynchospora cephalotes</i> (L.) Vahl	571	Piperaceae	<i>Peperomia</i> sp. (A) (=485)
533a	Orchidaceae	<i>Sobralia</i> sp.	572	Orchidaceae	<i>Pleurothallis</i> sp.
534	Clusiaceae	<i>Clusia massoniana</i> Lundell	574	Rubiaceae	<i>Alseis yucatanensis</i> Standl.
535	Myrtaceae	<i>Myrcia leptoclada</i> DC.	575	Polygonaceae	<i>Coccoloba belizensis</i> Standl.
535a	Bromeliaceae	<i>Aechmea</i> sp. (does not match any C. A. specimens in MBG)	576	Rubiaceae	<i>Antirrhoea lucida</i> (Sw.) Benth. & Hook.
	Pteridophyte	<i>Dicranopteris flexuosa</i> (Schrader) Underw.	577	Piperaceae	<i>Piper yucatanense</i> C.D.C.
536	Podocarpaceae	<i>Podocarpus guatemalensis</i> Standl.	578	Myrtaceae	<i>Calyptanthus pallens</i> Griseb.
537	Orchidaceae	<i>Encyclia cochleata</i> (L.) Lemee	579	Acanthaceae	<i>Justicia bartlettii</i> (Leonard) D. Gibson
538	Pteridophyte	<i>Selaginella umbrosa</i> Lemaire ex. Hieron.	580	Mimosaceae	<i>Acacia</i> sp.
539	Malpighiaceae	<i>Hiraea reclinata</i> Jacq. (= <i>H. obovata</i> Nied.)	581	Meliaceae	<i>Trichilia quadrijuga</i> Kunth.
540	Anacardiaceae	<i>Spondias mombin</i> L.	582	Meliaceae	<i>Trichilia quadrijuga</i> Kunth.
541	Meliaceae	<i>Trichilia minutiflora</i> Standley	583	Meliaceae	<i>Trichilia quadrijuga</i> Kunth.
542	Papilionaceae	<i>Dalbergia</i> sp.	584	Arecaceae	<i>Chamaedorea oblongata</i> Mart.
543	Sapotaceae		585	Caesalpinaceae	? <i>Cynometra hemitomophylla</i> (J.D.Sm.) Britt. & Rose (need fertile material)
544	Myrtaceae	<i>Pimenta dioica</i> (L.) Merrill	586	Rubiaceae	<i>Alseis yucatanensis</i> Standl.
546	Pteridophyte	<i>Vittaria lineata</i> (L.) J. E. Sm.	587	Flacourtiaceae	<i>Laetia thamnia</i> L.
548	Annonaceae	<i>Gutteria</i> sp. (C) (same as 512a)	588	Orchidaceae	<i>Mesadenella</i> sp.
549	Polygonaceae	<i>Coccoloba</i> ? <i>tuerckheimii</i> Dorm. Sm.	589	Bromeliaceae	<i>Bromelia</i> sp. (probably)
550	Celastraceae	<i>Wimmeria bartlettii</i> Lundell	590	Rubiaceae	<i>Psychotria poeppigiana</i> Muell. Arg.
552	Acanthaceae	<i>Ruellia matagalpae</i> Lindau	591	Myrtaceae	<i>Myrcia leptoclada</i> DC.
553	Piperaceae	<i>Peperomia rotundifolia</i> (L.) HBK	592	Podocarpaceae	<i>Podocarpus guatemalensis</i> Standl.
554	Piperaceae	<i>Piper tuerckheimii</i> C.D.C. ex Donn. Smith	593	Asteraceae	<i>Oyedaea lundellii</i> H. Rob.
555	Iridaceae	<i>Neomarica variegata</i> (Martens & Galeotti) Henrich & Goldblatt	593a	Rubiaceae	<i>Psychotria glomerulata</i> (J.D. Smith) Steyermark
			594	Clusiaceae	<i>Clusia massoniana</i> Lundell
			595	Rubiaceae	<i>Appunia guatemalensis</i> J.D. Smith “
			596	Same as specimens IB, 515a and 603. Needs collection of fertile material	
			597	Myrtaceae	<i>Myrcianthes fragrans</i> (Sw.) McVaugh
			598	Cyrillaceae	<i>Purdiaea belizensis</i> (Smith & Standley) Thomas
			598a	Melastomataceae	<i>Miconia</i> ? <i>holosericea</i> (L.) DC.
			599	Theaceae	<i>Ternstroemia tepezapote</i> Schlecht. & Chain.
			601	Chrysobalanaceae?	<i>Licania morii</i> Prance? could

	be new species/record for Belize (need fertile material)	640	Burmanniaceae	<i>Gymnosiphon divaricatus</i> (Benth.) Benth. & Hook.
601a	Theaceae			
	<i>Ternstroemia tepezapote</i> Schlecht. & Cham.	640a	Orchidaceae	
602	Rubiaceae			
	<i>Appunia guatemalensis</i> J.D. Smith	641	Rubiaceae	<i>Erithalis fruticosa</i> L.
603	Same as specimens IB, 515a and 596. Needs collection of fertile material.	641a	Orchidaceae	<i>Scaphyglottis</i> sp.
604	Proteaceae			
	<i>Roupala montana</i> Aubl.	641b	Euphorbiaceae	
605	Sapotaceae			
	<i>Pouteria durlandii</i> (Standley) Baehni subsp. <i>durlandii</i>	642	Bromeliaceae	<i>Tillandsia</i> sp. (probably juv. of <i>T. dasylirifolia</i> Baker)
605a	Pteridophyte			
	<i>Dicranopteris f7exuosa</i> (Schrader) Underw.	643	Arecaceae	<i>Chamaedorea graminifolius</i> H.A. Wendl.
606	Melastomataceae			
	<i>Mouriri exilis</i> Gleason	644	Rutaceae	<i>Amyris rhomboids</i> Standl.
607	Bombacaceae			
	<i>Quararibea funebris</i> (Llave) Vischer ssp. <i>funebris</i>	645	Rubiaceae	<i>Glossostipula concinna</i> (Standl.) Lorence
608	Meliaceae			
	<i>Guarea glabra</i> Vahl	645a	Bromeliaceae	<i>Tillandsia dasyliriifolia</i> Baker
609	Clusiaceae			
	<i>Garcinia intermedia</i> (Pittier) Hammel	645b	Orchidaceae	<i>Epidendrum diffusum</i> Sw.
610	Meliaceae			
	<i>Guarea glabra</i> Vahl	646	Malpighiaceae	<i>Byrsonima bucidifolia</i> Standl.
611	Araliaceae			
	<i>Dendropanax arboreus</i> (L.) Decne. & Planch.	647	Myrtaceae	<i>Eugenia</i> sp. (A)
612	Lauraceae			
		648	Myrtaceae	<i>Eugenia</i> sp. (A)
613	Rubiaceae			
	<i>Simira salvadorensis</i> (Standl.) Steyerf.	649	Myrtaceae	<i>Eugenia</i> sp. (B) (aff. <i>E. confusa</i> DC, but this is an Antillean sp., not otherwise known from C. A.)
614	Annonaceae			
	<i>Cymbopetalum penduliflorum</i> (Dunal) Baill.	650	Myrtaceae	<i>Eugenia</i> sp. (A)
615	Rubiaceae			
	<i>Posoqueria latifolia</i> (Rudge) R. & S.	651	Myrtaceae	<i>Eugenia</i> sp. (A)
616	Araceae			
	<i>Spathiphyllum blandum</i> Schott	652	Celastraceae	<i>Maytenus schippii</i> Lundell
617	Piperaceae			
	<i>Piper marginatum</i> Jacq.	653	Meliaceae	<i>Trichilia quadrijuga</i> Kunth.
618	Araceae			
	<i>Philodendron aurantiifolium</i> Schott	654	Lauraceae	
619	Rutaceae			
	<i>Zanthoxylum ekmanii</i> (I. Urban) Alain	655	Rubiaceae	<i>Alseis yucatanensis</i> Standl.
620	Burseraceae			
	<i>Protium schippii</i> Lundell	655a	Mimosaceae	<i>Acacia collinsii</i> Safford
621	Arecaceae			
	<i>Bactris ? trichophylla</i> Burret	656	Chrysobalanaceae	<i>Hirtella americana</i> L.
623	Arecaceae			
	<i>Chamaedorea neurochlamys</i> Burret	657	Meliaceae	<i>Trichilia minutiflora</i> Standley
624	Clusiaceae			
	<i>Garcinia intermedia</i> (Pittier) Hammel	680	Euphorbiaceae	<i>Croton schiedeianus</i> Schlecht.
625	Sapotaceae			
	<i>Pouteria durlandii</i> (Standley) Baehni subsp. <i>durlandii</i>	681	Arecaceae	<i>Geonoma interrupts</i> (R. & P.) Mart.
626	Sapotaceae			
	<i>Pouteria durlandii</i> (Standley) Baehni subsp. <i>durlandii</i>	682	Moraceae	<i>Poulsenia armata</i> (Miq.) Standl.
627	Apocynaceae			
	? <i>Aspidosperma megalocarpon</i> Muell. Arg.	683	Sapotaceae	<i>Pouteria izabalensis</i> (Standley) Baehni
628	Mimosaceae			
	<i>Acacia collinsii</i> Safford	684	Meliaceae	<i>Trichilia quadrijuga</i> Kunth.
629	Burseraceae			
	<i>Protium copal</i> (Schlecht. & Chain.) Engl.	685	Annonaceae	<i>Guatteria</i> sp. (A)
630	Myrtaceae			
	<i>Pimenta dioica</i> (L.) Merrill	686	Annonaceae	<i>Guatteria amplifolia</i> Tr. & P1.
631	Apocynaceae			
	<i>Aspidosperma spruceanum</i> Benth. ex Muell. Arg.	687	Arecaceae	<i>Calyptrogyne ghiesbreghtiana</i> (Linden & H. Wendl.) H. Wendl.
632	Sapotaceae			
	<i>Pouteria ? unilocularis</i> (Dorm. Sm.) Baehni	687a	Meliaceae	<i>Guarea glabra</i> Vahl
633	Euphorbiaceae			
	<i>Alchornea latifolia</i> Sw.	691	Euphorbiaceae	<i>Pedilanthus tithymaloides</i> (L.) Poit.
634	Oleaceae			
	<i>Chionanthus oblanceolatus</i> (Robinson) P.S. Green	693	Pteridophyte	<i>Adiantum macrophyllum</i> Sw.
635	Nyctaginaceae			
	<i>Neea psychotrioides</i> Dorm. Smith s.l.	694	Pteridophyte	<i>Blechnum gracile</i> Kaulf.
636	Rutaceae			
	<i>Amyris rhomboidea</i> Standl.	695	Commelinaceae	<i>Tradescantia zebrina</i> Bosse
637	Rubiaceae			
	<i>Guettarda</i> sp.	696	Commelinaceae	<i>Tradescantia zanonina</i> (L.) Sw.
638	Bromeliaceae			
		697	Arecaceae	<i>Calyptrogyne ghiesbreghtiana</i> (Linden & H. Wendl.) H. Wendl.
639	Clusiaceae			
	<i>Clusia massoniana</i> Lundell	698	Piperaceae	<i>Peperomia ? rotundifolia</i> (L.) HBK
		699	Burseraceae	<i>Protium schippii</i> Lundell
		700	Lauraceae or Sapotaceae	
		701	Turneraceae	<i>Erblichia odorata</i> Seemann
		701a	Piperaceae	<i>Peperomia</i> sp. (B)
		702	Pteridophyte	<i>Cyathea schiediana</i> (C. Presl.) Domin

704	Theophrastaceae	<i>Deherainia smaragdina</i> (Planch.) Decne.	736	Euphorbiaceae	<i>Acalypha diversifolia</i> Jacq.
705	Burseraceae	<i>Protium schippii</i> Lundell	737	Melastomataceae	? <i>Miconia impetiolaris</i> (Sw.) D. Don
706	Araceae	<i>Anthurium huixtlense</i> Matuda	738	Moraceae	? <i>Brosimum alicastrum</i> Sw.
707	Piperaceae	<i>Peperomia distachya</i> (L.) A. Dietrich	739	Arecaceae	<i>Chamaedorea neurochlamys</i> Burret
711	Polygalaceae	<i>Bredemeyra lucida</i> (Benth.) K. & Hassk.	740	Arecaceae	<i>Chamaedorea ernesti-augustii</i> H. Wendl.
712	Gentianaceae	<i>Listianthus</i> sp.	741	Urticaceae	<i>Boehmeria ulmifolia</i> Weddell
713	Melastomataceae	<i>Miconia ciliata</i> (L.C. Rich.) DC.	742	Tiliaceae	<i>Heliocarpus donnell-smithii</i> Rose
714	Loranthaceae	<i>Phoradendron</i> sp.	743	Araceae	<i>Anthurium scandens</i> (Aubl.) Engl.
715	Cyperaceae	<i>Scleria latifolia</i> Sw.	744	Araliaceae	<i>Oreopanax capitatus</i> (Jacq.) Decne & Planch.
716	Scrophulariaceae	<i>Russelia sarmentosa</i> Jacq.	745	Fabaceae	? <i>Cynometra hemitomophylla</i> (J.D.Sm.) Britt. & Rose
720	Moraceae	<i>Ficus insipida</i> Willd.	746	Pteridophyte	<i>Selaginella pallescens</i> (C. Presl.) Spring in Mart.
721	Meliaceae	<i>Trichilia havanensis</i> Jacq.	747	Orchidaceae	<i>Encyclia polybulboa</i> (Sw.) Dressl.
722	Asteraceae	<i>Baccharis salicifolia</i> (Ruiz & Paron) Pers.	748	Pinaceae	<i>Pinus caribaea</i> var. <i>hondurensis</i> (Serecl.) Barr. & Golf.
723	Fabaceae	<i>Inga lirrdeniana</i> Benth.	749	Clusiaceae	<i>Clusia minor</i> L.
725	Apocynaceae	<i>Aspidosperma megalocarpon</i> Muell. Arg.	750	Simaroubaceae	<i>Simarouba</i> ? <i>glauca</i> DC.
726	Bromeliaceae	<i>Tillandsia festucoides</i> Brongn. ex Mez	751	Acanthaceae	<i>Ruellia matagalpae</i> Lindau
727	Bromeliaceae	<i>Tillandsia schiedeana</i> Steudel	752	Musaceae	<i>Heliconia aurantiaca</i> Ghiesb,
729	Bromeliaceae	<i>Tillandsia bulbosa</i> Hook.	753	Arecaceae	? <i>Schippia concolor</i> Burret
730	Bignoniaceae	<i>Macfadyena unguis-cati</i> (L.) A. Gentry	754	Urticaceae	<i>Pilea pubescens</i> Liebm.
730	Pinaceae	<i>Pinus caribaea</i> var. <i>hondurensis</i> (Senecl.) Barr. & Golf.	755	Araceae	<i>Anthurium lucens</i> Standl.
732	Bromeliaceae	<i>Tillandsia bulbosa</i> Hook.	756	Lauraceae	
733	Pinaceae	<i>Pinus caribaea</i> var. <i>hondurensis</i> (Senecl.) Barr. & Golf.	757	Anacardiaceae?	
734	Capparidaceae	<i>Forchhammeria trifoliata</i> Radlk.	758	Pteridophyte	<i>Cyathea myosauroides</i> (Liebm.) Domin
735	Liliaceae	<i>Smilax</i> ? <i>domingensis</i> Wind.	759	Moraceae	<i>Poulsenia armata</i> (Miq.) Standl.
			760	Clusiaceae	<i>Clusia massoniana</i> Lundell