

VASCULAR PLANTS OF MOUNT UYUCA*

by

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About seven miles west of El Zamorano, a tall mountain peak called Uyuca rises abruptly from the surrounding foothills. Bathed in an almost constant cloud cap, the apex of the peak has developed a strange and wonderful flora through the ages. To a visitor moving upward into the cloud forest area, it is like stepping backward in time. Through the shreds of mist, indistinct giant trees, bearded with epiphytes, soar upward. In the understory, tree ferns tower to heights of twenty feet, while the forest floor is covered with varied ferns and aroids. Except for the occasional cry of a bird, there is no sound except the sougling wind and the constant drip of water. This is the home of *el puma* and the *quetzal*.

Very little of the area has been disturbed, although a field has been cleared near the summit for planting temperate fruit trees, by the Escuela Agrícola Panamericana. Along the lower borders of the cloud forest, some areas have been denuded by fires. These slopes, however, are far from bare. On them grow many adventives and cool-climate plants which otherwise might be rare in similar forested areas.

It has been a pleasure to collect the data presented in this paper, in cooperation with the Escuela Agrícola Panamericana. It is hoped it will aid in more rapid identification of plant collections from Uyuca and similar cloud forest areas in central Honduras. In addition, it seems desirable for floristic treatments (even if they are only bare lists of species) to be published for

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* Department of Francisco Morazán, approximately 14 miles south-east of Tegucigalpa, Honduras, at 87° West Longitude, 14° North Latitude, rising to approximately 7400 feet, in the drainage basin of the Río Yeguaré, tributary of the Río Choluteca which empties into the Golfo de Fonseca and the Pacific Ocean. (See figure I).

Honduras, which, botanically, remains one of the most poorly known areas in the Americas.

Obviously, the data presented here is not solely the author's work. Acknowledgement must be made to the dozens of collectors whose plants remain in herbaria as mute testimony of expeditions to such areas. Our deepest thanks go also to our host in Honduras, Dr. William C. Paddock, Director of the Escuela Agrícola Panamericana, who aided us in every way, and personally urged us to write this paper. While all of the faculty and staff of the Escuela have helped us whenever possible, Dr. Thomas Furman, Dr. Arnold Krochmal and Prof. Antonio Molina R. have been especially courteous. Prof. Molina, Curator of the Herbarium, has assisted in identification of material and his warm, cheerful attitude was appreciated when he acted as guide and mentor on two trips in the field. My wife, Ruth N. Pfeifer, has been a valued assistant throughout the work. She aided in the herbarium search, during which each of an estimated 90,000 collections were scrutinized. She also accompanied the author on all field trips while in Honduras, and typed the manuscript for the editor.

In consideration of the limitations of this paper, the writer has arbitrarily accepted the 1600 meter level as the lowest border of cloud forest species. Argument could be presented for lowering or raising this point, but it seemed that labeling procedures have customarily and consistently designated plants from 1600 meters elevation and higher, as cloud forest species. It must be recognized that any arbitrary line drawn around a mountain is ignored by the plants growing there.

In addition to the 90,000 sheets examined in the herbarium of the Escuela Agrícola Panamericana, there are a number of literature excerpts and newspaper clippings and pictures. These have been disregarded unless actual plant specimens were available to authenticate the citations. The following list could have been considerably amplified if other cloud forest areas had been included, but this must await the attention of a botanist with more time at his disposal. Statistically, the list includes approximately 96 families of vascular plants, represented by 305 genera, of 681 species and varieties.

In order to complete work in the time allotted, no check was made of binomial orthography as written on labels, except for obvious misspellings, nor has it been feasible to closely

examine authority citations for the names. The author therefore makes no pretense of great accuracy. The plant collections have been named in many instances by authorities in the taxa, and these have been reproduced here as scrupulously as possible. It has seemed desirable to reflect the presence of *ignotae* and they are included at the termination of their respective taxa.

The author is fully aware of the pitfalls involved in informing the reader of the habitats and occurrences of the plants. Habitat notes have been somewhat edited from the labels, and the author's experience has been employed as the judge where the labels have disagreed. Occurrence records have been reduced to the unambiguous terms, "common", "occasional", and "rare". Any additional notes have been kept to an extreme minimum.

The plant families in the herbarium of the Escuela are indexed according to Dalle Torre and Harms, then genera and species follow alphabetically in sequence. Ferns are not subdivided into families; therefore the title "Filices" has been adopted for this paper.

This study of the flora was made during a five-week visit at the Escuela Agrícola Panamericana, in the summer of 1960. Of the author's collections in Honduras, approximately 250 numbers were collected in the Uyuca cloud forest, and additional study was carried out in similar cloud forests in the Central Honduran Plateau.

"FILICES"

Adiantum andicola Liebm.

Wet, brushy hillside, common.

Alsophila salvinii Hook.

Cloud forest, common tree fern.

Alsophila schiedeana Presl.

Cloud forest, tree fern.

Antrophyum ensiforme Hook.

Cloud forest, epiphyte.

Asplenium abscissum Willd.

Cloud forest, terrestrial.

Asplenium auritum var. *rigidum* (Swartz) Hieron.

Asplenium fragrans Swartz.

Cloud forest, epiphyte.

Asplenium harpeodes Kunze.

Cloud forest, epiphyte.

- Asplenium hastatum* Kl.
Cloud forest, epiphyte.
- Asplenium praemorsum* Sw.
On rocks, common.
- Asplenium radicans* L.
Cloud forest on mossy rocks.
- Asplenium radicans* var. *partitum* (Kl.) Hieron.
Cloud forest.
- Asplenium serra* Langsd. & Fisch.
Cloud forest, epiphytic or terrestrial.
- Blechnum ensiforme* (Liebm.) C. Chr.
Cloud forest, common epiphyte, near waterfall.
- Blechnum falcatiforme* (Liebm.) C. Chr.
Cloud forest, common.
- Blechnum lehmannii* Hieron.
Cloud forest, common, epiphytic or terrestrial
- Blechnum pteropus* (Kunze) Mett.
Terrestrial.
- Cheilanthes angustifolia* HBK.
Brushy rocky banks.
- Cheilanthes intramarginalis* (Kaulf.) Hook.
Moist thickets.
- Cheilanthes pyramidalis* Fée.
Wet thickets.
- Cochlidium rostratum* (Hook.) Maxon.
Cloud forest, epiphyte.
- Ctenitis equestris* (Kunze) Ching.
Cloud forest.
- Ctenitis hemsleyana* (Baker) Copel.
Cloud forest.
- Cyathea* sp. (undetermined).
Carlson #2662.
Tree fern.
- Dennstaedtia* sp. (undetermined).
Molina #5055.
Common.
- Diplazium donnell-smithii* Christ.
Cloud forest, common.
- ?*Diplazium grandifolium* Swartz.
Cloud forest, common.

- Diplazium obscurum* Christ.
Cloud forest, common, near waterfall.
- Diplazium plantaginifolium* (L.) Urban.
Cloud forest.
- Diplazium ternatum* Liebm.
- Diplazium werckleanum* C. Chr.
Cloud forest, common, terrestrial.
- Dryopteris* sp. (undetermined).
Standley #28417.
Cloud forest, common.
- Elaphoglossum firmum* (Mett.) Urban.
Cloud forest, epiphyte.
- Elaphoglossum longifolium* (Jacq.) J. Smith.
Cloud forest, on rocks.
- Histiopteris incisa* (Thunb.) J. Sm.
- Hymenophyllum fucoides* Swartz.
Epiphyte.
- Hymenophyllum hirsutum* (L.) Sw.
Epiphyte.
- Hymenophyllum microcarpum* Desv.
Epiphyte.
- Hymenophyllum polyanthos* Swartz.
Cloud forest, epiphyte.
- Hymenophyllum trapezoidale* Liebm.
Cloud forest, epiphyte.
- Lophosoria quadripinnata* (Gmel.) C. Chr.
Cloud forest, tree fern.
- Marattia excavata* Underw.
Cloud forest, common tree fern.
- Ophioglossum reticulatum* L.
Grassy, rocky slopes.
- Orthopteris inaequalis* (Kunze) Copel.
Common.
- Osmunda cinnamomea* var. *imbricata* (Kunze) Milde.
In bogs.
- Osmunda regalis* var. *spectabilis* (Willd.) Gray.
In bogs.
- Pityrogramma tartarea* (Cav.) Maxon.
Brushy rocky banks, common.
- Polypodium angustum* (H. & B.) Liebm.
Epiphyte.

- Polypodium asplenifolium* L.
Epiphyte.
- Polypodium aureum* L.
Stream side, epiphyte.
- ?*Polypodium chnoodes* Spreng.
Stream side.
- Polypodium crassifolium* L.
Cloud forest, epiphyte.
- Polypodium delitescens* Maxon.
Cloud forest, epiphyte.
- Polypodium induens* Maxon.
Cloud forest, epiphyte.
- Polypodium loriceum* L.
Cloud forest, common epiphyte.
- Polypodium lowei* C. Chr.
Cloud forest, epiphyte.
- ?*Polypodium moniliforme* Lag.
Cloud forest, rare epiphyte.
- Polypodium montigenum* Maxon.
Cloud forest, common epiphyte.
- Polypodium pilosissimum* M. & G.
Cloud forest, epiphyte.
- Polypodium plebejum* C. & S.
Cloud forest, epiphyte.
- Polypodium plumula* H. & B.
Cloud forest, epiphyte.
- Polypodium sanctae-rosae* (Max.) C. Chr.
Hills, epiphyte.
- Polystichopsis denticulata* (Sw.) Morton.
Cloud forest, terrestrial.
- Polystichum muricatum* (L.) Fée.
Cloud forest, common, terrestrial.
- Pteridium aquilinum* (L.) Kuhn.
Moist thickets, common, terrestrial.
- Pteris propinqua* Agardh.
Cloud forest, terrestrial.
- Rhipidopteris peltata* (Sw.) Schott.
Cloud forest, epiphyte.
- Sticherus underwoodianus* (Max.) Morst.
Cloud forest, terrestrial.

- Thelypteris melanochlaena* (C. Chr.) Mort.
Cloud forest.
- Thelypteris piloso-hispida* (Hook.) Mort.
Wet woods.
- Thelypteris* sp. (undetermined).
Carlson #2665.
- Trichomanes capillaceum* L.
Wet forest, epiphyte.
- Trichomanes radicans* Swartz.
Cloud forest, common epiphyte, near waterfall.
- Trichomanes robinsonii* Baker.
Cloud forest, epiphyte.
- Trichomanes* sp. (undetermined)
Williams & Molina #14824c.
Cloud forest, epiphyte.
- Vittaria filifolia* Fée.
Cloud forest, common epiphyte, near waterfall.
- Woodwardia spinulosa* M. & G.
Wet brushy hillsides, common.
- (undetermined).
Williams & Williams #18630.
Cloud forest, terrestrial.
- (undetermined).
Williams & Williams #18629.
Cloud forest, epiphyte.
- (undetermined).
Williams & Williams #18631.
- (undetermined).
Williams & Williams #18632.
- (undetermined).
Carlson #2656.

LYCOPODIACEAE

- Lycopodium reflexum* Lam.
Wet banks, rare, terrestrial.
- Lycopodium truerckheimii* Maxon.
Cloud forest, rare epiphyte.

SELAGINELLACEAE

- Selaginella porphyrospora* A. Br.
Wet thickets, common, terrestrial.

TAXACEAE

- Podocarpus oleifolius* D. Don.
Common tree.

GRAMINEAE

- Pinus pseudo-strobus* Lindl.
Common tree in open areas.

PINACEAE

- Aegopogon cenchroides* H. & B.
In bogs, common as turf.
- Aegopogon tenellus* (Cav.) Trin.
Moist thickets, common.
- Andropogon altus* Hitchc.
Open hillsides, common.
- Andropogon bicornis* L.
Open hillsides, common.
- Andropogon gerardi* Vitman (including *A. furcatus* Muhl.)
Open slopes, common.
- Andropogon hirtiflorus* (Nees) Kunth.
Cloud forest, common.
- Andropogon virginicus* L.
Cloud forest, occasional.
- Arthrostylidium pittieri* Hack.
Cloud forest, rare.
- Arundinella berteroniana* (Schult.) H. & C.
Cloud forest, rare.
- Axonopus affinis* Chase.
Moist thickets, common.
- Chaetium bromoides* (Presl.) Benth.
Moist thickets, common.
- Festuca* sp. (undetermined).
Molina #1093.
Hills, rare.
- Ichnanthus nemorosus* (Sw.) Doell.
Wet thickets, common.
- Ichnanthus nubigenus* Swallen.
Cloud forest.

- Lasiacis divaricata* (L.) Hitchc.
Cloud forest.
- Lasiacis lucida* Swallen.
Cloud forest.
- Lasiacis rhizophora* (Fourn.) Hitchc.
Cloud forest.
- Melinis minutiflora* Beauv.
Open slopes, common.
- Muhlenbergia ciliata* (HBK) Kunth.
Moist thickets, common.
- Muhlenbergia diversiglumis* Trin.
Open areas, common.
- Muhlenbergia implicata* (HBK) Kunth.
Moist thickets, common.
- Muhlenbergia tenella* (HBK) Trin.
Wet areas.
- Oplismenus hirtellus* (L.) Beauv.
Wet thickets.
- Oplismenus rariflorus* Presl.
Cloud forest.
- Oplismenus setarius* (Lam.) R. & S.
Wet forest, common.
- Panicum aciculare* Desv.
Wet thickets, common.
- Panicum arenicoloides* Ashe.
Wet thickets.
Cloud forest.
- Panicum breviramisum* Swallen.
- Panicum arundinariae* Trin.
Cloud forest.
- Panicum incumbens* Swallen.
Wet thickets, rare.
- Panicum laxum* Sw.
Forest.
- Panicum olivaceum* H. & C.
Cloud forest.
- Panicum sphaerocarpon* Ell.
Grassy slopes.
- Panicum xalapense* HBK.
Moist thickets, common.

- Panicum* sp. (undetermined).
Williams & Merrill #15726.
Open woods.
- Paspalum botterii* (Fourn.) Chase.
Wet thickets.
- Paspalum candidum* (H. & B.) Kunth.
Open bogs, rare.
- Paspalum conjugatum* Berg.
Wet fields.
- Paspalum convexum* H. & B.
In marshes, common.
- Paspalum costaricense* Mez.
Wet thickets, common.
- Paspalum distichum* L.
Shallow open pools.
- Paspalum langei* (Fourn.) Nash.
Common.
- Paspalum lentiginosum* Presl.
Steep wet banks.
- Paspalum lividum* Trin.
Boggy meadows, common.
- Paspalum paniculatum* L.
Wet thickets, common.
- Paspalum plicatum* Michx.
Wet thickets.
- Paspalum squamulatum* Fourn.
Moist thickets, common.
- Paspalum tonduzii* Mez.
Moist thickets.
- Paspalum umbratile* Chase.
Wet thickets.
- Paspalum* sp. (undetermined).
Carlson #2474.
Cloud forest.
- Paspalum* sp. (undetermined).
Carlson #2473.
Cloud forest.
- Paspalum* sp. (undetermined).
Molina #2755.
Wet thickets.

- Paspalum* sp. (undetermined).
Standley #29107.
Moist thickets.
- Pennisetum bambusiforme* (Fourn.) Hemsl.
Forest openings.
- Polypogon elongatus* HBK.
Moist meadows.
- Setaria geniculata* (Lam.) Beauv.
Wet hills.
- Setaria longipila* Fourn.
- Sporobolus poiretii* (R. & S.) Hitchc.
Rocky slopes, common.
- Trisetum deyeuxioides* (HBK) Kunth.
Moist meadows, common.
- Zea mays* L.
Probably cultivated.
- Zeugites mexicana* (Kunth) Trin.
Moist brushy banks, common.

CYPERACEAE

- Carex albolutescens* Schwein.
Moist meadows.
- Carex polystachya* Swartz.
Moist thickets, common.
- Carex standleyana* Steyermark.
Wet thickets, common.
- Cyperus esculentus* L.
Wet thickets, common.
- Cyperus flavus* (Vahl) Nees.
Wet meadows.
- Cyperus haspan* L.
Open bogs, common.
- Cyperus mutisii* (HBK) Griseb.
Wet thickets, common.
- Cyperus niger* R. & P.
In marshes, common.
- Cyperus surinamensis* Rottb.
In bogs, common.
- Cyperus tenerimus* Presl.
In woods.

- Cyperus tenuis* Swartz.
Wet thickets, common.
- Cyperus* sp. (undetermined).
Standley #23430.
Open bogs, common.
- Dichromena ciliata* Vahl.
Wet forests, common.
- Eleocharis caribaea* (L.) Rottb.
In skamps.
- Eleocharis dombeyana* Kunth.
Open marshes.
- Eleocharis maculosa* (Vahl) R. & S.
In marshes.
- Fimbristylis annua* (All.) R. & S.
Wet fields, common.
- Fuirena simplex* Vahl.
Wooded bogs.
- Kyllinga brevifolia* Rottb.
Open bogs, common.
- Rhynchospora corymbosa* (L.) Britton.
Wet thickets, common.
- Rhynchospora polyphylla* Vahl.
Cloud forest.
- Rhynchospora rugosa* (Vahl.) Gale.
Open bogs.
- Rhynchospora schiedeana* Kunth.
- Rhynchospora tenuis* Link.
Swampy thickets, rare.
- Scleria oligantha* Michx.
Moist forests, rare.
- Scleria pauciflora* Muhl.
Open forests.
- Scleria reticularis* Michx.
Brushy bogs, common.
- Scleria verticillata* Muhl.
Rocky areas.
- Uncinia hamata* (Sw.) Urban.
Cloud forest.

PALMAE

- Chamaedorea graminifolia* Wendl.
Cloud forest.

- Chamaedorea* sp. (undetermined).
 Williams & Molina #15786.
 Cloud forest.
- Geonoma binervia* Oerst.
 Cloud forest.
- Paurotis cookii* (Bartl.) Standl. & Steyerl.
 Open slopes, common.

ARACEAE

- Anthurium scandens* (Aubl.) Engler.
 Cloud forest, rare epiphyte.

BROMELIACEAE

- Catopsis habnii* Baker.
 Common epiphyte.
- Catopsis morreniana* Mez.
 Dense wet forest, epiphyte.
- Catopsis* sp. (undetermined).
 Williams & Molina #10267.
 Epiphyte.
- Pitcairnia calderonii* Standl. & Smith.
 Epiphyte.
- Tillandsia butzii* Mez.
 Epiphyte.
- Tillandsia cryptopoda* L. B. Smith.
 Epiphyte.
- Tillandsia deppeana* Steud.
 Epiphyte.
- Tillandsia fasciculata* var. *rotundata* L. B. Smith.
 Epiphyte.
- Tillandsia guatemalensis* L. B. Smith.
 Common epiphyte.
- Tillandsia lampropoda* L. B. Smith.
 Common epiphyte.
- Tillandsia multicaulis* Steud.
 Epiphyte.
- Tillandsia oreogenes* Standl. & L. Wms.
 Epiphyte.
- Tillandsia pruinosa* Sw.
 Epiphyte.

- Tillandsia punctulata* Schl. & Cham.
Tillandsia recurvata L.
 Epiphyte.
 Epiphyte.
Tillandsia schiedeana Steud.
 Epiphyte.
Tillandsia usneoides L.
 Epiphyte.
Tillandsia vicentina Standl.
 Epiphyte.
Tillandsia yunckeri L. B. Smith.
 Occasional, large tank epiphyte.
Tillandsia sp. (undetermined).
 Molina #5386.
Tillandsia sp. (undetermined).
 Williams #18540.
 Epiphyte.
Vriesia montana (L.B.S.) Sm. & Pittend.
 Epiphyte.
Vriesia werckleana Mez.
 Epiphyte.
-
- (undetermined).
 Williams #17304.
 Epiphyte.

COMMELINACEAE

- Commelina coelestis* Willd.
 Wet meadows, herb.
Tinantia erecta (Jacq.) Schl.
 Moist slopes, herb.
Tripogandra disgrega (Kunth.) Woods.
 Wet thickets, common herb.
Tripogandra elongata (Mey.) Woods.
 In bogs, common herb.

JUNCACEAE

- Juncus microcephalus* HBK.
 Open bogs, common herb.

LILIACEAE

- Allium glandulosum* L. & O.
Fields, herb.
- Anthericum aurantiacum* J. G. Baker.
Forest, common herb.
- Smilax subpubescens* A. DC.
Cloud forest, liana.

AMARYLLIDACEAE

- Hypoxis decumbens* L.
Wet thickets, bulbous herb.

IRIDACEAE

- Nemastylis tenuis* (Herb.) Baker.
Slopes, herb.
- Sisyrinchium convolutum* NoCCA.
Wet thickets, common herb.
- Sisyrinchium micrantha* Cav.
In woods, herb.
- Sisyrinchium tinctorium* HBK.
Wet thickets, common herb.

CANNACEAE

- Canna indica* L.
Cloud forest, herb.

BURMANNIACEAE

- Gymnosiphon suaveolens* (Karst.) Urban.
Rare saprophytic herb.

ORCHIDACEAE

- Arpophyllum spicatum* Llave & Lex.
Epiphyte.
- Bletia reflexa* Lindl.
Common terrestrial herb.

- Cranichis hieroglyphica* Ames & Correll.
Rare terrestrial herb.
- Cranichis sylvatica* Rich & Gal.
Cloud forest floor, rare herb.
- Crybe rosea* Lindl.
Wet thickets, occasional herb.
- Dichaea* cf. *graminoides* (Sw.) Lindl.
Cloud forest, epiphyte.
- ?*Dichaea panamensis* Lindl.
Cloud forest, epiphyte.
- Dichaea squarrosa* Lindl.
Forest, epiphyte.
- Dichaea* sp. (undetermined).
Williams & Molina #12102.
Cloud forest, epiphyte.
- Elleanthus aurantiacus* (Lindl.) Rchb. f.
Cloud forest, epiphyte.
- Elleanthus capitatus* (R. Br.) Rchb. f.
Cloud forest, epiphyte.
- Epidendrum arbuscula* Lindl.
Forest, epiphyte.
- Epidendrum centropetalum* Rchb. f.
Cloud forest, epiphyte.
- Epidendrum laucheanum* Rolfe.
Cloud forest, epiphyte.
- Epidendrum ramosum* Jacq.
Cloud forest, epiphyte.
- Epidendrum teretifolium* Swartz.
On trees, epiphyte.
- Epidendrum brassavola* Rchb. f.
Cloud forest, epiphyte.
- Galeandra baueri* Lindl.
Cloud forest, epiphyte.
- Govenia liliacea* Llave & Lex.
Open fields, occasional, terrestrial.
- Habenaria alata* Hook.
Wet thickets, rare, terrestrial.
- Habenaria clypeata* Lindl.
Forests, rare, terrestrial.
- Habenaria crassicornia* Lindl.
Common, terrestrial,

- Habenaria pauciflora* (Lindl.) Rchb. f.
Moist thickets, rare, terrestrial.
- Habenaria quinqueseta* (Michx.) Sw.
Moist thickets, rare, terrestrial.
- Isobilus linearis* (Jacq.) R. Br.
Cloud forest, epiphyte.
- Isobilus* sp. (undetermined).
Cloud forest, epiphyte.
- Leochilus johnstonii* A. & C.
Cloud forest, epiphyte.
- Lepanthes acuminata* Schltr.
Cloud forest, epiphyte.
- cf. *Lepanthes* sp. (undetermined).
Molina #1302a.
Cloud forest, epiphyte.
- cf. *Lepanthes* sp. (undetermined).
Molina #1632.
Wet forests, epiphyte.
- Lepanthes* sp. (undetermined).
Shank — no number.
Cloud forest, epiphyte.
- Lepanthes* sp. (undetermined).
Shank — no number.
Cloud forest, epiphyte.
- Liparis vaxillifera* (Llave & Lex.) Cogn.
In scrubs, terrestrial.
- Malaxis excavata* (Lindl.) O. Ktze.
Cloud forest, terrestrial.
- Malaxis fastigiata* (Rchb. f.) O. Ktze.
Recent clearing, terrestrial.
- Malaxis maxonii* Ames.
Cloud forest, terrestrial.
- Malaxis soulei* L. Wms.
Wet thickets, rare, terrestrial.
- Malaxis unifolia* Michx.
Wet thickets, rare.
- Malaxis* sp. (undetermined).
Standley #27677.
Wet thickets, terrestrial.

- Malaxis* sp. (undetermined).
Standley #27676.
Wet thickets, terrestrial.
- Malaxis* sp. (undetermined).
Williams & Molina #10369.
Moist slopes, terrestrial.
- Malaxis* sp. (undetermined).
Williams & Molina #10026.
Cloud forest, epiphyte.
- Maxillaria cucullata* Lindl.
Cloud forest.
- Odontoglossum cordatum* Lindl.
Cloud forest, epiphyte.
- Oncidium brachyandrum* Lindl.
Cloud forest, terrestrial.
- Pleurothallis dolichopus* Schltr.
Open cloud forest, epiphyte.
- Pleurothallis fuegii* Rchb. f.
Cloud forest, epiphyte.
- Pleurothallis ghiesbreghtiana* Rich. & Gal.
Epiphyte.
- Pleurothallis platystylis* Schltr.
Cloud forest, epiphyte.
- Pleurothallis tuerckheimii* Schltr.
Cloud forest, occasional epiphyte.
- Pleurothallis* sp. (undetermined).
Williams & Molina #11094.
Cloud forest, epiphyte.
- Pogonia mexicana* S. Wats.
Wet slopes, terrestrial.
- Prescottia stachyodes* (Sw.) Lindl.
Cloud forest, terrestrial.
- Sobralia macrantha* Lindl.
Wet forests, terrestrial(?).
- Spiranthes llaveana* Lindl.
Moist banks, rare, terrestrial.
- Spiranthes speciosa* (J. T. Gmel.) A. Rich.
Cloud forest, epiphyte.
- ?*Stelis cleistogama* Schltr.
Cloud forest, epiphyte.

- Stelis guatemalensis* Schltr.
Cloud forest, rare, epiphyte.
- Stelis parvula* Lindl.
Cloud forest, epiphyte.
- Stelis purpurescens* Rich. & Gal.
Forests, epiphyte.
- Stelis thecoglossa* Rchb. f.
Cloud forest, epiphyte.
- Stelis* sp. (undetermined).
Glassman #1831.
Epiphyte.

PIPERACEAE

- Peperomia coarctata* Trel.
Cloud forest, epiphyte.
- Peperomia collocata* Trel.
Cloud forest, epiphyte.
- Peperomia condormiens* Trel.
Cloud forest, common epiphyte.
- Peperomia galioides* HBK.
Cloud forest, common epiphyte.
- Peperomia peltilimba* C. DC.
Cloud forest, terrestrial.
- Peperomia obtusifolia* (L.) A. Dietr.
Cloud forest, epiphyte.
- Peperomia quadrifolia* (L.) HBK.
Wet forests, common epiphyte.
- Peperomia reflexa* (L. f.) A. Dietr.
Wet forests, epiphyte.
- Piper amalago* L.
Cloud forest, shrub.
- Piper epilosipes* Trel.
Wet forests, common shrub.
- Piper nubigaudens* Standl. & L. Wms.
Cloud forest, tree.
- Piper restiferum* Standl. & L. Wms.
Cloud forest, tree.
- Piper scalarispicum* Trel.
Cloud forest, common shrub.
- Piper uyucanum* Standl. & L. Wms.
Cloud forest, common tree.

Piper xanthostachyum C. DC.

Cloud forest, shrub.

Piper sp. (undetermined).

Molina #1313.

Wet forest.

CHLORANTHACEAE

Hedyosmum mexicanum Cordem.

Cloud forest, tree.

MYRICACEAE

Myrica cerifera L.

Wet thickets, common shrub.

BETULACEAE

Carpinus caroliniana Walt.

Cloud forest, occasional tree.

FAGACEAE

Quercus aata Mull.

Wet forest, common tree.

Quercus brenesii Trel.

Cloud forest, tree.

Quercus copeyensis Mull.

Cloud forest, common tree.

Quercus eugeniaefolia Liebm.

Wet brush, common tree.

Quercus lowilliamsii Mull.

Cloud forest, tree.

Quercus molinae Mull.

Cloud forest, tree.

Quercus oocarpa Liebm.

Cloud forest, tree.

Quercus peduncularis Née.

Cloud forest, tree.

Quercus peduncularis var. *sublanosa* (Trel.) Mull.

Cloud forest, common tree.

Quercus tomentocaulis Mull.

Cloud forest, tree.

Quercus trichodonta Trel.

Cloud forest, tree.

MORACEAE

Trophis chorizantha Standl.

Wet forest, tree

URTICACEAE

?*Boehmeria cylindrica* (L.) Swartz.

Cloud forest, herb.

AMARANTHACEAE

In swales, herb.

Gomphrena tuerckheimii (Vatke) Uline & Bray.

Iresine celosia L.

Cloud forest, herb.

PHYTOLACCACEAE

Phytolacca icosandra L.

Cloud forest, herb.

CARYOPHYLLACEAE

Arenaria lanuginosa (Michx.) Rohrb.

Rocky slopes, herb.

Drymaria villosa C. & S.

Wet thickets, common herb.

LAURACEAE

Litsea glaucescens HBK.

Wet forest, tree.

?*Nectandra* sp. (undetermined).

Williams, Molina & Merrill #15616.

Cloud forest, shrub.

- Ocotea cernua* (Nees) Mez.
Wet forest, tree.
- ?*Ocotea* sp. (undetermined).
Freytag — no number.
Cloud forest.
- ?*Ocotea* sp. (undetermined).
Williams #17015.
Cloud forest, tree.
- Persea americana* var. *nubigena* (L. Wms.) Kopp.
Cloud forest, common tree.
- Persea donnell-smithii* Mez.
Wet forest, tree.
- Phoebe helicterifolia* (Meissn.) Mez.
Cloud forest, shrub.
- Phoebe* sp. (undetermined).
Cloud forest, tree.
Standley #13516.

CRUCIFERAE

- Brassica campestris* L.
Clearing, common herb.
- Brassica juncea* (L.) Coss.
Rocky slopes, herb.

SAXIFRAGACEAE

- Phyllonoma laticuspis* (Turcz.) Engl.
Wet forests, tree.

HAMAMELIDACEAE

- Liquidambar styraciflua* L.
Mixed forest, common tree.

ROSACEAE

- Prunus brachybotrya* Zucc.
Cloud forest, rare shrub.
- Rubus brevigliandulifer* L. H. Bailey.
Open woods, shrub.

- Rubus glaucus* Benth.
Cloud forest, common shrub.
- Rubus hondurensis* Bailey.
Cloud forest, shrub.
- Rubus shankii* Standl. & Wms.
Wet thickets, shrub.

LEGUMINOSEA

- Cassia mayana* Lundell.
Wet thickets, rare herb.
- Cassia stenocarpoides* (Britt.) Lundell.
Wet thickets, herb.
- Cassia wilsonii* (B. & R.) Standl.
Wet thickets, common herb.
- Inga edulis* Mart.
Small tree.
- Leucaena guatemalensis* Britt. & Rose.
Wet thickets, common small tree.
- Leucaena molinae* Standl. & L. Wms.
Wet thickets, common shrub.
- Mimosa albida* Humb. & Bonpl.
Common shrub.
- Astragalus guatemalensis* Hemsl.
Wet thickets, common herb.
- Calopogonium galactioides* (HBK) Benth.
Liana.
- Canavalia villosa* Benth.
Wet thickets, common liana.
- Cologania rufescens* Rose.
Wet thickets, common liana.
- Crotalaria angulata* Mill.
Wet thickets, herb.
- Crotalaria mollicula* HBK.
Open slopes, shrub.
- Crotalaria tuerckheimii* Senn.
Wet thickets, occasional herb.
- Crotalaria vitellina* Ker.
Shrub.
- Dalea caudata* (Rydb.) Bullock.
Wet thickets, rare herb.

Desmodium barbatum (L.) Benth. & Oerst.

Desmodium intortum (Mill.) Urban.

Wet thickets, common herb.

Desmodium maxonii (Standl.) Standl.

Shrub.

Desmodium molliculum (HBK) DC.

Moist thickets, common herb.

Desmodium sericophyllum Schlecht.

Moist thickets, common herb.

Galactia striata (Jacq. Urb.

Wet thickets, liana.

Harpalyce rupicola Donn. Smith.

Shrub.

Lupinus ebrenbergii Schlecht.

Common herb.

Phaseolus coccineus L.

Wet thickets, common herbaceous liana.

Phaseolus stenolobus Standl.

Moist thickets, common liana.

Phaseolus tuerckheimii D. Sm.

Liana.

Zornia diphylla (L.) Pers.

Moist thickets, common herb.

GERANIACEAE

Geranium guatemalense Knuth.

Wet thickets, common herb.

OXALIDACEAE

Oxalis corniculata L.

Wet thickets, common herb.

Oxalis latifolia HBK.

In fields, herb.

Oxalis pinorum Standl. & Williams.

Moist thickets, common herb.

LINACEAE

Linum schiedeianum Schl. & Cham.

Wet thickets, common herb.

SIMAROUBACEAE (138)

Picramnia brachybotryosa Donn. Sm.

Cloud forest, small tree.

Picramnia quaternaria Donn. Smith.

Shrub.

MALPIGHIACEAE

Bunchosia gracilis Niedenzu.

Small tree.

Bunchosia guatemalensis Ndzu.

Tree.

POLYGALACEAE

Monnina guatemalensis Chodat.

Moist thickets, shrub.

Monnina xalapensis HBK.

Wet thickets, shrub.

Polygala costaricensis Chod.

Wet thicket, herb.

Polygala durandi Chodat.

Wet thickets, rare herb.

Polygala glochidiata HBK.

Wet thickets, herb.

Polygala leptocaulis Torr. & Gray.

Wet thickets, common herb.

Polygala salviniana Benn.

Wet forest, common herb.

Polygala securidaca Chodat.

Shrub.

EUPHORBIACEAE

Alchornea latifolia Swartz.

Common tree.

CALLITRICHACEAE

Callitriche palustris L.

Aquatic herb.

ANACARDIACEAE

Rhus terebinthifolia Schl. & Cham.
Shrub.

AQUIFOLIACEAE

Ilex chiapensis Lundell.
Common small tree.

Ilex johnstonii Merril.
Shrub.

Ilex williamsii Standl.
Common tree.

CELASTRACEAE

Zinowiewia integerrima Turcz.
Tree.

STAPHYLEACEAE

Turpinia occidentalis (Sw.) D. Don.
Tree.

SAPINDACEAE

Serjania rhachiptera Radl.
Liana.

SABIACEAE

Meliosma dentata (Liebm.) Urban.
Tree.

RHAMNACEAE

Rhamnus capreaefolio Schl.
Swampy thickets, tree.

VITACEAE

Cissus cacuminis Standl.
Liana.

TILIACEAE

Triumfetta lappula L.

Shrub.

Triumfetta semitriloba Jacq.

Wet thickets, common shrub.

Triumfetta speciosa Seem.

Wet thickets, common shrub.

MALVACEAE

Anoda cristata (L.) Schlecht.

Wet thickets, rare herb.

Malvastrum ribifolium (Schl.) Hemsl.

Herb.

Malvaviscus arboreus Cav.

Moist thickets, common shrub.

Neobrittonia acerifolia (Lag.) Hochr.

Herb.

Sida acuta Burm.

Wet thickets, common herb.

?*Sida rhombifolia* L.

Moist thickets, herb.

Sida spinosa L.

Marshy fields, common herb.

DILLENIACEAE

Saurauia kegeliana Schl.

Tree.

Saurauia oreophila Hemsl.

Tree.

Saurauia villosa DC.

Near waterfall, common tree.

Saurauia waldheimia Buscalioni.

Moist thickets, shrub.

MARCGRAVIACEAE

Souroubea carcerca Standl. & L. Wms.

Wet thickets, rare liana.

THEACEAE

Cleyera skutchii Kobuski.

Wet forest, common tree.

GUTTIFERAE

Hypericum uliginosum HBK

CISTACEAE

Helianthemum chibuahuense S. Wats.

Moist thickets, herb.

Helianthemum glomeratum Lag.

Wet forest, common herb.

FLACOURTIACEAE

Olmediella betschleriana (Goepp.) Loes.

Cloud forest, common large tree.

Xylosma flexuosum (HBK) Hemsl.

Tree.

PASSIFLORACEAE

Passiflora sexflora Juss.

Moist thickets, herbaceous liana.

BEGONIACEAE

Begonia beydei C. DC.

Common herb.

LYTHRACEAE

Cuphea carthagenensis (Jacq.) Macbr.

In open bogs, herb.

Cuphea pinetorum Benth.

Open, moist forest, common herb.

Cuphea wrightii Gray.

Wet thickets, herb.

MYRTACEAE

Eugenia guatemalensis Donn. Smith.

Pine-oak forest, shrub.

Myrtus montana Benth.

Cloud forest, tree.

Psidium guineense Sw.

Pine forest, common shrub.

Psidium hypoglaucum Standl.

Cloud forest, shrub.

MELASTOMACEAE

Conostegia icosandra (Sw.) Urb.

Cloud forest, common tree.

Heterocentron macrostachyum Naud.

Wet thickets, common herb.

Leandra multiplinervis (Naud.) Cogn.

Cloud forest, common tree.

Niconia guatemalensis Cogn.

Shrub.

Niconia lauriformis Naud.

Moist thickets, common shrub.

Miconia theaezans (Bonpl.) Cogn.

Wet thickets, common tree.

Miconia rivulare Naud.

Herb.

ONAGRACEAE

Fuchsia arborescens Sims.

Shrub.

Fuchsia michoacanensis Sessé & Moc.

Shrub.

ARALIACEAE

Dendropanax arboreus (L.) Dcne. & Planch.

Cloud forest, tree.

Dendropanax gonatopodus (D. Sm.) A. C. Smith.

Cloud forest, tree.

Oreopanax paltatus Linden.

Tree.

Oreopanax xalapensis (HBK) Dcne. & Planch.

Tree.

UMBELLIFERAE

Apium leptophyllum (Pers.) F. Muell.

Wet thickets, herb.

Centella erecta (L. f.) Fern.

Herb.

Daucus montanus Willd.

Wet thickets, occasional herb.

Donnellsmithia guatemalensis C. & R.

Dense forest, herb.

Eryngium foetidum L.

Herb.

Hydrocotyle mexicana C. & S.

Herb.

Micropleura renifolia Lag.

Moist thickets, common herb.

Sanicula liberta Cham. & Schlecht.

Wet thickets, locally common herb.

CLETHRACEAE

Clethra molinae Standl. & L. Wms.

Moist thickets, common tree.

Clethra viridifolia Standl. & L. Wms.

Cloud forest, tree.

Clethra sp. (undetermined).

Williams #16858.

Small tree.

PYROLACEAE

Monotropa coccinea Zucc.

Saprophyte.

ERICACEAE

Befaria hypochlora Standl. & L. Wms.

Tree.

- Gaultheria odorata* Willd.
Moist thickets, rare shrub.
- Satyria meiantha* Donn. Sm.
Epiphyte.
- Satyria warscewiczii* Klotzsch.
Cloud forest, epiphyte.
- Spherospermum majus* Griseb.
Cloud forest, epiphyte.
- Vaccinium poasanum* Donn. Sm.
Cloud forest, common, epiphytic or terrestrial.

MYRSNACEAE

- Ardisia compressa* HBK.
Tree.
- Ardisia venosa* Masters.
Cloud forest, tree.
- Parathesis melanosticta* (Schlect.) Hemsl.
Cloud forest, small tree.
- Rapanea ferruginea* (R. & P.) Mez.
Cloud forest, tree.
- Rapanea guyanensis* Aubl.
Tree.
- Rapanea juergensenii* Mez.
Wet thickets, small tree.

PRIMULACEAE

- Anagallis arvensis* L.
Open hillsides, herb.

STYRACACEAE

- Styrax polyneurus* Perkins.
Cloud forest, common tree.

SYMPLOCACEAE

- Symplocos martinicensis* Jacq.
Dense forest, tree.

LOGANIACEAE

Buddleia stenoptera Standl. & Steyererm.

Wet thickets, occasional shrub.

GENTIANACEAE

Centaurium rosans Standl. & Steyererm.

Moist thickets, common herb.

Halenia brevicornis (HBK) D. Don.

Moist thickets, common herb.

APOCYNACEAE

Mandevilla donnell-smithii Woodson.

Liana.

ASCLEPIADACEAE

Asclepias similis Hemsl.

Moist thickets, common herb.

Cynanchum orogenes Standl. & L. Wms.

Matelea porphyrantha (Standl.) Woods.

Wet thickets, herbaceous liana.

CONVOLVULACEAE

Dichondra repens var. *sericea* (Sw.) Choisy.

Herb.

Ipomoea purpurea (L.) Lam.

Grassy open hillsides, common herbaceous liana.

Quamoclit coccinea (L.) Moench.

Wet thickets, occasional herbaceous liana.

OLEMONIACEAE

Loeselia glandulosa (Cav.) Don.

HYDROPHYLLACEAE

Wigandia kunthii var. *intermedia* Brand.

Rocky slopes, common small tree.

BORAGINACEAE

Cordia spinescens L.

Moist thickets, common shrub.

VERBENACEAE

?*Citharexylum macradenium* Greenm.

Cloud forest, occasional tree.

Lantana hispida HBK.

Shrub.

Lippia kellermannii Greenm.

Tree.

Lippia substrigosa Turcz.

Moist thickets, shrub.

Priva aspera HBK.

Open hillsides, rare herb.

Stachytarpheta frantzii Polak.

Grassy open hillsides, rare herb.

Verbena carolina L.

Rocky slopes, herb.

LABIATAE

Hyptis asperifolia Standl.

Moist thickets, common shrub.

Hyptis oblongifolia Benth.

Hyptis sinuta Pohl.

Moist meadows, common herb.

Hyptis suaveolens (L.) Poit.

Hyptis urticoides HBK.

Moist thickets, common herb.

Mentha citrata Ehrh.

In clearings.

Salvia cinnabarina Mart. & Gal.

Moist thickets, common herb.

Salvia cordifera Standl. & L. Wms.

Wet thickets, common shrub.

Salvia dorisiana Standl.

Moist thickets, common herb.

Salvia guarinae Standl.

Moist thickets, common shrub.

Salvia hyptoides Mart. & Gal.

Salvia lavanduloides HBK.

Moist thickets, herb.

Salvia lophantha Benth.

Rocky slopes, shrub.

Salvia occidentalis Sw.

Salvia polystachya Ort.

Wet thickets, herb.

SOLANACEAE

Browallia viscosa HBK.

Capsicum silvigaudens Standl. & L. Wms.

Small tree.

Cestrum aurantiacum Lindl.

Common small tree.

Lycianthes hortulana Standl. & L. Wms.

Cloud forest, common shrub.

Solanandra nitida Zucc.

Cloud forest, liana.

Solanum ciliatum Lam.

Cloud forest, common herb.

Solanum ferrugineum Jacq.

Moist thickets, shrub.

Solanum hispidum Pers.

Cloud forest, rare tree.

Solanum laurifolium Mill.

Shrub.

Solanum nigrum L.

Moist slopes, herb.

Solanum nudum HBK.

Cloud forest, common shrub.

Solanum tuberosum L.

In clearings, herb.

SCROPHULARIACEAE

Alonsoa meridionalis (L. f.) Kuntze.

Castilleja arvensis Cham. & Schlecht.

Wet thickets, rare herb.

Castilleja integrifolia L. f.

Wet thickets, common herb.

- Lamourouxia viscosa* HBK.
Leucocarpus perfoliatus (HBK) Benth.
 In clearings, rare succulent herb

GESNERIACEAE

- Achimenes pulchella* (L' Hér.) Hitchc.
 Herb.
Columnnea rubricaulis Standl
 Cloud forest, common epiphyte.
Kobleria deppeana (Schl. & Cham.) Fritzschn.
 Cloud forest, common shrub.

LENTIBULARIACEAE

- Pinguicula crenaliloba* DC.
 Steep wet banks, common.
Utricularia pusilla Vahl.
 Wet soil about pool, herb.

ACANTHACEAE

- Dicliptera unguiculata* Nees.
 Herb.

PLANTAGINACEAE

- Plantago hirtella* HBK.
 Moist thickets, common herb.

RUBIACEAE

- Borreria laevis* (Lam.) Griseb.
 In fields, herb.
Borreria malacophylla Standll. & L. Wms.
 Wet thickets, common herb.
Coccocypselum hirsutum Bartl.
 Wet thickets, herb.
Crusea brachyphylla Cham. & Schlecht.
 Moist thickets, common herb.
Didymaea alsinoides (Schlecht. & Cham.) Standl.
 Cloud forest, herbaceous liana.

- Hillia matudai* Standl.
Cloud forest, tree.
- Hoffmannia angustifolia* Standl.
Cloud forest, small tree.
- Hoffmannia culminicola* Standl. & L. Wms.
Cloud forest, common tree.
- Hoffmannia nubium* Standl. & L. Wms.
Cloud forest, shrub
- Hoffmannia stenophylla* Standl.
Cloud forest, shrub.
- Mitracarpus hirtus* (L.) DC.
In clearings, herb.
- Palicourea mexicana* (Willd.) Benth.
Cloud forest, common tree.
- Psychotria fruticetorum* Standl.
Shrub.
- Psychotria molinae* Standl.
Cloud forest, small tree.
- Psychotria persearum* Standl.
Cloud forest, common tree.
- Psychotria uyucana* Standl.
Cloud forest, shrub.
- Relbunium hypocarpum* (L.) Hemsl.
Along path, herb.
- Richardia scabra* L.
Rocky slopes, herb.

CAPRIFOLIACEAE

- ?*Viburnum guatemalense* Gandoger.
Dense forest, shrub.
- Viburnum hondurensis* Standl.
Cloud forest, common tree.

VALERIANACEAE

- Valeriana candolleana* Gardner.
Wet thickets, rare liana.
- Valeriana sorbifolia* HBK.
Wet pine forest, common herb.
- Valeriana urticaefolia* HBK.
Rocky slopes, herb.

CUCURBITACEAE

- Citrullus vulgaris* Schrad.
Weedy fields, herb.
- Cucurbita pepo* L.
Wet thickets, herb.
- ?*Echinocystis lanata* Cogn.
Wet thickets, rare herb.

CAMPANULACEAE

- Diastatea serrata* Standl. & L. Wms.
Wet thickets, herb.
- Lobelia laxiflora* HBK.
Open slopes, herb.

COMPOSITAE

- Achyrocline deflexa* Rob. & Greenm.
Common herb.
- Ageratum corymbosum* Zucc.
Wet thickets, common herb.
- Ageratum houstonianum* Mill.
Common herb.
- Alomia microcarpa* (Benth.) Rob.
Wet thickets, common herb.
- Archibaccharis asperifolia* (Benth.) Blake.
Moist thickets, rare suffrutescent liana.
- Baccharis serraefolia* DC. Standl.
- Bidens pilosa* L.
Weedy fields, common herb.
- Calea integrifolia* (DC.) Hemsl.
Open slopes, herb.
- Calea urticifolia* (Mill.) DC.
Moist thickets, shrub.
- Calea zacatechichi* Schlecht.
Moist thickets, common shrub.
- Chaptalia nutans* (L.) Polak.
Wet thickets, common.
- Cirsium subcoriaceum* (Less.) Sch. Bip.
Brushy, moist forest, herb.

PFEIFER: VASCULAR PLANTS OF MOUNT UYUCA

- Lythrum bonariensis* (L.) Cronquist.
Edge of clearing, common herb.
- Lythrum canadensis* (L.) Cronquist.
Wet thickets, common.
- Lythrum chilensis* Spreng.
Moist meadows, occasional.
- Phytolacca valerianaefolia* (Wolf) DC.
Wet thickets, common.
- Sida karvinskyana* DC.
Wet thickets, common herb.
- Sida scaposus* DC.
Wet gulleys, common herb.
- Stemodia oresbioides* Rob.
Shrub.
- Stemodia griseum* Coulter.
Moist forest, herb.
- Stemodia ligustrinum* DC.
Moist thickets, shrub.
- Stemodia minarum* Standl. & L. Wms.
Cloud forest, shrub.
- Stemodia pycnocephalum* Less.
Moist thickets, common herb.
- Stemodia ruae* Standl.
Cloud forest, shrub.
- Stemodia sexangulare* (Kl.) Robinson.
Moist thickets, common shrub.
- Stemodia tuerckheimii* Klatt.
Cloud forest, common small tree.
- Stemodia williamsii* Standl.
Open areas, common shrub.
- Stemodia caracasana* (DC.) Sch. Bip.
Wet thickets, rare herb.
- Stemodia ciliata* (Raf.) Blake.
Wet thickets, common herb.
- Stemodia americanum* Mill.
Moist thickets, common herb.
- Stemodia attenuatum* DC.
Wet thickets, common herb.
- Stemodia brachypterum* DC.
Moist thickets, common herb.

CEIBA

naphalium stramineum DC.

Moist thickets, common.

naphalium viscosum HBK.

Moist thickets, common herb.

ieracium abscissum Less.

Wet thickets, occasional.

ieracium jalapense Standl. & Steyerl.

Wet thickets, occasional.

agasca helianthifolia var. *suaveolens* (HBK) Ro

Herb.

abum sublobatum Rob.

Wet thickets, tree.

elampodium oblongifolium DC.

Wet thickets, common herb.

erymenium purpusii Brandeg.

Moist forest, common shrub.

olachaeium eminens (Lag.) Sch. Bip.

Shrub.

olymnia maculata Cav.

Moist thickets, herb.

olymnia oaxacana Sch. Bib.

Moist thickets, common herb.

haetzellia standleyi Rob. (also of Steyerl.)

Rocky slopes, common shrub.

histocarpha hondurensis Standl. & L. Wms.

Cloud forest, woody herb.

enecio arborescens Steetz.

Cloud forest, common shrub.

enecio magistri Standl. & L. Wms.

Epiphyte.

vilanthes papposa Hemsl.

Wet thickets, occasional herb.

evia elatior HBK.

Moist, brushy banks, rare herb.

evia rhombifolia HBK.

Moist areas, herb.

evia serrata Cav.

Moist meadows, Common shrub.

ithonia longiradiata (Bertol.) Blake.

Moist thickets, common herb.

Tithonia pittieri (Greenm.) Blake.

Moist thickets, common suffrutescent herb.

Verbesina sublobata Benth.

Wet thickets, common herb.

Wedelia acapulcensis HBK.

Wet thickets, common herb.

Wedelia parviceps Blake.

Moist forests. Common herb.

Zexmenia pinetorum Standl. & Steyerl.

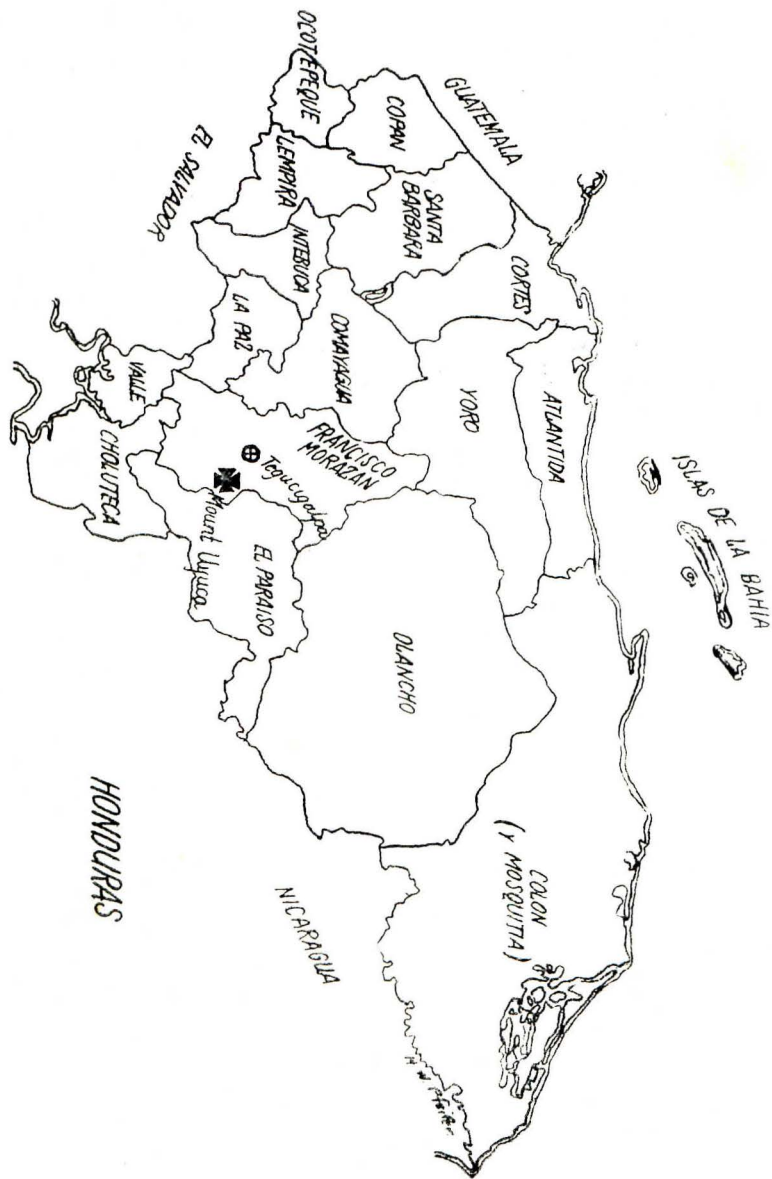
Wet thickets, common herb.

Zexmenia valerii Standl. & Steyerl.

Shrubby.

Zexmenia williamsii Standl. & Steyerl.

Moist thickets, common shrub.



C E I B A

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