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Contributions of the United States National Herbarium

Volume 54: 1-180

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# Floristic Checklist of the Mache-Chindul Mountains of Northwestern Ecuador

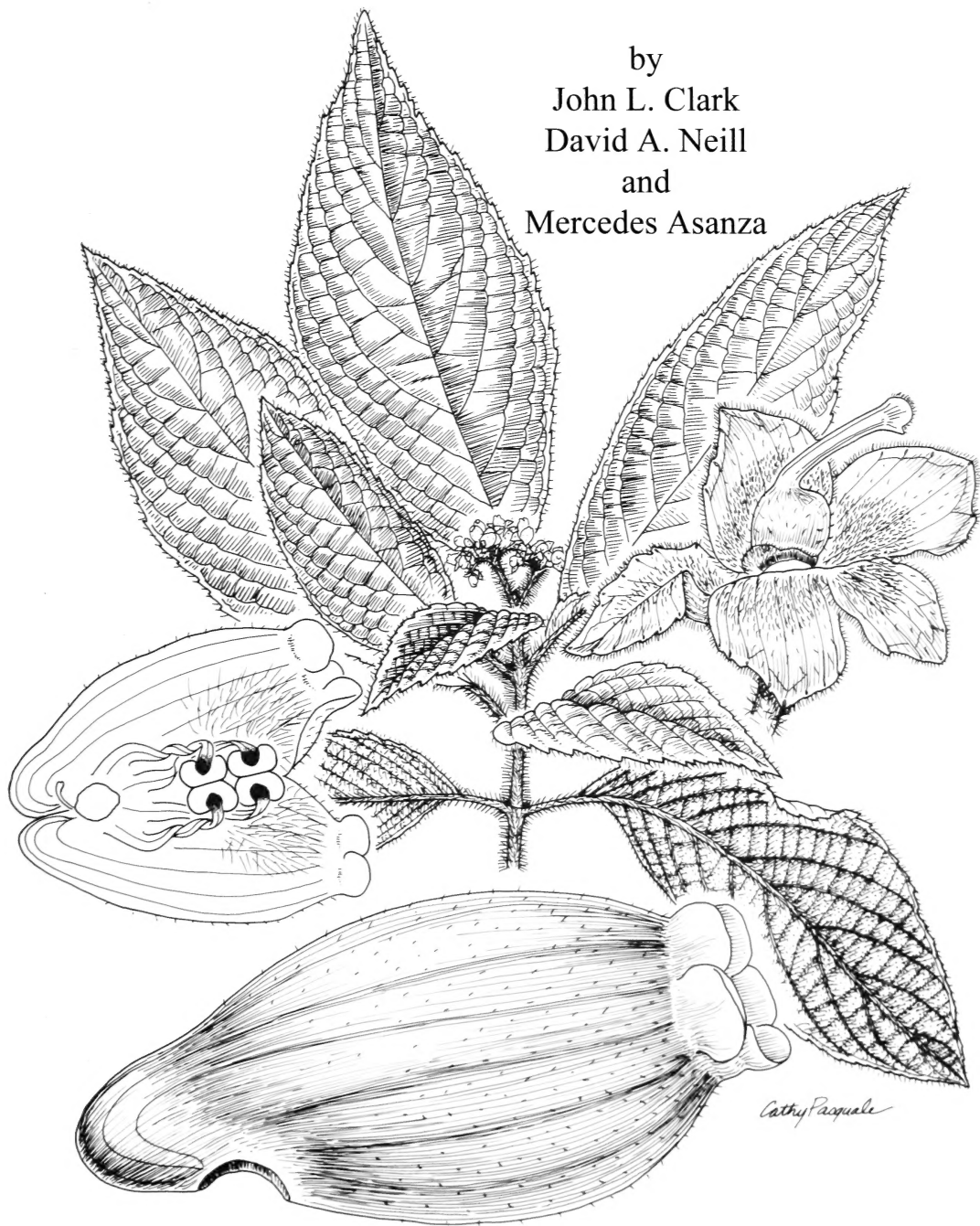
by

John L. Clark

David A. Neill

and

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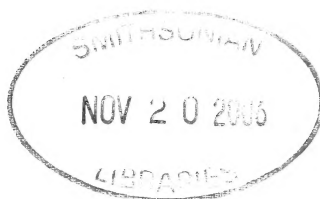


Department of Botany  
National Museum of Natural History  
Washington, DC  
2006



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## ABSTRACT

Clark, John L., David A. Neill, and Mercedes Asanza. Floristic Checklist of the Mache-Chindul Mountains of Northwestern Ecuador. *Contributions from the United States National Herbarium*, volume 54, 180 pages (including 23 figures). An inventory of the vascular plants of the Mache-Chindul Mountains is presented from collecting expeditions beginning in 1991 to present. The Mache-Chindul Mountains reach an elevation of 800 meters and are located in northwestern Ecuador in the southernmost part of the province of Esmeraldas (00°21'N 79°44'W) and the northernmost part of the province of Manabí (00°25'S 79°57'W). The Pacific Ocean lies 20-30 km due west and the equator transects the middle of this mountain range. The Mache-Chindul range occupies about 400 km<sup>2</sup> and harbors the last large tract of coastal wet forest in Ecuador, an area less than 4% of its original size. Important protected areas include the Reserva Ecológica Mache-Chindul, Bilsa Biological Station, Bosque Protector Cerro Pata de Pájaro, and the Reserva Lalo Loor. An inventory of the 6,000 collections made from the region has resulted in the enumeration of 1,346 vascular plant taxa that are native to the study area; non-native and introduced species were not heavily sampled and nearly 2,400 collections (40%) are only determined to genus. A biogeographic analysis is presented based on 1,318 native species. A total of 162 species (12%) are endemic to the western lowlands of coastal Ecuador. The Mache-Chindul flora shares 865 species (66%) with the lowlands of Amazonia, across the barrier of the Andes, and 957 species (73%) are shared with the Chocó region of coastal Colombia. A total of 814 species (61%) extend farther to the north into Mesoamerica. The botanical explorations in the Mache-Chindul Mountains have resulted in the publication of two new monotypic genera and 33 species recently described as new to science. An annotated list of species by family is given that includes the publication citation, a representative specimen, elevation range, habitat preference, and phyto-geographic region for each species.

KEY WORDS: biogeography, biodiversity, Ecuador, floristics, Mache-Chindul Mountains, vascular plants

## RESUMEN

Clark, John L., David A. Neill, and Mercedes Asanza. Floristic Checklist of the Mache-Chindul Mountains of Northwestern Ecuador. *Contributions from the United States National Herbarium*, volume 54, 180 páginas (incluyendo 23 figuras). Se presenta un inventario de las plantas vasculares de la Cordillera Mache-Chindul, basado en las expediciones botánicas desde el año 1991 hasta la actualidad. Las montañas de Mache-Chindul alcanzan una altitud máxima de 800 m.s.n.m. y están ubicadas en el noroccidente del Ecuador, en el extremo sur de la provincia de Esmeraldas (00°21'N 79°44'W) y el extremo norte de la provincia de Manabí (00°25'S 79°57'W). La costa del Océano Pacífico está entre 20-30 km al oeste, y la línea equinoccial divide en la mitad a esta Cordillera. Mache-Chindul comprende alrededor de 400 km<sup>2</sup> y abarca el último remanente grande de bosque muy húmedo tropical en la Costa del Ecuador, un área de menos de 4% de su extensión original. Las principales áreas protegidas en la región incluyen la Reserva Ecológica Mache-Chindul, la Estación Biológica Bilsa, el Bosque Protector Cerro Pata de Pájaro, y la Reserva de Lalo Loor. Un inventario de las 6.000 colecciones de plantas de la región da como resultado el listado de 1.346 especies de plantas vasculares nativas al área de estudio. No se realizó un inventario completo de las especies introducidas y cultivadas, y casi 2.400 colecciones (40% del total) están identificadas solamente a nivel de género. Se presenta un análisis biogeográfico, en base de 1.318 especies nativas. Un total de 162 especies (12%) son endémicas a la Costa del occidente del Ecuador. La flora de Mache-Chindul comparte 865 especies (66% del total) con las tierras bajas de la Amazonía, a través de la barrera de los Andes, y 957 especies (73%) se comparten con la región del Chocó en la costa occidental de Colombia. Un total de 814 especies (61%) se extienden más al norte hacia el istmo de Mesoamérica. Las exploraciones botánicas en la Cordillera Mache-Chindul han tenido como resultado la publicación de dos nuevos géneros monotípicos, y 33 especies descritas recientemente como nuevas para la ciencia. Se presenta un listado de las especies, con comentarios, organizado por familia taxonómica e incluyendo la cita de la publicación, un espécimen representativo, rango de altitud, hábito, y distribución fitogeográfica de cada especie.

PALABRAS CLAVES: biogeografía, biodiversidad, Ecuador, flora, Cordillera Mache-Chindul, plantas vasculares

DATE OF PUBLICATION: 7 November 2006

Cover Design by Alice R. Tangerini: front, detail of *Gasteranthus bilasensis* L.E. Skog & L.P.Kvist (*P. Mendoza-T. et al.* 561, *J.L. Clark et al.* 213, and *N. Pitman et al.* 884) illustrated by Cathy Pasquale-Johnson; back, detail of *Ecuadendron acosta-solisianum* D.A. Neill (*D.A. Neill, H. Vargas, T. Núñez & J.L. Clark* 10437) illustrated by John Myers.

Contributions from the United States National Herbarium (ISSN 0097-1618) Department of Botany, National Museum of Natural History, MRC-166, Smithsonian Institution, Washington, DC, 20013-7012, USA.

POSTMASTER: Send address changes to Contributions from the U.S. National Herbarium, Department of Botany, National Museum of Natural History, MRC-166, P.O. Box 37012, Smithsonian Institution, Washington, DC, 20013-7012, USA.

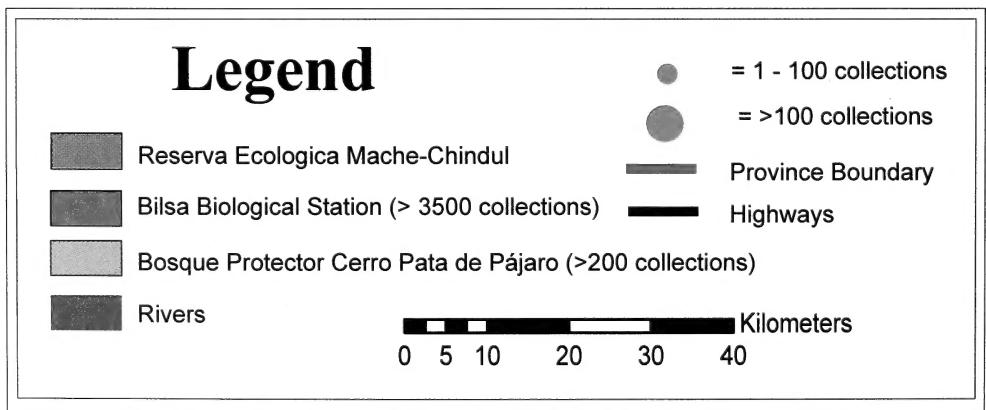
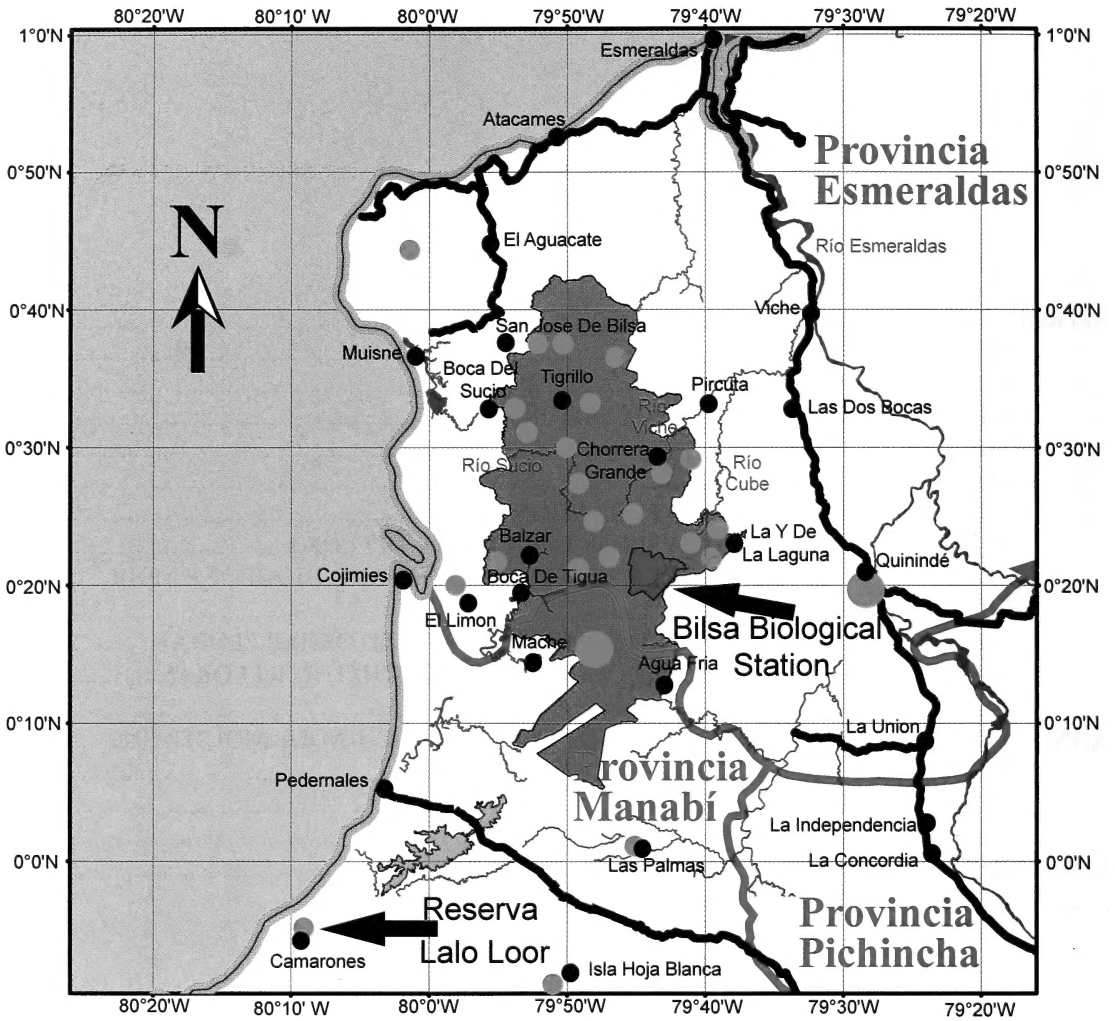
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The periodical, Contributions from the United States National Herbarium, was first published in 1890 by The United States Department of Agriculture. From 1 July 1902 forward it was published as a Bulletin of the United States National Museum. The series was discontinued after volume 38 (1974), and has been revived with volume 39 (2000) as a venue for publishing longer taxonomic papers, checklists, floras, and monographs, produced by the staff and associates at the U.S. National Herbarium. It is externally peer reviewed, and published at irregular intervals. Subscription and other correspondence should be addressed to CUSNH, Department of Botany, National Museum of Natural History, MRC-166, Smithsonian Institution, Washington, DC, 20013-7012, USA e-mail: [CUSNH@si.edu](mailto:CUSNH@si.edu). The present issue is available for free while supplies last and PDF files of the most recent issues (vol. 49-present) of the *Contr. U.S. Natl. Herb.* are available at: <http://www.nmnh.si.edu/botany/pubs/CUSNH/> If you have any questions about manuscript submission or comments on previous volumes, please contact the editor, Paul M. Peterson ([peterson@si.edu](mailto:peterson@si.edu)).



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**Figure 1.** Map of study area. Intensity of collecting is indicated by orange circles (Bilsa Biological Station and Cerro Pata de Pájaro represent the two most intensely collected localities with c.a. 3500 and 400 collections respectively).



## Floristic Checklist of the Mache-Chindul Mountains of Northwestern Ecuador

John L. Clark<sup>1</sup>, David A. Neill<sup>2</sup>, and Mercedes Asanza<sup>3</sup>

### INTRODUCTION

The Mache-Chindul Mountains comprise the northern portion of the Pacific coastal range of western Ecuador where significant tracts of remnant forests are intact. These mountains reach 800 m in elevation and extend from southwestern Esmeraldas province to northern Manabí province. Results presented here are from intensive floristic inventory expeditions of the Mache-Chindul Mountains carried out from September 1994 to August 2003, as well as earlier collections made by A.H. Gentry in January 1991 (Gentry, 1992; Parker & Carr, 1992). Nearly 6,000 herbarium collections were obtained and more than 3,600 have been determined by specialists. Expeditions were conducted throughout many regions of the study site with the most intensive collecting in and around the forests of the Bilsa Biological Station, a privately-owned reserve of 4,000 hectares in the eastern portion of the Mache-Chindul Mountains. The Mache-Chindul Mountains harbor the last large tract of coastal wet forest in Ecuador, an area of about 400 km<sup>2</sup>. This represents less than 4% of the original coastal wet forest and this remnant is being rapidly fragmented and cleared. The Tercer Mundo Foundation administers the Cerro Pata de Pájaro Protection Forest which is located near the southern extent of the range and this area has a drier climate than the central portion of the Mache-Chindul Mountains. In August of 1996, 70,000

hectares were set aside by Ecuador's Ministry of Environment, in the established protected area, "Reserva Ecológica Mache-Chindul."

The study area covered by this checklist includes the western Ecuador coastal range from the region southeast of the provincial capital city of Esmeraldas (northern limit of study area at about 00°45' N) to the region just east of the coastal town of Jama in northern Manabí province (southern limit of study area at about 00°15' S; see Figure 1, map of study area). The coastal range extends farther south than the latitude of Jama, throughout the length of Manabí province, but the original vegetation has been removed or highly disturbed south of our study area, and the climate is progressively drier as one travels further south. Our study area does not include the beach or mangrove vegetation of the coastal zone, but it does include botanical collections made close to sea level at the western margin of the coastal range.

### METHODS

A majority of the field work for this publication was conducted through general collecting of plants found in fruit or flower during daily forays into the forest. Most collecting was based from rural communities (i.e., 1-2 days of

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traveling from the nearest road). Therefore, the range of collecting activities in a specific region was contingent on how far a team of botanists could walk in a specific locality in any given day. Numerous extensive treks across the mountains from east to west were conducted by John Clark in 1995, 1996, and 1997. Plant collections were stored in plastic bags during the day and then pressed in newspaper at night and preserved in 70% alcohol until they could be dried in the National Herbarium of Ecuador in Quito.

We also conducted quantitative ecological studies of forest structure and composition at the Bilsa Biological Station, establishing three one-hectare permanent sample plots in primary forest. In each plot, a 100 X 100 m grid was first laid out. Then each tree in the plot with a diameter at breast height (DBH) of 10 cm or greater was measured and marked with a numbered aluminum tag. Voucher specimens were collected from trees using extendable aluminum clipper poles. Obtaining botanical specimens from taller trees often required climbing the trunk with semi-circular, spiked tree climbers strapped to one's feet. Voucher specimens were not collected from trees that could be positively identified in the field. Two to three weeks of field work were required to establish each permanent forest plot.

The first one-hectare plot at the Bilsa Biological Station was established in February 1996 and is located on a slope about 500 m from the main house at about 550 m elevation. The second permanent plot was established in April of 1997 at the highest peak within the Bilsa station property, at 700 m, several kilometers north of the station house. The third permanent plot was established in August of 1997 on a ridge above the headwaters of the Cube River, about 1 km west of the station house. The three permanent plots represent a broad range of vegetation types present at the Bilsa Biological Station.

More recently, in 2005, two one-hectare forest inventory plots were established at the Lalo Loor Reserve, at the southern extremity of our study area in northwest Manabí province, by an Ecuadorian undergraduate student, Jimmy Cevallos, under the supervision of the second author. These plots are

the only quantitative inventory in coastal Ecuador at the ecological transition between semi-evergreen moist forest and deciduous dry forest, a vegetation type that is nearly extinct in the region due to deforestation during the past several decades. The results of the plot-based inventories at Bilsa and Lalo Loor will be presented in future publications.

Botanical specimens were dried and processed at the National Herbarium of Ecuador in Quito. The collection data were entered into the TROPICOS botanical database developed by Missouri Botanical Garden. Duplicate specimens were shipped to Missouri Botanical Garden where they were then shipped to taxonomic specialists at various botanical institutions around the world. Determinations from specialists were entered in the Tropicos database and this information is updated and maintained on the web at <http://mobot.mobot.org/W3T/Search/Ecuador/projsbil.html>.

## CLIMATE AND TOPOGRAPHY

The Mache-Chindul Mountains are located in northwestern Ecuador in the southernmost part of the province of Esmeraldas (00°21'N 79°44'W) and northern most part of Manabí (00°25'S 79°57'W). The Pacific Ocean ranges from 20-30 km due west and the equator transects the middle of the mountain range. It is an important watershed for the Dogala and Cube Rivers that drain into the Quinindé and Esmeraldas rivers, respectively. The area is mountainous, with steep slopes, and reaches an elevation of 800 meters.

There is a pronounced wet season between December and June that restricts interior access to foot, horse or mule. After the end of the rainy season, it may take three months for the logging road to dry and be cleared for motorized vehicle access. Upper regions of the mountains are constantly covered in mist and fog created by orographic uplift from ocean currents, from which it derives its local name, "El Páramo." The annual precipitation is probably between 2,500 to 4,000 mm, but because mist and fog are not measured, no accurate data exist. The average temperature is between 23 and 25.5°C.

## PHYTOGEOGRAPHY AND VEGETATION

The latest vegetation map of Ecuador (Sierra *et al.*, 1999) places the Mache-Chindul Mountains in the categories of evergreen premontane and evergreen lower montane forest (Bosque Siempreverde Piemontano and Bosque Siempreverde Montano Bajo). Cañadas (1983) placed the Mache-Chindul Mountains in the categories of tropical and premontane wet forest. This area can also be considered the southern extent of the Chocó floristic regions of western Colombia, because of similarities in species and the general abundance of epiphytes, lichens, and mosses in the upper regions of the mountains.

At 15 minutes latitude north, about 40 km north of Pedernales, the natural vegetation of the coastal strip is lowland wet forest with typical canopy trees such as *Virola dixonii* and *Brosimum utile*, and with abundant epiphytes and hemi-epiphytes. The forest is being rapidly cut as colonists move into the area along the new coastal road which is under construction, and which now extends north of the Chindul River, 40 km north of Pedernales.

Traveling south along the coastal trip and approaching the equator, wet forest gives way to moist forest, which has a dry season of 4-6 months. The ground retains sufficient moisture such that most canopy trees are evergreen and retain their leaves throughout the year. The town of Pedernales, a few km north of the equator, is in the moist forest zone, but the lands near the town have been deforested. Continuing south of the equator, as the average annual precipitation decreases gradually and the length and severity of the dry season increases, moist forest gives way to dry forest, in which most of the canopy trees shed their leaves during the dry season of 5 months or more. We carried out extensive fieldwork in an undisturbed, mature-phase tract of forest at Camarones, at 4 minutes south latitude, 25 km south of Pedernales. This area is precisely at the transition between moist and dry forest in the coastal hills along the intermittent streams and on the crest of the mountains where coastal fog is prevalent during

the dry season, the forest canopy remains evergreen, but on the drier low hillsides and the coastal plain, all trees are deciduous.

At the Camarones site, a 250-hectare biological reserve has been established by the owner, Mr. Lalo Loor, on part of his property; he runs dairy cattle on the narrow, flat coastal plain but has allowed the forest to stand on the hills up to the crest of the coastal range. The site is probably the largest fragment of tropical moist forest remaining in coastal Ecuador. Typical tree species in the moist forest phase include the large canopy palm *Attalea colenda* and the understory palm *Phytelephas aequatorialis*, both of which are endemic to the region and economically important; the latter species is the source of "vegetable ivory," which is marketed as a substitute for elephant tusk ivory. Several endemic species of legume trees were also found in the moist forest: *Swartzia littlei* and *Inga jaunechensis*; both were previously known from very few collection localities in western Ecuador. A remarkable discovery in the moist forest at Camarones was the canopy tree *Exothea paniculata* (Sapindaceae), which is known from the Pacific coast of Mexico and Central America, and from the Greater Antilles in the Caribbean (Jamaica, Puerto Rico, Hispaniola). This tree was found once in the Magdalena River valley of Colombia, so our record from Camarones is the second report of the genus *Exothea* for South America and a new generic record for Ecuador. The botanical inventory of the region is still a work in progress, and continued field work will certainly reveal more taxonomic novelties in the flora.

Continuing south along the coastal strip, moist forest is replaced by dry forest. Near the town of Jama at 14 minutes south latitude, are a few intact remnants of dry forest that are very similar to the vegetation near Guayaquil, 300 km to the south. The most conspicuous tree is the endemic *Ceiba trichistandra*, with its characteristic grotesquely swollen trunk and limbs that are green and photosynthetic during the long dry season. Other tree species endemic to Ecuadorian coastal dry forest, such as *Machaerium millei* and *Pradosia montana*, are also present in the forest fragments near Jama.

## BOTANICAL NOVELTIES

Results from the botanical explorations in the Mache-Chindul Mountains have produced two new monotypic genera and 33 species recently described as new to science (Table 1). Most of the new species are known from collecting activities that coincided with the establishment of the Bilsa Biological Station in September 1994. Many specimens remain a mystery to specialists. For example, a hemi-epiphytic *Ocotea* (Lauraceae) is a new habit for the Lauraceae family (Figure 4 A-B) and still lacks a specific epithet. Also in the Lauraceae family is a common canopy tree species from the genus *Chlorocardium* (Figure 4 C) that resembles *Chlorocardium venosum* known from the Putumayo Department of the upper Amazonia border region of Colombia and Ecuador. The *Chlorocardium* species in the Mache-Chindul Mountains is locally common in an area southwest of the Bilsa Biological Station. This genus was recently described Rohwer et al. (1991), and remains poorly understood. When *Chlorocardium* was described, there was so little reproductive material available that the authors had to base their description on wood structure because most of the flower buds available for dissection had suffered fungal attack (Rohwer et al., 1991). Although this canopy tree was only recently documented west of the Andes by botanists, it has been sought out and cut by loggers for years because of its fine yellow wood. Also a mystery is an undescribed species possibly assignable to the Boraginaceae that has not been determined to a known genus (R. Liesner, J.S. Miller, and P. Stevens, pers. comm.).

Two recently described monotypic genera from the region are *Ecuadendron* (Leguminosae or Fabaceae, subfamily Caesalpinioideae; Neill, 1998; see Figures 2 A-B & 11); and *Exarata* (Bignoniaceae; Gentry 1992; see Figures 9 A-B & 10). *Ecuadendron acosta-solisianum* (Neill 1998), is a large canopy tree with 2-meter long inflorescences and flowers adapted to pollination by bats. It is known from just three localities in western Ecuador: one in the Mache-Chindul Mountains, and two localities 350 km to the southeast at the western base of the Andes. *Exarata chocoensis* (Figures 9 A-B & 10) is locally

abundant tree, 20-30 m tall, and has also been collected in southwestern coastal Colombia. It has a berry-like fruit with vestigially winged seeds that resemble the hemi-epiphytic genus *Schlegelia*. The deeply canaliculate cross section of the trunk is a remarkable feature of this monotypic genus.

*Klarobelia* (Figures 5 C-D & 12) and *Monsannonna* (Figures 5 A-B & 13) are two genera of Annonaceae that have been recently segregated from *Malmee* (Chatrou, 1998) and include newly described taxa from the Mache-Chindul region: *Mosannonna pacifica* (Figures 5 A-B & 13) and *Klarobelia megalocarpa* (Figures 5 C-D & 12). *Klarobelia* comprises 12 species distributed east of the Andes in the upper Amazon basin of Colombia, Ecuador, Peru, Bolivia, and Brazil and west of the Andes from southern coastal Ecuador through the Isthmus of Panama, and up to southeastern Costa Rica. *Klarobelia megalocarpa* was collected for the first time in 1995 during the establishment of the first permanent plot and is only known from the environs of the Bilsa Biological Station (Chatrou, 1998). *Mosannonna* comprises 14 described species which are widely distributed throughout the upper Amazon basin (Peru, Ecuador, Bolivia, and Brazil), the Guianas, and along the Pacific coast of Ecuador through Central America to Mexico. The recently described species, *Mosannonna pacifica*, is known from only three localities: Rio Palenque Biological Station, Bilsa Biological Station, and Anchayacu. It is also the only species of *Mosannonna* whose distribution is confined to the Pacific side of the Andes (Chatrou, 1998).

Many new species have been described from the collections made during the collecting expeditions throughout the Mache-Chindul Mountains. Most of the recently described species are local endemics while others are widespread throughout coastal Ecuador and western Colombia (Table 1). A remarkable discovery is the diversity of the genus *Gasteranthus* (Gesneriaceae) which includes three recently described species from the Bilsa Biological Station, all of them local endemics with very restricted ranges, as far as is known: *Gasteranthus bilsaensis*, *Gasteranthus tenellus* (Figure 6 B & D), and *Gasteranthus villosus* (Figure 6 A & C; see Skog & Kvist, 2000).

## CONSERVATION STATUS

A number of publications on the conservation status of the Earth's terrestrial ecosystems during the past two decades indicate that the Andes and Chocó floristic regions of Ecuador are two of the most endangered habitats in the world (Myers, et al. 2000; Dodson & Gentry, 1991; Dinerstein, 1995, Neill, 1997; Simberloff, 1986). The tropical wet and moist forests of coastal Ecuador once spanned a continuous band from Colombia to Peru reaching up to 80 km wide near the northern extent and becoming very narrow and broken in southern Ecuador. In a 1991 visit to the region, Conservation International's Rapid Assessment Program (RAP) team identified Ecuador's coastal wet forest as one of the world's top conservation priorities because of the biological importance of and the immediate threats to remaining forest (Gentry, 1992). Dodson and Gentry (1991) estimated that while this forest type once covered 15% of western Ecuador, currently less than 0.8% of it (90 km<sup>2</sup>) remains. One of the most important discoveries made by the RAP team was that there existed one large tract of intact wet forest, in the Mache-Chindul Mountains.

A subsequent study using LANDSAT imagery by Ecuador's national Conservation Data Center (CDC-Ecuador, 1995), estimated the remaining intact forest at 400 km<sup>2</sup>. This discovery gave scientists and conservationists a last chance to study and preserve this ecosystem. Acting on Conservation International's recommendations, Ecuador's non-profit Jatun Sacha Foundation established the Bilsa Biological Station in 1994. This private reserve is located near the southern tip of the remaining forest tract and now comprises 4,000 hectares.

The coastal region of Ecuador has become known, over the past several decades, as a region of high biological diversity and endemism, and also as a prime example of the world's conservation "hotspots" where high biodiversity coincides with high rates of human-caused destruction of native ecosystems and consequent endangerment of endemic species. One of the first botanical studies in the region was Elbert Little's illustrated book on the common trees of Esmeraldas province

(Little & Dixon, 1969). In the 1970s, botanists Calaway Dodson and Alwyn Gentry carried out a floristic survey of the Río Palenque Science Center, a lowland wet forest site in the fertile soils of the Guayas River valley. They encountered many species new to science in the small 100-hectare forest remnant at Río Palenque, which is now surrounded by agricultural crops and is one of very few tiny forest remnants in the valley. Their illustrated Flora of Río Palenque (Dodson & Gentry, 1978) was followed by the Flora de Jauneche, a moist forest site (i.e., intermediate along a moisture gradient between wet and dry forests) (Dodson *et al.*, 1985). Dodson and Gentry also worked on a manuscript for a third floristic study, the dry forest at Capeira near Guayaquil, but this work was incomplete at the time of Al Gentry's death in a plane crash west of Guayaquil in 1993, and remains unpublished.

## HISTORY OF BOTANICAL EXPLORATION

The earliest known botanical collections from this region of northern Manabí and southwestern Esmeraldas were made in the 1890s by the Danish botanist, Henrik Baron von Eggers (Jørgensen & León-Yanez, 1999). Eggers' principal collecting locality was his hacienda, El Recreo, on the coast some 30 km south of the present-day town of Jama. This locality is outside of our present study area, but Eggers' collections were distributed to several European herbaria and are rich in types; a number of the species described from Eggers' collections were also collected during our fieldwork, especially in the southern (Manabí) portion of the present study area.

In the 1940s, Misael Acosta-Solís made some collections in the vicinity of Quinindé, to the west of the coastal mountains. Calaway Dodson's and Alwyn Gentry's botanical surveys in western Ecuador during the 1970s and 1980s were mostly concentrated in the Guayas River valley. The coastal range of mountains west of the Guayas basin, especially the northern part of the range in western Esmeraldas and northern Manabí provinces, remained largely unexplored until the 1990s. The northern part of the coastal range, known locally as the Mache and Chindul mountains, is higher, wetter and less easily

accessible than the central and southern parts of the range. The attention of biologists was focused on the Mache-Chindul Mountains during an expedition in 1991 organized by Conservation International through its "Rapid Assessment Program (RAP)". The 1991 RAP expedition included botanist Al Gentry, ornithologist Ted Parker, mammalogist Louise Emmons, ecologist Robin Foster, and their Ecuadorian counterparts from the National Polytechnic and Catholic Universities in Quito. The botanical surveys made by the RAP expedition confirmed the high degree of endemism in the regional flora; an estimated 20% of the plant species are endemic to western Ecuador and adjacent areas of coastal Colombia and Peru. Also, the alpha diversity of woody plants is much lower than in the upper Amazon basin of Ecuador and Peru. During the expedition in the Mache-Chindul, Al Gentry collected specimens from a tree which he described as a new genus and species in the Bignoniaceae family: *Exarata chocoensis* A.H. Gentry published the following year in 1992.

The report of the 1991 RAP expedition to the coastal range of Ecuador (Parker & Carr, 1992) was widely circulated in Ecuador and helped to stimulate the interest of conservation groups in preserving the region's biodiversity and endemic biota. In 1994, the Jatun Sacha Foundation of Ecuador began a campaign, led by Jatun Sacha co-founder Michael McColm to raise funds for purchase of forest land. The campaign was successful, and the Jatun Sacha Foundation established the Bilsa Biological Station with 750 hectares initially; the biological station has now increased in size to more than 4,000 hectares. Ecuador's Conservation Data Center, with support from The Nature Conservancy, carried out in 1994-95 a feasibility study for establishment of a larger, publicly-owned reserve, and in August 1996 the government of Ecuador established the Mache-Chindul Ecological Reserve, an area of about 40,000 hectares in the central part of the range, by executive decree. Meanwhile, a local conservation group based in the coastal town of Pedernales, the Tercer Mundo Foundation, lobbied for establishment of a reserve on the Cerro Pata de Pájaro, one of the highest peaks in the range, located 15 km east of Pedernales, and the Cerro Pata de Pájaro Protection Forest was decreed in

May 1994. The Tercer Mundo Foundation was given responsibility for management and protection of the Pata de Pájaro.

## BIOGEOGRAPHICAL ANALYSIS OF THE VASCULAR FLORA

We analyzed the geographical distribution of all the vascular plant species recorded from the Mache-Chindul mountains in the present checklist. The known distributions of plants included in the checklist were compiled from recent floristic literature, taxonomic monographs, and the TROPICOS botanical database maintained by Missouri Botanical Garden (<http://mobot.mobot.org/W3T/Search/vast.html>).

Our analysis of the biogeographical patterns on the Mache-Chindul flora was inspired by a remark by Peter Raven in his Foreword to the *Catalogue of the Vascular Plants of Ecuador*: "The number of species shared across the Andean Cordillera suggests that about 30% of the lowland [Ecuador] flora may have evolved before the rise of the Andes" (Raven, p. viii in Jorgensen & León-Yáñez, 1999). The observation that about 30% of the plants of lowland Ecuador are shared between Amazonia and the Pacific coastal range, with present distributions that cross the migration barrier of the Andes, also served as an impetus to a detailed phylogeographical analysis of one such widespread tree species, *Symphonia globulifera* (Clusiaceae; Dick et al., 2003).

Our biogeographical analysis is aimed at examining the proportion of plant species in the Mache-Chindul flora that also occur in Amazonian Ecuador, east of the Andean barrier, as compared with the proportion that also occur to the north in Pacific coastal Colombia (where no montane barrier exists between coastal Ecuador and coastal Colombia, as well as farther north in Mesoamerica, versus the proportion of locally endemic species that are known only from Pacific coastal Ecuador.

In this checklist we have recorded the known distribution of each species for each of three geographic regions (Amazonia, Chocó, and Mesoamerica) in the Neotropics, apart from the local endemics that are restricted to coastal Ecuador:

*Amazonia* – Distribution includes lowland Amazonia, east of the Andes.

*Chocó* – Distribution includes coastal Colombia.

*Mesoamerica* – Distribution includes any part of the Mesoamerican isthmus, from Panama to the isthmus of Tehuantepec, Mexico, the Flora Mesoamericana region.

*Endemic* – Known distribution is confined to coastal Ecuador (this category also includes a few species with ranges that extend into the dry forests of northwestern coastal Peru, in Tumbes and Piura departments).

Of course, some widespread species are recorded from two or from all three of the regions, Amazonia, Chocó and Mesoamerica. Some widespread neotropical species also occur in the Caribbean islands of the Antilles, and some species are also native to the Old World tropics, such as the aforementioned tree, *Symphonia globulifera*. We have not recorded the native distributions of plant species beyond the four categories listed above, because our goal was principally to address the question of the Andes as a barrier to distributions of lowland wet forest plants, as compared with the longer distances but much lower elevation barriers between coastal Ecuador and the Mesoamerican isthmus on both the Pacific and Caribbean lowlands.

## STATISTICAL RESULTS: SPECIES DISTRIBUTIONS AND BIOGEOGRAPHIC AFFINITIES

The annotated checklist of the flora of the Mache-Chindul Mountains includes a total enumeration of 1,354 vascular plant taxa. Eight of the total are introduced species, including cultivated crop species and adventive weeds recorded from the deforested areas now devoted to agriculture and cattle pastures. The actual number of cultivated and adventive species is surely much larger than that, but the collecting efforts to date have not attempted to include all of the introduced species. Of the remaining total of 1,346 taxa (Table 2), 28 genera in various families have not yet been determined to species – a reflection of our still incomplete knowledge of the Mache-Chindul flora. Some of these genera, such

as *Guatteria* (Annonaceae), obviously include several undetermined species among the existing collection vouchers, but only one voucher per genus is cited in the checklist. The biogeographic analysis in Table 2 is based on the remaining total of 1,318 known native species in the Mache-Chindul vascular flora.

The Mache-Chindul flora comprises about 28% of the 4,463 species enumerated for coastal Ecuador in Jørgensen and León-Yáñez (1999). This percentage will certainly increase with a more thorough survey of the Mache-Chindul region.

A total of 162 species of the Mache-Chindul flora, 12% of the known native species, are local endemics, restricted in distribution to coastal Ecuador (including a few species in the dry forest of the southernmost part of the Mache-Chindul range that extend to the dry forest areas of northwest coastal Peru, in the departments of Tumbes and Piura). This percentage is much lower than the 27% endemism reported for the flora of Ecuador in Jørgensen and León-Yáñez (1999), but it should be noted that the latter figure is the proportion of species endemic to Ecuador as a whole, including species occurring on both sides of the Andes within Ecuador, whereas the 12% local endemism for the Mache-Chindul is for a much smaller area, so the proportion of species recorded as endemics will, logically, be smaller.

It is remarkable that 66% of the Mache-Chindul flora, a total of 865 species, are also reported from the lowlands of Amazonia. The vast majority, but not all of these, have been recorded from Amazonian Ecuador; a few are known only from farther away in Amazonian Peru or Bolivia. This number of shared Ecuador coastal–Amazonian species is much higher than the 31% of species shared between coastal and Amazonian Ecuador as reported in Jørgensen and León-Yáñez (1999). This discrepancy may be explained, at least in part, by the fact the coastal Ecuador flora recorded by Jørgensen and León-Yáñez includes the dry forest elements from the southern coastal area, as well as the wet forest elements of the northern coast. Amazonian Ecuador does not include any area of dry forest, so those floristic elements from southwestern Ecuador are not represented east of the Andes. The wet forest region in northern

Ecuador where the Mache-Chindul range is located, is much more similar climatically to Amazonian Ecuador, and the proportion of species shared between the wet forests of the coastal region and the Amazon basin is much higher than for the dry forest of the southern coast (although a few dry forest taxa are present in our Mache-Chindul checklist because they are present in the southernmost part of our study area, in the moist/dry transition zone south of Pedernales).

In terms of historical biogeography, these results suggest that two-thirds of the species in the Mache-Chindul flora that have present-day distributions with trans-Andean (western Ecuador) as well as cis-Andean (Amazonia) populations, were either already present with an unfragmented northwestern South America distribution before the uplift of the Andes separated these populations, i.e., at least since the Miocene, ca. 15 million years before present, or alternatively, these species have dispersed across the high-altitude barrier of the Andes in more recent times and may be connected at the present time by dispersal and gene flow. More complex scenarios are possible and could be revealed in the future by molecular phylogeographic studies, such as the work on *Symphonia globulifera* (Clusiaceae) by Dick et al. (2003), which revealed three trans-Atlantic dispersal events for this species from Africa, with a present-day distribution that includes western Africa as well as Amazonia, the Chocó and western Ecuador, Mesoamerica and the Antilles.

A total of 957 species (73%) of the Mache-Chindul flora are recorded from the Chocó region of coastal Colombia, and 814 species (61% of the total) extend farther to the north in Mesoamerica. Moreover, 42% of the Mache-Chindul flora (557 species) range very widely in the Neotropics, having been recorded in all four regions: coastal Ecuador as well as lowland Amazonia, the Chocó region, and Mesoamerica.

These results, which are indicative of a rather high percentage of widely distributed species and a relatively low level of local endemism in the flora of the Mache-Chindul mountains, came as a surprise to us, considering the previously published figures and the conventional wisdom of a much higher degree of endemism for the flora of Ecuador

in general.

In part, the results reported herein of relatively low levels of endemism and a high proportion of widely distributed species reflects the fact that, as the Neotropical flora becomes better known, with more complete regional inventories and comprehensive monographs completed for the western hemisphere as a whole, the tabulated proportion of local endemics will continue to decline for many groups as locally circumscribed taxa are reduced to synonymy and range extensions become known for many species previously known from only a few sites.

### LIFE-FORM CATEGORIES, AND COMPARISONS WITH OTHER FLORAS

The life-form categories of the Mache-Chindul flora are enumerated in Table 3. These results are compared with the life-form categories for two other published floristic checklists from wet forests of western Ecuador: the Río Palenque Biological Station (Dodson & Gentry, 1978) and the Maquipucuna cloud forest reserve (Webster & Rhode, 2001). For the latter site, some of the life-form categories were not listed in the tables or text of the publication, so are not included in Table 3. For the Mache-Chindul checklist, some species were recorded for more than one life form (e.g., tree and shrub) so the sum of all categories is more than the total number of species at that site.

Trees, with 442 species (33% of the total), are the most species-rich life-form in the Mache-Chindul floristic checklist. In contrast, trees account for 26% of the flora at Río Palenque and just 19% at Maquipucuna. Epiphytes are the second most diverse life-form at Mache-Chindul, with 268 species (20% of the total) but rank first in diversity at the other two sites, 24% of the total recorded flora at Río Palenque and 23% at Maquipucuna. A caveat is certainly in order here: these differences may reflect different degrees of emphasis in collecting and identifying the flora, among the major investigators at each site, more than real differences in the life-form categories at each site.

It is interesting that hemi-epiphytes have very similar percentages (4-5%) in the flora at each of the three sites, and lianas, which were not tabulated in the Maquipucuna summary text are also similar



in proportional diversity at Mache-Chindul and Río Palenque, also with 4-5% of the total flora. The percentages of shrubs and herbaceous plants vary between Río Palenque and Mache-Chindul, but those figures may represent a more thorough inventory of the weedy herbs at Río Palenque.

## MAJOR PLANT FAMILIES, AND COMPARISON WITH OTHER FLORAS

The number of species in the major taxonomic groups of vascular plants, and in the major families of angiosperms, are listed for the Mache-Chindul flora in Table 4. Comparative values for each category are included for the lowland flora of Río Palenque (Dodson & Gentry, 1978) and for the western Andean cloud forest flora of Maquipucuna (Webster & Rhode, 2001).

Ferns and fern-allies (Pteridophytes), with 178 species recorded in the Mache-Chindul flora, account for 13% of the vascular plants. Pteridophytes are more diverse in the Maquipucuna flora, with 227 species, but the percentage of the total recorded flora is similar (14% at Maquipucuna). In contrast, the 77 species of ferns and fern-allies at Río Palenque account for just 7% of the total flora.

Monocots as a group are proportionally more diverse at Río Palenque (30%, with 332 species) than at Maquipucuna (27%, with 438 species) and Mache-Chindul (22%, with 295 species). These differences may reflect more on the history of collecting efforts and taxonomic interests of the major investigators, rather than true differences in the proportions of monocots in the respective floras. For example, the Flora of Río Palenque (Dodson & Gentry, 1978) is first-authored by an orchid specialist. The abundance of species in Orchidaceae from Dodson & Gentry (1978) is more likely the result of a collecting emphasis and research interests of Dodson rather than trends in biodiversity between the floras presented here.

The eleven most diverse families of angiosperms at Mache-Chindul are listed in Table 4, in descending order of species richness. The number of species for each of these families are also enumerated for the Río Palenque and

Maquipucuna floras, with the percentages that each family represents for the total flora recorded at each site. The three most species-rich families at each site are in boldface type in Table 3.

Orchidaceae are the most diverse family of angiosperms at each of the three sites, but orchids are proportionally less diverse in the Mache-Chindul checklists (100 species, 8% of the total) than in the Río Palenque (127 species, 11%) and Maquipucuna (204 species, 13%) checklists. The Araceae and Rubiaceae are second and third in species richness, respectively, among the families at both Mache-Chindul and Río Palenque. At Maquipucuna, in contrast, the second and third most species-rich families are Asteraceae and Piperaceae, in that order. These figures may reflect real floristic differences between the montane Maquipucuna site, which also includes extensive areas of secondary vegetation, and the two lowland sites of Mache-Chindul and Río Palenque, where the primary forest flora is more thoroughly sampled than the secondary vegetation habitats.

The area included in the Mache-Chindul checklist is much larger than that of the Maquipucuna checklist, and several orders of magnitude larger than the Río Palenque checklist; the latter covers only one square kilometer of remnant lowland forest. However, the Mache-Chindul checklist, with 1,346 native vascular plant species recorded, is only intermediate in species richness between Maquipucuna (1,596 native species) and Río Palenque (1,112 native species). This is assuredly not a reflection of the true number of species in each area. The collections from the Mache-Chindul region give evidence of many taxa that have not been determined to species and therefore are not included in the checklist. A substantial proportion of these are probably undescribed species, and when they are described will likely prove to be local endemics. More thorough collecting efforts, in both primary forest and disturbed habitats, are necessary to complete the floristic inventory of the Mache-Chindul region. At this time we cannot speculate accurately on the total number of vascular plant species in the region, but the total almost certainly exceeds 2,000 species, at least 12% of the total of the close to 17,000 vascular plant species that have now been enumerated for Ecuador (Ulloa & Neill, 2005).

**Table 1.** New genera and new species described since the initiation of collecting activities in the Mache-Chindul Mountains of northwestern Ecuador.

<b>New genera (monotypic) - 2</b>	<i>Exarata</i> A.H. Gentry, Syst. Bot. 17(3): 503. 1992. See Figures 9 A-B & 11. <i>Ecuadendron</i> D.A. Neill, Novon 8(1): 45. 1998. See Figures 2 A-B & 12.
<b>Other recently described genera - 2</b>	<i>Klarobelia</i> Chatrou, Changing Gen. 121. 1998. See Figures 5 C-D & 12. <i>Mosannonna</i> Chatrou, Changing Gen. 155. 1998. See Figures 5 A-B & 13.
<b>New species - 33</b> <b>Annonaceae</b>	<i>Crematosperma longipes</i> Pirie, Blumea 50(1): 51-52, f. 5. 2005. <i>Klarobelia megalocarpa</i> Chatrou, Changing Gen. 136-138. 1998. See Figures 5 C-D & 13. <i>Mosannonna pacifica</i> Chatrou, Changing Gen. 170-171. 1998. See Figures 5 A-B & 14.
<b>Araceae</b>	<i>Anthurium cupulispathum</i> Croat & J. Rodr., Aroideana 18: 63-68. 1995. <i>Anthurium jaramilloi</i> Croat & J. Rodr., Aroideana 18: 80-83. 1995 [1996]. <i>Anthurium nigropunctatum</i> Croat & J. Rodr., Aroideana 18: 101-104. 1995 [1996]. <i>Philodendron clarkei</i> Croat, Aroideana 27: 38-60, f. 1-20. 2004. <i>Philodendron sparreorum</i> Croat, Aroideana 27: 38-60, f. 1-22. 2004.
<b>Bignoniaceae</b>	<i>Exarata chocoensis</i> A.H. Gentry, Syst. Bot. 17(3): 503-506. 1992. See Figures 2 A-B & 10.
<b>Bombaceae</b>	<i>Quararibea casasecae</i> Fern. Alonso & Castrov., Anales Jard. Bot. Madrid 59(1): 155, f. 3. 2001. <i>Spirotheca awadendron</i> Fern. Alonso, Revista Acad. Colomb. Ci. Exact. 25(95): 201-203, f. 9. 2001. See Figure 8 C-D.
<b>Bromeliaceae</b>	<i>Pitcairnia clarkii</i> H. Luther, Selbyana 18(1): 98. 1997. See Figure 7 A-B. <i>Pitcairnia ferrell-ingramiae</i> H. Luther & Dalström, J. Bromeliad Soc. 47(5): 231. 1997. See Figure 7 D-E.
<b>Capparaceae</b>	<i>Capparis bonifaziana</i> X. Cornejo & H.H. Iltis, Novon 15(3): 397. 2005. See Figures 8 B & 15.

<b>Campanulaceae</b>	<i>Burmeistera smaragdi</i> Lammers, Novon 12(2): 213-214, f. 6. 2002. See Figure 7 C.
<b>Ebenaceae</b>	<i>Diospyros esmereg</i> B. Walln., Ann. Naturhist. Mus. Wien, Ser. B, Bot. Zool. 101(B): 568-570, f. 1. 1999. See Figure 2 C.
<b>Ericaceae</b>	<i>Thibaudia litensis</i> Luteyn, Fl. Ecuador 54: 292. 1996. See Figure 9 C-D.
<b>Fabaceae</b>	<i>Ecuadendron acosta-solisianum</i> D.A. Neill, Novon 8(1): 45-49, f. 1-2. 1998. See Figures 2 A-B & 11.
<b>Gesneriaceae</b>	<i>Gasteranthus bilsaensis</i> L.E. Skog & L.P. Kvist, Syst. Bot. Monogr. 59: 41-42, f. 7D, 17, 22. 2000. <i>Gasteranthus tenellus</i> L.E. Skog & L.P. Kvist, Syst. Bot. Monogr. 59: 96-98, f. 3C, 24, 37. 2000. See Figures 6 BD, p.133; 16 A-H, p.143. <i>Gasteranthus villosus</i> L.E. Skog & L.P. Kvist, Syst. Bot. Monogr. 59: 101-102, f. 9D, 13G-H, 15, 38. 2000. See Figure 17.
<b>Lecythidaceae</b>	<i>Grias longirachis</i> S.A. Mori & J.L. Clark, Brittonia 52(2): 145-148, f. 1. 2000. See Figures 2 D-E; 18 A-H.
<b>Olacaceae</b>	<i>Heisteria pacifica</i> P. Jørg. & C. Ulloa, Fl. Ecuador 69: 72, f. 16. 2002.
<b>Orchidaceae</b>	<i>Epidendrum borchsenii</i> Hágsater & Dodson, Icon. Orchid. (Mexico) 4: pl. 418. 2001. <i>Lepanthes clarkii</i> Luer, Monogr. Syst. Bot. Missouri Bot. Gard. 61: 58. 1996. See Figure 19. <i>Lepanthes maccolmiana</i> Luer, Monogr. Syst. Bot. Missouri Bot. Gard. 61: 112. 1996. See Figure 21. <i>Pleurothallis claviculata</i> Luer & Hirtz, Lindleyana 11(3): 153-154, f. 16. 1996.
<b>Proteaceae</b>	<i>Panopsis megistosperma</i> Bonifaz & Cornejo, Fl. Ecuador 69: 12, f. 2. 2002
<b>Rubiaceae</b>	<i>Amphidasya amethystina</i> J.L. Clark & C.M. Taylor, Novon 11(4): 491-492. 2001. See Figures 3 D-E & 22. <i>Hippotis comosa</i> L. Andersson & Rova, Fl. Ecuador 74: 14-16, fig. 3A-B. 2004. See Figure 3 C. <i>Pentagonia bonifaziana</i> X. Cornejo & C.M. Taylor, Harvard Pap. Bot. 11(1): 19-24. 2006 <i>Pentagonia breviloba</i> L. Andersson & Rova, Fl. Ecuador 74: 32-33, fig. 5C-E. 2004. <i>Psychotria esmeraldana</i> C.M. Taylor, Novon 16(1): 151-152, f. 2D-F. 2006. See Figure 23. <i>Rustia bilsana</i> Delprete, Novon 8(3): 234, f. 1, 2. 1998. See Figures 3 A-B & 24.

<b>Sapindaceae</b>	<i>Talisia equatoriensis</i> Acev.-Rodr., Flora Neotropica 87: 109, 111-112, f. 74, 76. 2003.
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**Table 2.** Biogeographic analysis of the Mache-Chindul flora.

Total taxa in Mache-Chindul checklist	1,354 taxa	
Introduced species	8 species	
Native taxa	1,346 taxa	
Genera not determined to species	28 genera	
Native species for biogeographic analysis	1,318 species	
Endemic to coastal Ecuador*	162	12%
Species range includes Amazonia	865	66%
Range includes Chocó (coastal Colombia)	958	73%
Range includes Mesoamerica	814	61%
Widespread neotropical species: Coastal Ecuador + Amazonia + Chocó + Amazonia	557	42%

\*Includes several species ranges to northwest coastal Peru (Tumbes, Piura)

**Table 3.** Life-form categories of the Mache-Chindul vascular plants, with a comparison, where the information is available, from the published floras of Río Palenque Science Center, in lowland wet forest of Los Ríos province in western Ecuador (Dodson & Gentry, 1978) and the Maquipucuna Reserve, a cloud forest region on the western slopes of the Andes in Pichincha province, Ecuador (Webster & Rhode, 2001). Some of the categories were not listed in the tables or text of Webster and Rhode (2000).

	Mache-Chindul		Río Palenque		Maquipucuna	
Species total for checklist	1346		1112		1596	
Trees	442	33%	288	26%	310	19%
Shrubs	182	14%	109	10%		
Lianas	70	5%	39	4%		
Terrestrial herbs	256	19%	275	24%		
Herbaceous vines	119	9%	138	12%		
Epiphytes	268	20%	269	24%	361	23%
Hemiepiphytes	64	5%	42	4%	80	5%
Parasites and hemiparasites	9	< 1%				
Saprophytes	3	< 1%				

**Table 4.** Tabulation of the major taxonomic groups of vascular plants, and the 11 most species-rich families of Angiosperms, in the Mache-Chindul flora. These data are also included for the flora of the Río Palenque reserve (Dodson & Gentry, 1978), a lowland wet forest site in Los Río province, and the Maquipucuna cloud forest reserve (Webster & Rhode, 2001) on the western slopes of the Andes in Pichincha province, Ecuador. The species richness values for the three most diverse families at each site are indicated in bold type. The percentages are for the total native vascular flora at each site as enumerated in each checklist.

Major groups of vascular plants	Mache-Chindul		Río Palenque		Maquipucuna	
Total native vascular flora in checklist	1,346		1,112		1,596	
Pteridophytes	178	13%	77	7%	227	14%
Gymnosperms	1	< 1%	2	< 1%	0	
Angiosperms	1,167	87%	1033	93%	1369	86%
Monocots	295	22%	332	30%	438	27%
Dicots	872	65%	701	63%	931	58%
<b>Major families of Angiosperms</b>						
Orchidaceae	<b>100</b>	<b>8%</b>	<b>127</b>	<b>11%</b>	<b>204</b>	<b>13%</b>
Araceae	<b>93</b>	<b>7%</b>	<b>69</b>	<b>6%</b>	<b>69</b>	<b>4%</b>
Rubiaceae	<b>84</b>	<b>6%</b>	<b>66</b>	<b>6%</b>	66	4%
Fabaceae	60	4%	29	3%	42	3%
Gesneriaceae	46	3%	32	3%	35	2%
Melastomataceae	44	3%	20	2%	44	3%
Piperaceae	36	3%	43	4%	<b>79</b>	<b>5%</b>
Moraceae	34	3%	19	2%	39	2%
Bromeliaceae	30	2%	18	2%	35	2%
Asteraceae	29	2%	46	4%	84	5%
Solanaceae	29	2%	37	3%	59	4%

#### ACKNOWLEDGMENTS

We would like to thank the various institutions and individuals in Ecuador who helped us in different ways to carry out this project. The Jatun Sacha Foundation provided logistical support and lodging at the Bilsa Biological Station. The founder and director of the Bilsa Biological Station, Michael McColm, encouraged the project by advocating for the on-going scientific endeavors since the initial establishment of the Station in 1994. The Station administrator, Carlos Aulestia, was helpful in innumerable ways throughout our years of fieldwork, and was influential in facilitating and promoting biodiversity research in and around the communities of the region, which enabled us to extend our fieldwork to the broader region outside the boundaries of the Bilsa reserve.

We also thank Gladys Aguinda for her collaboration and support throughout her tenure at the Bilsa Station. The U.S. Peace Corps provided funding for volunteers who worked in documenting and promoting plant biodiversity of the region through collaboration with the Jatun Sacha Foundation. Francisco Garcés, director of Ecuador's Peace Corps Natural Resources Program, was especially supportive in sending volunteers to Bilsa. These volunteers included Rachel A. Werling (1992-1993), Cyrus Brame III (1994-1997), Thomas Harkins (1997-1999), Christopher Pallis (1997-2000), and Cindy Smith (1997-2000).

Besides the above-named Peace Corps volunteers, numerous people participated in the floristic inventories of the Mache-Chindul region

over nearly a decade; we thank in particular those who gathered and prepared vascular plant specimens during this period as "primary" collectors under their own name: Margot Bass, Tom DeLinks, Tamara Nuñez, Walter Palacios, Nigel Pitman, and Homero Vargas.

The Tercer Mundo Foundation provided help with our field studies at Cerro Pata de Pájaro and other areas in northern Manabí province. We thank especially Rosario Castillo, director of the foundation in Pedernales, and extensionist Carlos Robles, who guided us daily on our field excursions in the region. We commend Lalo Looor, owner of the private reserve that bears his name in the southernmost part of our study area, for his commitment to biodiversity conservation and thank him for permission to conduct the botanical inventories on his land. The Ceiba Foundation and the Jatun Sacha Foundation are commended for their innovative agreement with the landowner to preserve one of the last intact remnants of the moist/dry forest ecotone in coastal Ecuador.

The National Geographic Society's research and exploration program supported botanical inventory field work carried out by the authors during 1998-1999, and the F.E. Freund Foundation provided additional support to Missouri Botanical Garden for the field work of the second author in subsequent years. Some of the botanical inventories were carried out with a group of eight Ecuadorian post-graduate students, in a training program in conservation biology led by the second and third authors with support from the Liz Claiborne and Art Ortenberg Foundation.

Conservation International, as part of its Rapid Assessment Program, organized and financed the first biological survey of the Mache-Chindul Mountains in 1991, including floristic fieldwork carried out by Alwyn Gentry, Robin Foster and Carmen Josse. The results of this initial study, (A. Gentry and R. Foster, in Parker and Carr, 1992) provided the inspiration of both the Bilsa

Biological Station and subsequently, of the Mache-Chindul Ecological Reserve, as well as the floristic field work carried out by the present three authors, together with our colleagues and students from Ecuador, the U.S.A., and other countries.

The staff of the National Herbarium of Ecuador in Quito, especially Ximena Aguirre, helped with logistical matters and the processing of specimens. Likewise, at Missouri Botanical Garden, Mary Todd, Zachary Rogers, Mary Merello and Diane Menuz assisted with specimen processing and updating species determinations in the database. Edison Araguillin, Carlos Morales and Wilson Quizhpe assisted in the compilation of species distributions from the TROPICOS database, for the biogeographical analysis.

We thank the Ecuador Conservation Data Center, in Quito, and Paola Soria for help in providing the geographic and cartographic data and files for the map and Kenny Gilbert from the Cartographic Research Lab at the University of Alabama for making the final map. We also thank *Novon*, *Systematic Botany*, *Brittonia*, and Lars Chatrou for permission to reprint botanical illustrations. We also acknowledge Jordan Karubian for providing photographic images of the forest at the Bilsa Biological Station and Amy Rogers for providing information and making additional field collections of important taxa for this project. Reviews and feedback provided by Paul Berry and Lou Jost were useful in improving the manuscript.

Finally, we would like to express our deep gratitude to the Ministry of Environment of Ecuador and its professional staff, in Quito as well as in the field, for the Ministry's initiative in the declaration and demarcation of the Mache-Chindul Ecological Reserve, and for the efforts of the Ministry employees in the often very difficult task of administering the Reserve to ensure the protection of its spectacular biological diversity in perpetuity.

## ANNOTATED CHECKLIST OF THE FLORA OF THE MACHE-CHINDUL MOUNTAINS

### PTERIDOPHYTA

**Acrostichum aureum** L., Sp. Pl. 2: 1069. 1753.

Representative Specimen: Ecuador: Manabí: 45 km al norte de Pedernales, 5 m, 28 Aug 1998, *D. Neill & QCNE botany interns 11434* (MO, QCNE).

Terrestria herb. Chocó, Mesoamerica.

**Adiantum capillatum** A.R. Sm. & Prado, Brittonia 56(1): 82, f. 1. 2004. Type: Ecuador: junction of provinces Guayas, Cañar, Chimborazo, and Bolívar. Bucay, 1000-1250 ft [300-380 m], *W. Camp E-3678* (HT: US; IT: NY).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 6 Apr 1995, *John L. Clare & Y. Troya 626* (MO, QCNE).

Terrestrial herb. Amazonia.

**Adiantum concinnum** Humb. & Bonpl. ex Willd., Sp. Pl. 5: 451. 1810.

Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11289*.

Epiphyte. Mesoamerica.

**Adiantum fructuosum** Poepp. ex Spreng., Syst. Veg. 4: 113. 1827.

Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 10 Oct 1996, *J.L. Clark 3032* (MO, QCNE).

Epiphyte. Amazonia, Chocó, Mesoamerica.

**Adiantum macrophyllum** Sw., Prodr. 135. 1788.

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 19 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2630* (MO, QCNE).

Epiphyte. Amazonia, Chocó, Mesoamerica.

**Adiantum petiolatum** Desv., Ges. Naturf. Freunde Berlin Mag. Neuesten Entdeck. Gesammten Naturk. 5: 326. 1811.

Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 10 Oct 1996, *J.L. Clark 3048* (MO, QCNE). Epiphyte. Amazonia, Chocó, Mesoamerica.

**Adiantum phyllitidis** J. Sm., London J. Bot. 1: 197. 1842.

Representative Specimen: Ecuador: Manabí: Mache.Chindul, comunidad Ambache, 250 m, 5 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4179*.

Terrestrial herb. Amazonia

**Adiantum pulverulentum** L., Sp. Pl. 2: 1096. 1753.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 17 Nov 1994, *N. Pitman 962* (MO, QCNE).

Terrestrial herb. Amazonia, Chocó, Mesoamerica.

**Adiantum tetraphyllum** Hook.

Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11301* (MO).

Epiphyte. Amazonia, Chocó, Mesoamerica.

**Adiantum urophyllum** Hook., Sp. Fil. 2: 24, t. 84B. 1851.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 27 Sep 1996, *J.L. Clark 2914* (MO, QCNE).

Terrestrial herb. Amazonia, Chocó, Mesoamerica.

- Adiantum wilsonii** Hook., Sp. Fil. 2: 6, t. 72a. 1851.  
 Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 14 Jan 1997, *J.L. Clark, L. Chatrou, P. Maas & C. Repetur* 3798 (MO).  
 Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Alsophila cuspidata** (Kunze) D.S. Conant, J. Arnold Arbor. 64: 371. 1983.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 6 Dec 1994, *N. Pitman & M.S. Bass* 1023 (MO, QCNE).  
 Tree. Amazonia, Chocó, Mesoamerica.
- Anetium citrifolium** (L.) Splitg., Tijdschr. Natuurl. Gesch. Physiol. 7: 395. 1840.  
 Representative Specimen: Ecuador: Esmeraldas: Comunidad San Salvador 100–300 m, 1 Dec 1995, *J.L. Clark & Cyrus Brame* 1713 (MO, QCNE).  
 Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Asplenium auriculatum** Sw., Kongl. Svenska Vetensk. Acad. Handl. 1817(1): 68. 1817.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 29 Sep 1994, *N. Pitman, M.S. Bass & L. Kueppers* 765 (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Asplenium cuspidatum** Lam., Encycl. 2: 310. 1786.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 28 Sep 1994, *M.S. Bass, L. Kueppers & N. Pitman* 90 (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Asplenium divaricatum** Kunze, Linnaea 9: 71. 1834.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 1 Oct 1994, *L. Kueppers* 30.  
 Epiphyte. Mesoamerica.
- Asplenium hallii** Hook., Sp. Fil. 3: 202. 1860.  
 Type: Esmeraldas: sine loco, *Hall s.n.* (HT: K; IT: B fragm.; photo: US(B)).  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300–700 m, 21 Jul 1996, *J.L. Clark, E. Arroyo & P. Hibbs* 2708 (MO, QCNE).  
 Epiphyte. Chocó.
- Asplenium holophlebium** Baker, J. Bot. 15: 163. 1877. Type: Andes of Quito, *Sodiño, L. s.n.* (HT: K).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 9 Nov 1994, *N. Pitman & Margo Bass* 904 (MO, QCNE).  
 Epiphyte. Chocó, Mesoamerica.
- Asplenium juglandifolium** Lam., Encycl. 2: 307. 1786.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis* 4877 (MO, QCNE).  
 Common epiphyte. 400–600 m. Amazonia, Chocó, Mesoamerica.
- Asplenium pteropus** Kaulf., Enum. Filic. 170. 1824.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 5 Apr 1995, *J.L. Clark & Y. Troya* 623 (MO, QCNE).  
 Epiphyte. 400–600 m. Amazonia, Chocó, Mesoamerica.
- Asplenium repandum** Kunze, Linnaea 9: 65. 1834.  
 Representative Specimen: Ecuador: Esmeraldas: Camino vecinal Herrera-Los Monos 550 m, 24–26 Feb 1995, *W. Palacios* 13673 (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Asplenium rosenstockianum** Brade, Bradea 1(1): 14, t. 2, f. 4, t. 4. 1969.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 1 Apr 1995, *J.L. Clark & Y. Troya* 556 (MO, QCNE).  
 Terrestrial herb. Amazonia, Chocó, Mesoamerica.



- Asplenium serratum** L., Sp. Pl. 2: 1079. 1753.  
Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 6 Apr 1995, *J.L. Clark & Ynonne  
Troya 634* (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Asplenium volubile** N. Murak. & R.C. Moran,  
Ann. Missouri Bot. Gard. 80(1): 32. 1993.  
Type: Ecuador: Cotopaxi: Quevedo-  
Latacunga road, km 46 from Quevedo, 600  
m, 00.55S 79.11W, *Holm-Nielsen,  
Jeppesen, Løjtnant & Øllgaard 2905* (HT:  
MO; IT: AAU, F, UC).  
Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 20 Mar 1998, *J.L. Clark & C. Pallis  
4832*.  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Azolla caroliniana** Willd., Sp. Pl. 5(1): 541. 1810.  
Representative Specimen: Ecuador:  
Esmeraldas: Herrera (La Y de la Laguna)  
400 m, 15 Feb 1998, *J.L. Clark 5512*.  
Floating aquatic herb. Amazonia, Chocó,  
Mesoamerica.
- Blechnum acutum** (Desv.) Mett., Ann. Sci. Nat.,  
Bot., ser. 5, 2: 225. 1864.  
Accepted by: Jørgensen, P. M. & S. León-  
Yáñez (eds.), 1999; Kessler, M., T. Krömer  
& I. Jiménez, 2000  
Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 8 Oct 1996, *J.L. Clark 3004* (MO,  
QCNE)  
Hemiepiphyte. Amazonia, Chocó.
- Blechnum cordatum** (Desv.) Hieron., Hedwigia  
47: 239. 1908.  
Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 13 Dec 1994, *M.S. Bass & N. Pitman  
343* (MO, QCNE).  
Shrub or treelet. Amazonia, Chocó.
- Blechnum occidentale** L., Sp. Pl. 2: 1077. 1753..  
Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 10 May 1995, *J.L. Clark & C. Watt  
823* (MO, QCNE).
- Terrestrial herb. Amazonia, Chocó,  
Mesoamerica.
- Blechnum wardiae** Mickel & Beitel, Mem. New  
York Bot. Gard. 46: 89, f. 122A,B, 125A.  
1988.  
Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 650  
m, 27 Sep 1996, *J.L. Clark 2917* (MO,  
QCNE).  
Terrestrial herb. Amazonia, Chocó,  
Mesoamerica.
- Bolbitis pandurifolia** (Hook.) C. Chr., Index Filic.,  
Suppl. 3, 49. 1934.  
Representative Specimen: Ecuador:  
Esmeraldas: Fila de Bilsa, 280 m, 30 Jan  
1991, *A. Gentry, R. Foster & C. Josse 72960*  
(MO).  
Terrestrial herb. Amazonia.
- Campyloneurum aphanophlebium** (Kunze) T.  
Moore, Index Fil. 223. 1861.  
Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 20 Mar 1998, *J.L. Clark & C. Pallis  
4856*.  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Campyloneurum brevifolium** (Lodd. ex Link)  
Link, Fil. Spec. 124. 1841  
Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 6 Apr 1995, *J.L. Clark & Y. Troya  
631* (MO, QCNE).  
Epiphytic or terrestrial herb. Amazonia, Chocó,  
Mesoamerica.
- Campyloneurum fuscusquamatum** Lellinger,  
Amer. Fern J. 78(1): 21, f. 4, 10. 1988.  
Representative Specimen: Ecuador: Manabí:  
Reserva de Lalo Loor, 500–550 m, 27 Nov  
1999, *T. Delinks 491*.  
Epiphyte. Amazonia.
- Campyloneurum phyllitidis** (L.) C. Presl, Tent.  
Pterid. 78(1): 21, f. 4, 10. 1836.  
Representative Specimen: Ecuador: Manabí:  
Cordillera de Jama, 600 m, 16 Dec 1998,  
*D. Neill & QCNE botany interns 11593*.

- Terrestrial or epiphytic herb. Amazonia, Chocó, Mesoamerica.
- Campyloneurum repens** (Aubl.) C. Presl, Tent. Pterid. 190. 1836.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4814*.  
Terrestrial or epiphytic herb. Amazonia, Chocó, Mesoamerica.
- Campyloneurum serpentinum** (H. Christ) Ching, Sunyatsenia 5(4): 263. 1940.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 1 Oct 1994, *L. Kueppers 28* (MO, QCNE).  
Terrestrial herb. Chocó, Mesoamerica.
- Cochlidium serrulatum** (Sw.) L.E. Bishop, Amer. Fern J. 68(3): 80. 1978.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 6 May 1995, *J.L. Clark & C. Watt 782* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Cyathea brunnescens** (Barrington) R.C. Moran, Novon 1(2): 101. 1991. *Trichipteris nigripes* var. *brunnescens* Barrington. Type: Colombia: Valle: Río Yurumangui, Venereal, 5–50 m, *Cuatrecasas 16155-C* (HT:US; IT:GH).  
Representative Specimen: Ecuador: Esmeraldas: 300 m, 19 Oct 1992 - 24 Oct 1992, *Galo Tipaz, C. Aulestia & A. Llanos 2085* (MO).  
Tree. Amazonia, Chocó.
- Cyathea conjugata** (Spruce ex Hook.) Domin, Pteridophyta 262. 1929. *Alsophila conjugata* Spruce ex Hook. Type: Ecuador: Chimborazo, *Spruce 5745* [published as 4745] (HT: K; IT: US).  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 29 Jan 1991, *A. Gentry & C. Josse 72854* (MO).  
Tree. Amazonia, Chocó.
- Cyathea cystolepis** Sodiro, Recens. Crypt. Vasc. Quit. 15. 1883. Type: Crece en la pendiente occidental del Atacazo y del Corazón 1600,2000 mm., *Sodiro, L. s.n.* (ST: P).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 6 Dec 1994, *N. Pitman & M.S. Bass 1022* (MO, QCNE).  
Tree. Amazonia.
- Cyathea delgadii** Sternb., Versuch einer Geognostisch-Botanischen Darstellung der Flora der Vorwelt 1: 47, t. B. 1820.  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11356*.  
Tree. Amazonia, Chocó, Mesoamerica.
- Cyclopeltis semicordata** (Sw.) J. Sm., Bot. Mag. 72: Comp. 36. 1846.  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11280*.  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Danaea elliptica** Sm., Cycl. 11: Danaea no. 2. 1808.  
Representative Specimen: Ecuador: Esmeraldas: 400–600 m, 15 Oct 1994, *M.S. Bass, L. Kueppers & N. Pitman 173* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Danaea longicaudata** Tuomisto, Fl. Ecuador 66: 50, f. 15. 2001. Type: Ecuador: Pichincha, Reserva Endesa, km 113 of Quito-Puerto Quito road, 8 km E of Pedro vicente Maldonado, 600–700 m, *Moran et al 6025* (HT: QCA, IT: AAU, NY, QCNE, TUR).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 22 Sep 1994, *N. Pitman, J.L. Clark, B. Adnepos & L. Kueppers 702* (MO, QCNE).  
Terrestrial herb. Endemic.
- Dennstaedtia dissecta** (Sw.) T. Moore, Index Fil. 305. 1861.  
Representative Specimen: Ecuador:

- Esmeraldas: Bilsa Biological Station, 600 m, 23 Sep 1994, *J.R. Abbott 15217*.  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Dennstaedtia obtusifolia** (Willd.) T. Moore, Index Fil. 306. 1861.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 16 May 1995 *J.L. Clark & C. Watt 880* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Dennstaedtia vagans** (Baker) Diels, Nat. Pflanzenfam. 1(4): 218. 1899. *Dicksonia vagans* Baker. Type: Ecuador, Andes de Quito, *Sodiro, L. s.n. (13/3)* (HT: K; IT: Q).  
Representative Specimen: Ecuador: Esmeraldas: 400–600 m, 1 Oct 1994 *M.S. Bass & L. Kueppers 116* (MO, QCNE).  
Hemiepiphyte. Endemic.
- Dicranoglossum polypodioides** (Hook.) Lellinger, Selbyana 2(2-3): 283. 1978. *Taenitis furcata* var. *polypodioides* Hook. Type: Ecuador: “Base of the Andes on the road to Guayaquil”, *Jameson s.n.* (HT: K, (Lellinger, 1978)).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 24 Sep 1996, *J.L. Clark 2889* (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Didymochlaena truncatula** (Sw.) J. Sm., J. Bot. (Hooker) 4: 196. 1842.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 6 Apr 1995, *J.L. Clark & Y. Troya 630* (MO, QCNE).  
Terrestrial or epiphytic herb. Amazonia, Chocó, Mesoamerica.
- Diplazium alienum** (Mett.) Hieron., Hedwigia 59: 336. 1918.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 19 Feb 1997, *J.L. Clark 3950*.  
Terrestrial herb. Amazonia.
- Diplazium chimborazense** (Spruce ex Baker) H. Christ, Farnkr. Erde 221. 1867. *Asplenium chimborazense* Spruce ex Baker. Type: Ecuador: Chimborazo: “Chimborazo, 3000–4000 m”, *Spruce 5703* (HT: K; IT: BR in part, P, fragm.: NY).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 24 Sep 1996, *J.L. Clark 2907* (MO, QCNE).  
Terrestrial herb. Amazonia.
- Diplazium cristatum** (Desr.) Alston, J. Bot. 74: 173. 1936.  
Representative Specimen: Ecuador: Esmeraldas: 220 m, 1 Sep 1980, *L.B. Holm-Nielsen et al. 25491* (AAU).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 6 Apr 1995, *J.L. Clark & Y. Troya 635* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Diplazium grandifolium** (Sw.) Sw., J. Bot. (Schrader) 1800(2): 62. 1801.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 10 May 1995, *J.L. Clark & C. Watt 818* (MO, QCNE).  
Terrestrial herb. Amazonia, Mesoamerica.
- Diplazium lonchophyllum** Kunze, Linnaea 13: 141. 1839.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 21 Nov 1995, *J.L. Clark & K. Cunningham, C. Roberts 1626* (MO, QCNE).  
Terrestrial herb. Amazonia, Mesoamerica.
- Diplazium oellgaardii** Stolze, Fl. Ecuador 49: 59. 1994. Type: Ecuador: Esmeraldas: plateau above San Marcos de los Coaiqueres, on trail towards Gualpí Bajo, ca 1000 m, B. Øllgaard, Korning, Thomsen & Illum 57504 (HT: AAU; fragm.: F)  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–

- 600 m, 30 Dec 1994, *N. Pitman & David Marsh 1128* (MO, QCNE).  
Terrestrial herb. 400-600 m. Endemic.
- Diplazium palmense** Rosenst., Repert. Spec. Nov. Regni Veg. 10(251-253): 276. 1912.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sep 1996, *J.L. Clark 2928* (MO, QCNE).  
Terrestrial herb. Chocó, Mesoamerica.
- Diplazium seemannii** T. Moore, Index Fil. 337. 1862.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 9 Feb 1996, *J.L. Clark & N. Kerber, J. Plihal 1947* (MO, QCNE).  
Terrestrial herb. Chocó, Mesoamerica.
- Diplazium striatastrum** Lellinger, Selbyana 2(2-3): 283, t. 1B. 1978.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 16 Feb 1996, *J.L. Clark & N. Kerber, J. Plihal 2036* (MO, QCNE).  
Terrestrial herb. Chocó, Mesoamerica.
- Diplazium trianae** (Mett.) C. Chr., Index Filic. 240. 1905.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 22 Jun 1995, *J.L. Clark & Erik Calhoun 1216* (MO, QCNE).  
Terrestrial herb. Chocó, Mesoamerica.
- Elaphoglossum ciliatum** (C. Presl) T. Moore, Index Fil. 8. 1857.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 2 Apr 1995, *J.L. Clark & Y. Troya 578* (MO, QCNE).  
Epiphytic or terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Elaphoglossum crinitum** (L.) H. Christ, Neue Denkschr. Allg. Schweiz. Ges. Gesamten Naturwiss. 36(1): 102, f. 53. 1899.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 700 m, 26 Aug 1998, *D. Neill & QCNE botany interns 11363*.  
Terrestrial herb. Chocó, Mesoamerica.
- Elaphoglossum decoratum** (Kunze) T. Moore, Index Fil. 8. 1857.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4297*  
Epiphytic herb. Amazonia, Chocó, Mesoamerica.
- Elaphoglossum erinaceum** (Fée) T. Moore, Index Fil. 9. 1857.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 25 Sep 1994, *J.R. Abbott 15251*.  
Terrestrial or epiphytic herb. Amazonia, Chocó, Mesoamerica.
- Elaphoglossum herminieri** (Bory ex Fée) T. Moore, Index Fil. xvi. 1857.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 18 May 1995, *J.L. Clark & C. Watt 922* (MO, QCNE).  
Epiphyte. Amazonia, Mesoamerica.
- Elaphoglossum latum** (Mickel) Atehortúa ex Mickel, Fieldiana, Bot., n.s. 27: 123. 1991.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, September 28, 1994, *M.S. Bass, L. Kueppers & N. Pitman 97* (MO, QCNE).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4867*.  
Epiphyte. Chocó, Mesoamerica.
- Elaphoglossum mitorrhizum** Mickel, Novon 2(4): 379. 1992.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 6 Dec 1994, *N. Pitman & M.S. Bass 1016* (MO, QCNE).  
Epiphyte. Mesoamerica.
- Elaphoglossum nigrescens** (Hook.) T. Moore ex Diels, Nat. Pflanzenfam. 1(4): 332. 1899.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 580

- m, 18 Feb – 5 Mar 1995, *W. Palacios, J.L. Clark & N. Jaramillo 13578* (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Elaphoglossum petiolatum** (Sw.) Urb., Symb. Antill. 4: 61. 1903.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 28 Sep 1994, *M.S. Bass, L. Kueppers & N. Pitman 102* (MO, QCNE).  
Epiphyte. Amazonia, Mesoamerica.
- Elaphoglossum siliquoides** (Jenman) C. Chr., Index Filic. 315. 1905.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 8 Apr 1995, *J.L. Clark & Y. Troya 663* (MO, QCNE).  
Epiphyte. Mesoamerica.
- Gleichenella pectinata** (Willd.) C. Presl, Reliq. Haenk. 1(1): 71. 1825.  
Representative Specimen: Esmeraldas: Bilsa Biological Station, 400–600 m, 10 Dec 1994, *N. Pitman & M.S. Bass 1071* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Grammitis serrulata** (Sw.) Sw., J. Bot. (Schrader) 1800(2): 18. 1801.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 10 Nov 1994, *N. Pitman & M.S. Bass 916* (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Grammitis trifurcata** (L.) Copel., Gen. Fil. (Ann. Cryptog. Phytopathol. 5:) 211. 1947.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 22 Jul 1995, *J.L. Clark & Erik Calhoun 1217* (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Hemidictyum marginatum** (L.) C. Presl, Tent. Pterid. 111, t. 3, f. 24. 1836.  
Representative Specimen: Ecuador: Manabí: 45 km al norte de Pedernales, 5 m, 28 Aug 1998, *D. Neill & QCNE botany interns 11436* (MO, QCNE).
- Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Huperzia linifolia** (L.) Trevis., Atti Soc. Ital. Sci. Nat. 17: 248. 1874. .  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 11 Oct 1994, *J.L. Clark 181* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Huperzia wilsonii** (Underw. & F.E. Lloyd) B. Øllg., Opera Bot. 92: 170. 1987.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4808*.  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Hymenophyllum elegans** Spreng., Syst. Veg. 4: 133. 1827.  
Representative Specimen: Ecuador: Esmeraldas: 400–600 m, 12 Oct 1994, *M.S. Bass, L. Kueppers & N. Pitman 152* (MO, QCNE).  
Epiphyte. Chocó, Mesoamerica.
- Hymenophyllum hirsutum** (L.) Sw., J. Bot. (Schrader) 1800(2): 99. 1801 [1802].  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 20 Sep 1994, *M.S. Bass & L. Kueppers 33* (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Hymenophyllum microcarpum** Desv., Mem. Soc. Linn. Paris 6: 333. 1827.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 1 Oct 1994, *N. Pitman, M.S. Bass & L. Kueppers 780* (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Hymenophyllum valvatum** Hook. & Grev., Icon. Filic. 2: t. 219. 1831. Type: Hab. In truncos arborum apud Esmeraldas, regno Peruviano, 4000 ped., *Jameson, W. s.n.* (HT: K).

- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 20 Sep 1994, *M.S. Bass & L. Kueppers 34* (MO, QCNE).  
Epiphyte. Amazonia.
- Hypolepis hostilis** (Kunze) C. Presl, Tent. Pterid. 162. 1836. *Cheilanthes hostilis* Kunze.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 7 Dec 1994, *N. Pitman & M.S. Bass 1037* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Hypolepis parallelogramma** (Kunze) C. Presl, Tent. Pterid. 162. 1836.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 25 Mar 1995, *J.L. Clark & Ivonne Troya 498* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó.
- Lastreopsis exulta** (Mett.) Tindale, Victoria Naturalist 73: 185. 1957.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 31 Dec 1994, *N. Pitman & David Marsh 1142* (MO, QCNE).  
Terrestrial herb. Mesoamerica.
- Lellingeria subsessilis** (Baker) A.R. Sm. & R.C. Moran, Amer. Fern J. 81(3): 87. 1991.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 18 Nov 1994, *N. Pitman & M.S. Bass 987* (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Lellingeria suspensa** (L.) A.R. Sm. & R.C. Moran, Amer. Fern J. 81(3): 87. 1991  
Representative Specimen: Ecuador: Esmeraldas: 600 m, 19 May 1987, *H. van der Werff, C. Dodson, & W. Palacios 9512* (MO).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Lindsaea lancea** (L.) Bedd., Suppl. Ferns S. Ind. 6. 1876.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 27 Sep 1996, *J.L. Clark 2913* (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Lomariopsis nigropaleata** Holttum, Bull. Misc. Inform. Kew 1939: 618. 1940.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 4 Apr 1995, *J.L. Clark & Ivonne Troya 595* (MO, QCNE).  
Hemiepiphyte. Amazonia, Chocó.
- Lonchitis hirsuta** L., Sp. Pl. 2: 1078. 1753.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 14 May 1995, *John L. Clark & Clare Warr 860* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Lophosoria quadripinnata** (J.F. Gmel.) C. Chr., Nat. Hist. Juan Fernandez 2: 16. 1920.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 4 Dec 1994, *N. Pitman & M.S. Bass 1020* (MO, QCNE).  
Tree fern. Amazonia, Chocó, Mesoamerica.
- Lycopodiella cernua** (L.) Pic. Serm., Webbia 23(1): 166. 1968.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 8 Dec 1994, *N. Pitman & M.S. Bass 1046* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Lygodium radiatum** Prantl, Unters. Morph. Gefasskrypt. 2: 66. 1881.  
Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 6 Jul 1996, *J.L. Clark 2737* (MO, QCNE).  
Herbaceous vine. Chocó, Mesoamerica.
- Macrothelypteris torresiana** (Gaudich.) Ching, Acta Phytotax. Sin. 8(4): 310. 1963.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 16 May 1995, *J.L. Clark & C. Watt 879* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.

- Maxonia apiifolia** (Sw.) C. Chr., Smithsonian Misc. Collect. 66(9): 3. 1916.  
 Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry & C. Josse 72927* (MO).  
 Hemiepiphyte. Mesoamerica.
- Megalastrum vastum** (Kunze) A.R. Sm. & R.C. Moran, Amer. Fern J. 77(4): 129. 1987. .  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 14 May 1995, *J.L. Clark & C. Watt 862* (MO, QCNE).  
 Terrestrial herb. Amazonia.
- Metaxya rostrata** (Kunth) C. Presl, Tent. Pterid. 60, t. 1, f. 5. 1836  
 Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 6 Jul 1996, *J.L. Clark 2769* (MO, QCNE).  
 Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Microgramma acatallela** Alston, J. Wash. Acad. Sci. 48: 232. 1958.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 2 Apr 1995, *J.L. Clark & Y. Troya 575* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó.
- Microgramma fuscopunctata** (Hook.) Vareschi, Fl. Venezuela 1: 893, t. 182. 1969. *Polypodium fuscopunctatum* Hook. Type: Hab. Ecuador, ascent of Chimborazo, 3000 feet, *Spruce 5734* (HT: K; photo: GH).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 2 Apr 1995, *J.L. Clark & Y. Troya 576* (MO, QCNE).  
 Epiphyte. Amazonia.
- Microgramma percussa** (Cav.) de la Sota, Physis (Buenos Aires) 44(106C): 28. 1986.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 5 Apr 1995, *J.L. Clark & Y. Troya 622* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Microgramma piloselloides** (L.) Copel., Gen. Fil. (Ann. Cryptog. Phytopathol. 5:) 185. 1947.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 14 May 1995, *J.L. Clark & C. Watt 874* (MO, QCNE).  
 Epiphyte. Amazonia, Mesoamerica.
- Microgramma reptans** (Cav.) A.R. Sm., Proc. Calif. Acad. Sci., ser. 4, 40(8): 230. 1975.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 1 Apr 1995, *J.L. Clark & Y. Troya 558* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Nephrolepis biserrata** (Sw.) Schott, Gen. Fil. 40(8): 230. 1834.  
 Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 300 m, 16 Dec 1998, *D. Neill & QCNE botany interns 11563*.  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Nephrolepis pendula** (Raddi) J. Sm., J. Bot. (Hooker) 4: 197. 1842. .  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 3 Apr 1995, *J.L. Clark & Y. Troya 588* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Nephrolepis rivularis** (Vahl) Mett. ex Krug, Bot. Jahrb. Syst. 24: 122. 1897.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 27 Sep 1996, *J.L. Clark 2911* (AAU, MO, QCNE, US).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Niphidium crassifolium** (L.) Lellinger, Amer. Fern J. 62: 106. 1972[1973].  
 Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 600 m, 16 Dec 1998, *D. Neill & QCNE botany interns 11546*.  
 Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Oleandra articulata** (Sw.) C. Presl, Tent. Pterid. 78, t. 2, f. 12. 1836. .  
 Representative Specimen: Ecuador: Esmeraldas: 600 m, 20 May 1987, *H. van der Werff, C. Dodson, & W. Palacios 9557* (MO).

- Epiphyte. Amazonia, Chocó, Mesoamerica.
- Pecluma divaricata** (E. Fourn.) Mickel & Beitel, Mem. New York Bot. Gard. 46: 269. 1988. Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 14 Sep 1994, *J.R. Abbott 15111*. Epiphyte. Amazonia, Mesoamerica.
- Pityrogramma calomelanos** (L.) Link, Handbuch 3: 20. 1833. Representative Specimen: Ecuador: Manabí: Recinto Hojas Blancas, Carretera Pedernales-Carmen Mandarin, Entrada el Mono, 150 m, 12 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4385*. Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Pityrogramma tartarea** (Cav.) Maxon, Contr. U.S. Natl. Herb. 17(2): 173. 1913. Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 10 Dec 1994, *N. Pitman & M.S. Bass 1076* (MO, QCNE). Terrestrial herb. Amazonia, Mesoamerica.
- Polybotrya altescandens** C. Chr., Index Filic. 7. 1905. Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300–700 m, 5 Mar 1997, *H. Vargas, X. Aguirre, R. Miranda & C. Robles 1216* (MO, QCNE). Hemiepiphyte. Amazonia, Chocó.
- Polybotrya andina** C. Chr., Index Filic. 7. 1905. *Arostichum insigne* Baker. Type: Ecuador, Andes of Quito, *Sodirol, L. s.n.* (HT: K; IT: AAU, GH, Q, UC, US; photo: GH(K), US(K)). Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 6 Dec 1994, *N. Pitman & M.S. Bass 1007* (MO, QCNE). Hemiepiphyte. Endemic.
- Polybotrya polybotryoides** (Baker) H. Christ, Bull. Herb. Boissier 1: 70. 1901. Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 28 Jan 1991, *A. Gentry & C. Josse 72797* (MO).
- Hemiepiphyte. Amazonia, Chocó, Mesoamerica.
- Polybotrya suberecta** (Baker) C. Chr., Index Filic. 506. 1906. Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 4–5 Oct 1996, *J.L. Clark 2997* (MO, QCNE). Hemiepiphyte. Amazonia, Chocó.
- Polypodium caceresii** Sodirol, Crypt. Vasc. Quit. 360. 1893. Type: Crece en los bosques de Oriente en la orilla del río Napo, colectado por, *Caceres, R.P.R. s.n.* (HT: ?; IT: S, US; photo: GH, MO (all of S)). Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 28 Sep 1994, *N. Pitman & L. Kueppers 746* (MO, QCNE). Terrestrial or epiphytic herb. Amazonia, Chocó, Mesoamerica.
- Polypodium ciliatum** Willd., Sp. Pl. 5: 144. 1810. Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 18 Sep 1994, *J.R. Abbott 15177*. Terrestrial or epiphytic herb. Amazonia, Mesoamerica.
- Polypodium dulce** Poir., Encycl. 5: 523. 1804. (eds.), 1999; Mickel, J. T. & A. R. Smith, 2004. Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 600 m, 16 Dec 1998, *D. Neill & QCNE botany interns 11591*. Terrestrial or epiphytic herb. Amazonia, Mesoamerica.
- Polypodium fraxinifolium** Jacq., Collectanea 3: 187. 1789[1791]. Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 22 Oct 1996, *J.L. Clark 3064* (MO, QCNE). Epiphyte. Amazonia, Chocó, Mesoamerica.
- Polypodium sororium** Humb. & Bonpl. ex Willd., Sp. Pl. 5: 191. 1810. Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–



- 600 m, 29 Sep 1994, *M.S. Bass, L. Kueppers & N. Pitman 105* (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Polypodium triseriale** Sw., J. Bot. (Schrader) 1800(2): 26. 1801.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 16 Nov 1994, *N. Pitman & M.S. Bass 946* (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Polytaenium cajenense** (Desv.) Benedict, Bull. Torrey Bot. Club 38: 169. 1911.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 31 Mar 1996, *J.L. Clark & Karl Berg, J. Leffingwell 2366* (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Polytaenium lineatum** (Sw.) J. Sm., J. Bot. (Hooker) 4: 68. 1841. .  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 1 Apr 1995, *J.L. Clark & Y. Troya 557* (MO, QCNE).  
Epiphyte. Amazonia, Mesoamerica.
- Psilotum nudum** (L.) P. Beauv., Prodr. Aetheogam. 112. 1805.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 500 m, 26 Aug 1998, *D. Neill & QCNE botany interns 11326*.  
Epiphyte. Chocó, Mesoamerica.
- Pteris altissima** Poir., Encycl. 5: 722. 1804.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 17 May 1995, *J.L. Clark & C. Watt 911* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Pteris biaurita** L., Sp. Pl. 2: 1076. 1753.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 7 Dec 1994, *N. Pitman & M.S. Bass 1034* (MO, QCNE).  
Terrestrial herb. Mesoamerica.
- Pteris livida** Mett., Ann. Sci. Nat., Bot. 2: 222. 1864.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 11 Apr 1995, *J.L. Clark & Y. Troya 697* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Pteris pungens** Willd., Sp. Pl. 5: 387. 1810.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 15 Nov 1994, *N. Pitman & J.L. Clark 936* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Pteris speciosa** Mett. ex Kuhn, Linnaea 36: 91. 1869.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sep 1996, *J.L. Clark 2926* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Radiovittaria gardneriana** (Fée) E.H. Crane, Syst. Bot. 22(3): 515. 1997 [1998].  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 17 Jul 1996, *N. Pitman 1317* (MO, QCNE).  
Epiphyte. Amazonia.
- Radiovittaria remota** (Fée) E.H. Crane, Syst. Bot. 22(3): 515. 1997 [1998].  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300–700 m, 20 Jul 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2688* (MO, QCNE).  
Epiphyte. Amazonia, Mesoamerica.
- Saccoloma elegans** Kaulf., Berlin. Jahrb. Pharm. Verbundenen Wiss. 21: 51. 1820.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 28 Sep 1994, *N. Pitman & L. Kueppers 742* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.

- Saccoloma inaequale** (Kunze) Mett., Ann. Sci. Nat., Bot., ser. 4, 15: 80. 1861.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 1 Oct 1994, *N. Pitman, M.S. Bass & L. Kueppers 786* (MO, QCNE).  
 Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Selaginella flexuosa** Spring, Flora 21: 197. 1838.  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro 400–700 m, 16 Jun 1996, *N. Pitman & D. Arroyo 1288* (MO, QCNE).  
 Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Selaginella geniculata** (C. Presl) Spring, Bull. Acad. Roy. Sci. Bruxelles 10(1): 230. 1843.  
 Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 10 Oct 1996, *J.L. Clark 3030* (MO, QCNE).  
 Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Selaginella kunzeana** A. Braun, Ann. Sci. Nat., Bot., ser. 5, 3: 296. 1865.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 5 Dec 1994, *J.L. Clark & K. Chamberlain 371* (MO, QCNE).  
 Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Selaginella wolffii** Sodiro, Crypt. Vasc. Quit. 620. 1893. Type: Crece en los bosques de la cordillera occidental, entre 1400 y 2200 metros, rara, *Sodiro s.n.* (T: P).  
 Representative Specimen: Ecuador: Esmeraldas: Reserva Awa 150–200 m, 9 Feb 1988, *W.S. Hoover, R.A. Lorentzen & P. Gelpi 3837* (MO).  
 Representative Specimen: Manabí: Cerro Pata de Pájaro 400–700 m, 16 Jun 1996, *N. Pitman & D. Arroyo 1287* (MO, QCNE).  
 Terrestrial herb. Amazonia, Chocó.
- Sticherus ferrugineus** (Desv.) J. Gonzales. *Mertensia ferruginea* Desv.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 11 Dec 1994, *M.S. Bass & N. Pitman 335* (MO, QCNE).  
 Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Sticherus hypoleucus** (Sodiro) Copel., Gen. Fil. (Ann. Cryptog. Phytopathol. 5:) 28. 1947. *Gleichenia hypoleuca* Sodiro. Type: Crece en lugares pedregosos, secos, templados, en la orilla del río Yamboya.-(1600mm.), *Sodiro, L. s.n.* (HT: ?).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 13 Oct 1994, *N. Pitman 824* (MO, QCNE).  
 Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Sticherus remotus** (Kaulf.) Chrysler, Amer. J. Bot. 31(8): 483. 1944.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 12 Oct 1994, *N. Pitman & M.S. Bass 817* (MO, QCNE).  
 Terrestrial herb. Amazonia, Mesoamerica.
- Tectaria acutiloba** (Hieron.) Maxon, Proc. Biol. Soc. Wash. 43: 88. 1930. *Aspidium acutilobum* Hieron. Type: Columbia: Crescit ad ripas fluminis Rio Timbiquí, *Lehmann 8932* (HT: B destr.?).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 14 May 1995, *J.L. Clark & C. Watt 864* (MO, QCNE).  
 Terrestrial herb. Chocó, Mesoamerica.
- Tectaria antioquiiana** (Baker) C. Chr., Index Filic., Suppl. 3, 177. 1934. *Nephrodium antioquianum* Baker. Type: New Granada: Antioquia: on trees amongst moss and forests at 5000 ft., *Kalbreyer 1703*.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 12 Mar 1997, *J.L. Clark, A. Cousins, T. Nuñez & J. Richter 4101*.  
 Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Tectaria haynaldii** (Sodiro) C. Chr., Index Filic., Suppl. 3, 180. 1934. *Polypodium haynaldii*

- Sodiro. Type: crece en los bosques al rededor de S. Miguel de los Colorados.— Muy raro., *Sodiro, L. s.n.* (HT: ?; IT: K; photo: GH(K)).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 16 May 1995, *J.L. Clark & C. Watt 886* (MO, QCNE).  
 Terrestrial herb. Amazonia.
- Tectaria incisa** Cav., *Descr. Pl.* 249. 1802.  
 Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 600 m, 16 Dec 1998, *D. Neill & QCNE botany inters 11587*.  
 Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Tectaria mexicana** (Fée) C.V. Morton, *Amer. Fern J.* 56(3): 133. 1966.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 30 Dec 1994, *N. Pitman & David Marsh 1129* (MO, QCNE).  
 Terrestrial herb. Chocó, Mesoamerica.
- Tectaria pilosa** (Fée) R.C. Moran, *Novon* 2(2): 138. 1992.  
 Representative Specimen: Ecuador: Manabí: 34 km al norte de Pedernales 60 m, 28 Aug 1998, *D. Neill & QCNE botany inters 11450*.  
 Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Tectaria plantaginea** (Jacq.) Maxon, *Contr. U.S. Natl. Herb.* 10: 494. 1908.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 14 May 1995, *J.L. Clark & C. Watt 872* (MO, QCNE).  
 Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Tectaria rivalis** (Mett. ex Kuhn) C. Chr., *Index Filic.*, *Suppl.* 3, 184. 1934.  
 Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 10 Oct 1996, *J.L. Clark 3042* (MO, QCNE).  
 Terrestrial herb. Mesoamerica.
- Terpsichore alsophilicola** (H. Christ) A.R. Sm., *Novon* 3(4): 485. 1993.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 1 Oct 1994, *L. Kueppers 31* (MO, QCNE).  
 Epiphyte. Mesoamerica.
- Terpsichore chryseri** (Proctor ex Copel.) A.R. Sm., *Novon* 3(4): 486. 1993.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 12 May 1995, *J.L. Clark & C. Watt 842* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Terpsichore lehmanniana** (Hieron.) A.R. Sm., *Novon* 3(4): 487. 1993  
 Representative Specimen: Esmeraldas: Bilsa Biological Station, 580 m, 18 Feb 1995, *W. Palacios, J.L. Clark & N. Jaramillo 13566* (MO, QCNE).  
 Epiphyte. Mesoamerica.
- Thelypteris amphioxyteris** (Sodiro) A.R. Sm., *Fl. Ecuador* 18: 17. 1983. *Nephrodium amphioxyteris* Sodiro. Type: Crece en las inmediaciones de S. Miguel de los Colorados, en lugares calientes, sombríos y húmedos.— Raro., *Sodiro, L. s.n.* (HT: ?; IT: K(2)?).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 18 May 1995, *J.L. Clark & C. Watt 914* (MO, QCNE).  
 Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Thelypteris andreana** (Sodiro) C.V. Morton, *Contr. U.S. Natl. Herb.* 38: 50. 1967. *Meniscium andreanum* Sodiro. Type: Crece en la región tropical en la orilla del río Toachi cerca de Santo Domingo, *Sodiro, L. s.n.* (HT: ?).  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro 400–700 m, 17 Jun 1996, *N. Pitman 1335* (MO, QCNE).  
 Terrestrial herb. Amazonia, Mesoamerica.
- Thelypteris angustifolia** (Willd.) Proctor, *Bull. Inst. Jamaica, Sci. Ser.* 5: 57. 1953.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–

- 600 m, 16 May 1995, *J.L. Clark & C. Watt 891* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Thelypteris dentata*** (Forssk.) E.P. St. John, *Amer. Fern J.* 26(2): 44. 1936.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 14 May 1995, *J.L. Clark & C. Watt 865* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Thelypteris falcata*** (Liebm.) R.M. Tryon, *Rhodora* 69(777): 6. 1967. Liebm.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 16 May 1995, *J.L. Clark & C. Watt 898* (MO, QCNE).  
Terrestrial herb. Chocó, Mesoamerica.
- Thelypteris fluminalis*** A.R. Sm., *Fl. Ecuador* 18: 46. 1983. Type: Ecuador: Morona-Santiago/Zamora-Chinchi: Near Mendez, upland along the río Upano just N of junction with río Chupiantza, 533–762 m, *Camp, W.H. E-1009* (HT: US(2)).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 24 Sep 1994, *J.L. Clark & N. Pitman 109* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó.
- Thelypteris francoana*** (E. Fourn.) C.F. Reed, *Phytologia* 17(4): 278. 1968.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 31 Mar 1996, *J.L. Clark & Karl Berg, J. Leffingwell 2357* (MO, QCNE).  
Terrestrial herb. Mesoamerica.
- Thelypteris fraseri*** (Mett. ex Kuhn) A.R. Sm., *Univ. Calif. Publ. Bot.* 76: 32. 1980. *Aspidium fraseri* Mett. ex Kuhn. Type: Ecuador, *Fraser s.n.* (HT: B, BM fragm., GH fragm.; photo: BM(B), GH(B)).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 4 Apr 1995, *J.L. Clark & Y. Troya 594* (AAU, MO, QCNE).  
Terrestrial herb. Mesoamerica.
- Thelypteris gemmulifera*** (Hieron.) A.R. Sm., *Opera Bot.* 56: 30. 1980.  
Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 10 Oct 1996, *J.L. Clark 3038* (MO, QCNE).  
Terrestrial herb. Chocó, Mesoamerica.
- Thelypteris germaniana*** (Fée) Proctor, *Rhodora* 61(732): 306. 1959[1960].  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 27 Sep 1996, *J.L. Clark 2916* (MO, QCNE).  
Terrestrial herb. Mesoamerica.
- Thelypteris gigantea*** (Mett.) R.M. Tryon, *Rhodora* 69(777): 6. 1967.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 11 May 1995, *John L. Clark & C. Watt 828* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Thelypteris glandulosa*** (Desv.) Proctor, *Rhodora* 61(732): 306. 1959[1960].  
Representative Specimen: Ecuador: Esmeraldas: 50 m, 8 Oct 1983, *Barfod et al. 48023* (AAU).  
Terrestrial herb. Amazonia, Mesoamerica.
- Thelypteris glandulosa* var. *longipilosa*** A.R. Sm., *Univ. Calif. Publ. Bot.* 76: 22. 1980.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 28 Sep 1994, *M.S. Bass, L. Kueppers & N. Pitman 100* (MO, QCNE).  
Terrestrial herb. Amazonia, Mesoamerica.
- Thelypteris leprieurii*** (Hook.) R.M. Tryon, *Rhodora* 69(777): 6. 1967.  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Thelypteris leprieurii* var. *leprieurii***.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500

- m, 1 Oct 1994, *L. Kueppers* 54 (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Thelypteris opulenta** (Kaulf.) Fosberg, *Smithsonian Contr. Bot.* 8: 3-6. 1972  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 13 Oct 1994, *N. Pitman* 832 (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Thelypteris peripae** (Sodirol) C.F. Reed, *Phytologia* 17(4): 303. 1968. *Nephrodium peripae* Sodirol. Type: Crece cerca de S. Miguel de los Colorados en la orilla del río Peripa, uno de los primeros orígenes del río Daule., *Sodirol, L. s.n.* (HT: ?; IT: K?).  
Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 16 Mar 1998, *J.L. Clark* 4737.  
Terrestrial herb. Amazonia.
- Thelypteris poiteana** (Bory) Proctor, *Bull. Inst. Jamaica, Sci. Ser.* 5: 63. 1953.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 17 Nov 1994, *N. Pitman* 967 (MO, QCNE).  
Terrestrial herb. Amazonia, Mesoamerica.
- Thelypteris polyphlebia** (C. Chr.) C.V. Morton, *Amer. Fern J.* 51: 38. 1961  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 14 May 1995, *J.L. Clark & C. Watt* 863 (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Thelypteris tristis** (Kunze) R.M. Tryon, *Rhodora* 69(777): 8. 1967. .  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Looor 450-500 m, 28 Nov 1999, *T. Delinks* 514.  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Thelypteris urbanii** (Sodirol) A.R. Sm., *Fl. Ecuador* 18: 116. 1983. *Polypodium urbanii* Sodirol. Type: Crece en la pendiente occidental del monte Pichincha, en el valle de Mindo entre 1.000 y 1.600 metros, *Sodirol, L. s.n.* (ST: P, US).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 18 May 1995, *J.L. Clark & C. Watt* 921 (MO, QCNE).  
Terrestrial herb. Mesoamerica.
- Trichomanes ankersii** C. Parker ex Hook. & Grev., *Icon. Filic.* 2(11): t. 201. 1831.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 26 Sep 1994, *N. Pitman* 731 (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Trichomanes collariatum** Bosch, *Ned. Kruidk. Arch.* 4: 368. 1859 [1858].  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 2 Apr 1995, *J.L. Clark & Y. Troya* 571 (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Trichomanes diversifrons** (Bory) Mett. ex Sadeb., *Nat. Pflanzenfam.* 1(4): 108. 1899.  
Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 10 Oct 1996, *J.L. Clark* 3031 (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Trichomanes elegans** Rich., *Actes Soc. Hist. Nat. Paris* 1: 114. 1792.  
Representative Specimen: Ecuador: Esmeraldas: Comunidad Chorrera Grande, 300-750 m, 10-13 Jul 1996, *J.L. Clark, N. Binder & Meter Hibbs* 2843 (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Trichomanes gourlianum** Grev. ex J. Sm., *Bot. Voy. Herald* 240. 1854.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 29 Sep 1994, *N. Pitman, M.S. Bass & L. Kueppers* 763 (MO, QCNE).  
Epiphyte. Chocó, Mesoamerica.

**Trichomanes membranaceum** L., Sp. Pl. 2: 1097. 1753. Type: America, *Anon.*  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 29 Sep 1994, *N. Pitman, M.S. Bass & L. Kueppers 764* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.

**Trichomanes polypodioides** L., Sp. Pl. 2: 1098. 1753.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 1 Oct 1994, *N. Pitman, M.S. Bass & L. Kueppers 781* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.

**Trichomanes radicans** Sw., J. Bot. (Schrader) 1800(2): 97. 1801.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 5 Dec 1994, *N. Pitman & M.S. Bass 1002* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.

**Trichomanes sublabiatum** Bosch, Ned. Kruidk. Arch. 5(2): 152. 1861. Type: Hab. Quito, *Cuming 17* (HT: B destr.?).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 3 Jan 1995, *N. Pitman 1174* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó.

**Vittaria remota** Fée, Mem. Soc. Sci. Nat. Strasbourg 5: 26, pl. 20, f. 1. 1857.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 5 May 1995, *J.L. Clark & C. Watt 745* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.

## GYMNOSPERMAE

### CYCADACEAE

**Zamia lindenii** Regel ex André, Ill. Hort. 22: 23, t. 195. 1875.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 24 Nov 1999, *F. Nicolalde & Grupo de Post-Grado MO-QCNE 375* (MO, QCNE).

Terrestrial shrub. 30–600 m. Chocó [We consider this taxon as distinct from the Amazonian *Zamia poeppigiana* Mart. & Eichler; fide C.H. Dodson, pers. comm.]

## ANGIOSPERMAE

### ACANTHACEAE

**Aphelandra albinotata** Wassh., Nordic J. Bot. 16(4): 405. 1996. Type: Ecuador: Esmeraldas: vicinity of Lita, on the Ibarra-San Lorenzo railroad, 550–650 m, *M.T. Madison, T.C. Plowman, H.A. Kennedy & L. Besse 5094* (HT: US; IT: AAU, F, QCA, SEC).

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro 400–700 m, 16 Jun 1996, *N. Pitman & D. Arroyo 1283* (MO, QCNE).

Terrestrial herb. 400–700 m. Endemic.

**Aphelandra attenuata** Wassh., Phytologia 25(7): 487. 1973. Type: Ecuador: Guayas: Manglaralto, 0–50 m, 12 Dec 1961, *C.H. Dodson & Thien 1647* (HT: US).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 18 Oct 1994, *J.L. Clark & B. Adnepos 204* (MO, QCNE).

Terrestrial shrub. 400–600 m. Endemic (including coastal Tumbes, Peru)

**Blechnum pyramidatum** (Lam.) Urb., Repert. Spec. Nov. Regni Veg. 15: 323. 1918.

Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11616* (MO, QCNE).

Terrestrial shrub. 400–600 m. Amazonia, Chocó, Mesoamerica.

**Dicliptera peruviana** (Lam.) Juss., Ann. Mus. Natl. Hist. Nat. 9: 268. 1807.

Representative Specimen: Ecuador: Manabí: Camaronés 100 m, 15 Dec 1998, *D. Neill & QCNE botany interns 11513* (MO, QCNE).

Terrestrial herb. 100 m. Coastal Ecuador; also Galápagos and coastal and Andean Peru.

- Dicliptera unguiculata** Nees, Bot. Voy. Sulphur 149. 1846.  
 Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11604* (MO, QCNE).  
 Terrestrial herb. 100 m. Mesoamerica.
- Encephalospaera puberula** (Leonard) Wassh., Monogr. Syst. Bot. Missouri Bot. Gard. 75: 953. 1999. *Aphelandra puberula* Leonard. Type: Colombia: El Cauca: in primitive forest at La Costa, 900 m, 27 Jul 1936, *K. von Sneidern 869* (HT: S; IT: US fragm.).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 22 Oct 1996, *J.L. Clark 3086* (MO, QCNE).  
 Succulent terrestrial vine in sunny disturbed areas. 100 m. Chocó.
- Fittonia albivenis** (Lindl. ex Veitch) Brummitt, Curtis's Bot. Mag., New Ed. 182(4): 165. 1979.  
 Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 16 Mar 1998, *J.L. Clark 4666* (MO, QCNE).  
 Terrestrial herb. 250 m. Amazonia, Mesoamerica.
- Hygrophila costata** Nees, Pl. Hort. Bonn. Icon. 2: 7-8, t. 3. 1824.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 27 Mar 1995, *J.L. Clark & Y. Troya 516* (MO, QCNE).  
 Terrestrial herb. 400–600 m. Amazonia, Chocó, Mesoamerica.
- Justicia pectoralis** Jacq., Enum. Syst. Pl. 11. 1760.  
 Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 16 Mar 1998, *J.L. Clark 4727* (MO, QCNE).  
 Terrestrial herb. 250 m. Amazonia, Mesoamerica.
- Mendoncia aspera** Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. 158. 1798.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 4 May 1995, *J.L. Clark & C. Watt 738* (MO, QCNE).  
 Herbaceous vine. 400–600 m. Amazonia
- Mendoncia orbicularis** Turrill, Bull. Misc. Inform. Kew 1919(10): 423. 1919. Type: Ecuador. Chimborazo: at the foot of Mt. Chimborazo, 923 m, *R. Spruce 6213* (HT: K).  
 Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 6 Jul 1996, *J.L. Clark 2760* (MO, QCNE).  
 Herbaceous vine. 400–600 m. Amazonia, Chocó.
- Mendoncia pilosa** Mart., Nov. Gen. Sp. Pl. 3: 21, t. 209. 1829.  
 Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 28 Mar 1998, *J.L. Clark & S. Nazzaro 4942* (MO, QCNE).  
 Herbaceous vine. 200 m. Amazonia.
- Mendoncia sprucei** Lindau, Bull. Herb. Boissier 5(8): 647. 1897.  
 Representative Specimen: Ecuador: Esmeraldas: San Salvador 100–150 m, Mar 1995, *W. Palacios 13769* (MO, QCNE).  
 Liana. 100–150 m. Amazonia.
- Odontonema cuspidatum** (Nees) Kuntze, Revis. Gen. Pl. 2: 494. 1891.  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300–700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4316* (MO, QCNE).  
 Shrub. 300–700 m. Mesoamerica.
- Pseuderanthemum dawei** Turrill, Bull. Misc. Inform. Kew 2: 69. 1920.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 22 Oct 1996, *J.L. Clark 3087* (MO, QCNE).  
 Herbaceous vine. 500 m. Chocó.
- Pseuderanthemum hookerianum** (Nees) V.M. Baum, Brittonia 34(4): 433. 1982.

- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 23 Nov 1995, *J.L. Clark & K. Cunningham, C. Roberts 1650* (MO, QCNE).  
Terrestrial herb. 500 m. Amazonia.
- Pseuderanthemum leptorhachis** Lindau, Bull. Herb. Boissier 5(8): 664. 1897. Syntype: Ecuador. Manabí. El Recreo, Eggers 15025 (B. destr., F, US)  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 700 m, 26 Aug 1998, *D. Neill & QCNE botany interns 11344* (MO, QCNE).  
Terrestrial subshrub. 250-700 m. Amazonia.
- Razisea ericae** Mildbr. ex Washh., Novon 7(1): 88-91, f. 1-2. 1997. Type: Ecuador: Napo: vicinity of Tena, Hda. Dos Rios, 650 m., *E. Heinrichs 309* (HT: G).  
Representative Specimen: Ecuador: Manabí: Mache-Chindul 250 m, 25 Mar 1997, *J.L. Clark R. Dunn, T. Nuñez & C. Robles 4230* (MO, QCNE).  
Terrestrial herb. 250 m. Amazonia.
- Ruellia brevifolia** (Pohl) C. Ezcurra, Darwiniana 29: 278. 1989.  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 100 m, 15 Dec 1998, *D. Neill & QCNE botany interns 11509* (MO, QCNE).  
Shrub. 50-100 m. Amazonia.
- Ruellia potamophila** Leonard, Contr. U.S. Natl. Herb. 31(1): 71. 1951.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 18 Nov 1996, *J.L. Clark, F. Gurumendi & H. Weinert 3450* (MO, QCNE).  
Terrestrial herb. 500 m. Choco.
- Ruellia terminale** (Nees) Washh., Monogr. Syst. Bot. Missouri Bot. Gard. 75: 953. 1999. *Scorodoxylum terminale* Nees. Type: Ecuador: Esmeraldas, Atacames, *Barclay s.n.*  
Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 10 Oct 1996, *J.L. Clark 3034* (MO, QCNE).
- Terrestrial herb. 200 m. Chocó
- Sanchezia parviflora** Leonard, J. Wash. Acad. Sci. 16: 491. 1926. Type: Ecuador: El Oro: between Santa Rosa and La Chorita, August 1923, *A.S. Hitchcock 21127* (HT: US).  
Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 16 Mar 1998, *J.L. Clark 4733* (MO, QCNE).  
Shrub. 250 m. Endemic
- Thunbergia grandiflora** Roxb., Bot. Cab. 4: t. 324. 1820.  
Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 27 Oct 1996, *J.L. Clark & C. Brame 3114* (MO, QCNE).  
Herbaceous vine. 200 m. Introduced; widely cultivated in tropics.
- Trichanthera gigantea** (Bonpl.) Nees, Prodr. 11: 218. 1847. *Ruellia gigantea* Bonpl. Type: Colombia. Habitat frequentissime in sylvis fluvii Magdalena, prope Badillas et juxta Ybague, *Humboldt & Bonpland s.n.*  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 17 Jan 1997, *J.L. Clark, L. Chatrou, C. Repetur & P. Maas 3817* (MO, QCNE).  
Tree. 500 m. Amazonia, Chocó, Mesoamerica.

## ACTINIDIACEAE

- Saurauia herthae** Sleumer, Feddes Repert. Spec. Nov. Regni Veg. 45: 9. 1938. Type: Ecuador: Napo, *Schultze-Rhnhof 2165* (LT: K).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4785* (MO, QCNE).  
Common roadside tree. 500 m. Amazonia.

## AMARANTHACEAE

- Alternanthera brasiliana** (L.) Kuntze, Revis. Gen. Pl. 2: 537. 1891.  
Representative Specimen: Ecuador: Manabí: Pedernales 5-30 m, 11 Oct 1999, *T. Delinks 442* (MO, QCNE).



Terrestrial herb. 0-50 m. Chocó, Mesoamerica.

**Alternanthera lanceolata** (Benth.) Schinz, Nat. Pflanzenfam. (ed. 2) 16c: 75. 1934.

Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul comunidad Caña Braval, 250 m, 16 Mar 1998, *J.L. Clark 4706* (MO, QCNE).

Terrestrial herb. 250 m. Chocó, Mesoamerica.

**Cyathula prostrata** (L.) Blume, Bijdr. Fl. Ned. Ind. 10: 549. 1826.

Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 10 Oct 1996, *J.L. Clark 3033* (MO, QCNE).

Terrestrial herb. 200-600 m. Amazonia, Chocó, Mesoamerica.

**Iresine diffusa** Humb. & Bonpl. ex Willd., Sp. Pl. 4(2): 765. 1806.

Representative Specimen: Ecuador: Esmeraldas: Quinindé, 400-600 m, 13 Nov 1994, *M.S. Bass & N. Pitman 243* (MO, QCNE).

Herbaceous vine. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Pleuropetalum sprucei** (Hook. f.) Standl., N. Amer. Fl. 21(2): 96. 1917.

Representative Specimen: Ecuador: Manabí: San Sebastian 700 - 750 m, 21 Jan 1991, *A. Gentry, R. Foster & C. Josse 72605* (MO).

Shrub. 100-500 m. Chocó, Mesoamerica.

#### AMARYLLIDACEAE

**Bomarea obovata** Herb., Amaryllidaceae 111. 1837.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 12 May 1995, *J.L. Clark & C. Watt 844* (MO, QCNE).

Herbaceous vine. 0-600 m. Amazonia, Chocó, Mesoamerica.

#### ANACARDIACEAE

**Anacardium occidentale** L., Sp. Pl. 1: 383. 1753.

Representative Specimen: Ecuador: Esmeraldas: Pariso de Papagayos, 200 m,

28 Mar 1998, *J.L. Clark & S. Nazzaro 4949* (MO, QCNE).

Tree. 200 m. Introduced; widely cultivated throughout the tropics.

**Spondias mombin** L., Sp. Pl. 1: 371. 1753.

Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11619* (MO, QCNE).

Tree. 100-600 m. Amazonia, Chocó, Mesoamerica.

#### ANNONACEAE

**Annona manabiensis** Saff. ex R.E. Fr., Acta Horti Berg. 10(2): 267, taf. 20. 1931. Type: Ecuador: Manabí: hacienda El Recreo (Blühend und fruchtend), 22 Aug 1893, *H. Eggers 15197* (HT: B; IT: F, K, L, M, P, US fragm.; photo: F).

Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11284* (MO, QCNE).

Tree. 0-50 m. Endemic.

**Annona muricata** L., Sp. Pl. 1: 536-537. 1753.

Representative Specimen: Ecuador: Manabí: Punta los Frailes, La Chorrera 5-60 m, 29 Jun 1999, *T. Delinks & C. Robles 346* (MO, QCNE).

Tree. 0-60 m. Amazonia, Chocó, Mesoamerica.

**Annona neglecta** R.E. Fr., Acta Horti Berg. 12(2): 278. 1937.

Representative Specimen: Ecuador: Esmeraldas: Muisne 180 m, 23 May 2000, *D. Neill & QCNE botany interns 12771* (MO, QCNE).

Tree. 180-500 m. Amazonia.

**Annona oligocarpa** R.E. Fr., Kongl. Svenska Vetenskapskad. Handl. 24(10): 17-18, t. 7c-e. 1948. Type: Ecuador: Guayas: wet forest E of Manglar Alto, ca. 100 m, 25 Jun 1941, *O. Haught 3101* (HT: S; IT: F, US fragm.).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400

- m, 2 Oct 1996, *J.L. Clark 2975* (MO, QCNE).  
Tree. 400 m. Endemic.
- Crematosperma longipes** Pirie, *Blumea* 50(1): 51-52, f. 5. 2005. Type: Colombia: Choco: San José del Palmar, Mouth of river Torito (Tributary of River Hábita), west slope, 3 Mar 1980, *E. Forero, R. Jaramillo, J. Espina Z. & P. Palacios H. 6576* (HT: COL; IT: MO).  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry, R. Foster & C. Jøsse 72995* (MO).  
Tree, ca. 15 m tall. 280 m. Chocó.
- Guatteria** sp.  
Representative Specimen: Ecuador: Esmeraldas: Recinto Palma Junta, 100 m, 19 May 2000, *D. Neill & QCNE botany interns 12741* (MO, QCNE).  
Tree. Several distinct but undetermined, and probably undescribed, species of *Guatteria* have been collected in the study area.
- Klarobelia lucida** (Diels) Chatrou, *Changing Gen.* 133. 1998. *Malmes lucida* Diels, *Notizbl. Bot. Gatt. Mus. Berlin-Dahlem* 11(102): 78. 1931; R.E. Fries, *Acta Horti Bergiani* 10(2): 322. 1931. Type: Ecuador. Manabí: Tablada de Zapallo, Feb 1897, *H.F.A. Eggers 15661* (HT: B (destroyed); lectotype: L; IL: F, K-2 sheets, M, P, US).  
Representative Specimen: Ecuador: Manabí: Chone, Recinto Hojas Blancas, Carretera Pedernales-Carmen Mandarinino, Entrada el Mono, 150 m, 12 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4365* (MO, QCNE, U).  
Tree. 150 m. Endemic.
- Klarobelia megalocarpa** Chatrou, *Changing Gen.* 136-138, fig. 5, pl. 3C. 1998. Type: Ecuador. Esmeraldas: Cantón Quininde, Mache-Chindul Ecological Reserve, Bilsa Biological Station, 35 km W of Quininde, 500 m, 15 Jan 1997, *P. Maas, L. Chatrou, C. Repetur & J.L. Clark 8521* (HT: U; IT: AAU, BR, COL, F, GB, HUA, K, LZ, MO, NY, OWU, QCA, QCNE, TUR, US, USM). (Fig. 5C-D, p.132; 12A-D, p.139).
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 26 Mar 1995, *J.L. Clark & Y. Troya 509* (MO, QCNE, U).  
Common tree in the Bilsa reserve. 400-600 m. Endemic.
- Mosannonna pacifica** Chatrou, *Changing Gen.* 170-171, fig. 8, pl. 4C. 1998. Type: Ecuador. Esmeraldas: The Mache-Chindul Ecological Reserve, Bilsa Biological Station, 35 km W of Quininde, 500 m, 22 Mar 1997, *J.L. Clark 4107* (HT: QCNE; IT: AAU, COL, CR, F, GB, H, K, LOJA, LZ, MO, NY, OWU, PMA, QCA, TUR, U). (Fig. 5A-B, p.132; 13 A-C, p.140).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 25 Jan 1995, *J.L. Clark 418* (MO, QCNE, U).  
Common tree in the Bilsa reserve. 400-650 m. Endemic.
- Rollinia mucosa** (Jacq.) Baill., *Adansonia* 8: 268. 1868.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 12 Mar 1997, *J.L. Clark, A. Cousins, T. Nuñez & J. Richter 3973* (MO, QCNE).  
Tree. 650 m. Amazonia, Chocó, Mesoamerica.
- Unonopsis** sp.  
Representative Specimen: Ecuador: Manabí: 31 km al norte de Pedernales, 60 m, 27 Aug 1998, *D. Neill & QCNE botany interns 11379* (MO, QCNE).  
Common subcanopy tree. 60 m.

## APIACEAE

**Eryngium foetidum** L., *Sp. Pl.* 1: 232. 1753.

Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 16 Dec 1998, *D. Neill & QCNE botany interns 11594* (MO, QCNE).

Common terrestrial herb in sunny open areas. 600 m. Amazonia, Chocó, Mesoamerica.

**Hydrocotyle leucocephala** Cham. & Schltdl., *Linnaea* 1: 364. 1826.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 600  
m, 1994, *J.R. Abbott 15030*.  
Terrestrial herb. 600 m. Amazonia, Chocó,  
Mesoamerica.

### APOCYNACEAE

**Allomarkgrafia plumeriiflora** Woodson, Ann.  
Missouri Bot. Gard. 20(4): 627-628. 1933.  
Type: Colombia: Boyacá: forest's edge at  
stream side, El Umbo, 3200 ft, 13 Oct.  
1932, *Lawrance 534* (HT: MO).

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 21 Feb 1996, *J.L. Clark 2120* (MO,  
QCNE).

Herbaceous vine. 400-600 m. Chocó,  
Mesoamerica.

**Anechites nerium** (Aubl.) Urb., Repert. Spec.  
Nov. Regni Veg. 16: 150. 1919.

Representative Specimen: Ecuador: Manabí:  
Mache-Chindul, comunidad Ambache, 250  
m, 6 Apr 1997, *J.L. Clark, R. Dunn, T.  
Nuñez & C. Robles 4216* (MO, QCNE).

Common lowland herbaceous vine. 0-500 m.  
Chocó, Mesoamerica.

**Aspidosperma macrocarpon** Mart., Nov. Gen.  
Sp. Pl. 1: 59. 1824.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 18 Nov 1994, *J.L. Clark, H. Lintz,  
& S. Mora 277* (MO, QCNE).

Tree. 400-600 m. Common name: "Naranjillo."  
Amazonia

**Aspidosperma myristicifolium** (Markgr.)  
Woodson, Ann. Missouri Bot. Gard. 38(2):  
169. 1951.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 2 Oct 1996, *J.L. Clark 2969* (MO,  
QCNE).

Tree. 100-500 m. Common name: "Naranjillo."  
Chocó, Mesoamerica.

**Aspidosperma rigidum** Rusby, Mem. New York  
Bot. Gard. 7: 323. 1927.

Representative Specimen: Ecuador: Manabí:  
Jama, 24 km S of Pedernales, N of Reserva  
de Lalo Loor, 7 Oct 1999, *T. Delinks & C.  
Robles 381* (MO, QCNE, Z).

Subcanopy tree. 300-350 m. Common names:  
"Naranjillo" or "Canelon." Amazonia,  
Chocó, Mesoamerica.

**Bonafousia columbiensis** L. Allorge, Ann.  
Missouri Bot. Gard. 68(4): 679-681, f. 2.  
1981 [1982]. Type: Colombia: Espriella,  
Tumaco, 20 Jun 1959, [*Romero*]  
*Castaneda 2799* (HT: MO).

Representative Specimen: Ecuador:  
Esmeraldas: Fila de Bilsa, 280 m, 29 Jan  
1991, *A. Gentry, R. Foster & C. Josse 72858*  
(MO).

Tree. Chocó

**Lacmellea speciosa** Woodson, Ann. Missouri Bot.  
Gard. 36(4): 543-544. 1949. Type:  
Colombia: Del Valle: Río Calima (region  
del Chocó), La Trojita, 5-50 m, 19 Feb-10  
Mar 1944, *J. Cuatrecasas 16568* (HT: MO).

Representative Specimen: Esmeraldas: Bilsa  
Biological Station, 500 m, 20 Mar 1998,  
*J.L. Clark & C. Pallis 4899* (MO,  
QCNE).

Tree. 450-650 m. Common name: "Chidle."  
Amazonia, Chocó, Mesoamerica.

**Laubertia boissieri** A. DC., Prodr. 8: 487. 1844.

Representative Specimen: Ecuador:  
Esmeraldas: Fila de Bilsa, 280 m, 30 Jan  
1991, *A. Gentry, R. Foster & C. Josse 72942*  
(MO).

Herbaceous vine. Amazonia.

**Macropharynx renteriae** A.H. Gentry, Phytologia  
47(2): 99. 1980. Type: Colombia: Chocó:  
ca 37 km W of Las Animas on new  
PanAmerican Hwy, 180 m, disturbed  
roadside forest, 10 Jan 1979, *A. Gentry &  
Renteria 23955* (HT: COL; IT: MO, HUA).

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 10 Jan 1997, *J.L. Clark, E. Austen, S.  
Bennett & D. Kapan 3780* (MO, QCNE).

Herbaceous vine. 400-600 m. Chocó,  
Mesoamerica.

- Odontadenia puncticulosa** (Rich.) Pulle, Enum. Vasc. Pl. Surinam 383. 1906.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 200 m, 7 Jul 1996, *J.L. Clark 2776* (MO, QCNE).  
Woody liana growing in canopy. 200 m. Amazonia, Chocó, Mesoamerica.
- Prestonia mollis** Kunth, Nov. Gen. Sp. 3: 221, t. 242. 1818 [1819].  
Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11612* (MO, QCNE).  
Liana. 5-100 m. Mesoamerica.
- Prestonia rotundifolia** K. Schum. ex Woodson, Ann. Missouri Bot. Gard. 23(2): 318-320. 1936. Type: Ecuador: Manabí: El Recreo, Aug 1893, *H. Eggers 15078* (HT: M; IT: B, US fragm.).  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 29 Jan 1991, *A. Gentry & C. Josse 72840* (MO).  
Woody hemi-epiphytic climber in subcanopy. 10-600 m. Amazonia, Chocó [formerly considered endemic to western Ecuador]
- Rauvolfia leptophylla** A.S. Rao, Ann. Missouri Bot. Gard. 43(3): 305-306, f. 11. 1956. Type: Colombia: Magdalena: San Sebastián de Rábago, *Romero R. Castañeda 900* (HT: MO).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station Biological Station, 400-600 m, 18 Oct 1994, *J.L. Clark & B. Adnepos 201* (MO, QCNE).  
Tree. 400-700 m. Common name: "Huevos de Perro." Amazonia, Chocó.
- Rauvolfia macrantha** K. Schum. ex Markgr., Repert. Spec. Nov. Regni Veg. 20: 117, 120. 1924.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 12 March 1997, *J.L. Clark, A. Cousins, T. Nuñez & J. Richter 3988* (MO, QCNE).  
Tree. 650 m. Common name: "Huevos de Perro." Mesoamerica.
- Rauvolfia sprucei** Müll. Arg., Fl. Bras. 6(1): 34, pl. 10, f. 1. 1860.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 17 Nov 1994, *J.L. Clark & S. Mora 256* (MO, QCNE).  
Tree or Hemiepiphyte. 400-500 m. Common name: "Huevos de Perro." Amazonia
- Tabernaemontana amygdalifolia** Jacq., Enum. Syst. Pl. 14. 1760.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Feb 1996, *J.L. Clark 2115* (MO, QCNE).  
Tree. 280-600 m. Common name: "Lechoso." Amazonia, Chocó, Mesoamerica.
- Tabernaemontana columbiensis** (L. Allorge) Leeuwenb., Agric. Univ. Wageningen Pap. 87(5): 5. 1987 [1988]. Bonafousia columbiensis L. Allorge. Type: Colombia: Espriella, Tumaco, 20 Jun 1959, [*Romero-J Castaneda 2799* (HT: MO)].  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 23 Jan 1995, *J.L. Clark 406* (MO, QCNE, WAG).  
Tree. 280-600 m. Amazonia, Chocó, Mesoamerica.
- Tabernaemontana heterophylla** Vahl, Elog. Amer. 2: 22. 1798.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 450-650 m, 5 Jun 1997, *T. Nuñez, C. Aulestia, G. Aguinda & S. Delgado 512* (MO, QCNE, Z).  
Tree, ca. 6 m tall. 400-650 m. Amazonia, Chocó, Mesoamerica.
- Tabernaemontana sananho** Ruiz & Pav., Fl. Peruv. 2: 22, pl. 144. 1799.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 17 Oct 1994, *J.L. Clark & B. Adnepos 196* (MO, QCNE, WAG).  
Understory shrub, ca. 1.5 m tall. 450-700 m. Amazonia, Chocó.

## AQUIFOLIACEAE

*Ilex* sp.

Representative Specimen: Ecuador: Manabí: 43 km N of Pedernales along coastal highway, 4 km S of Río Cojimíes crossing, 100 m, 19 Dec 1998, Aug 1998, *D. Neill QCNE botany interns 11736* (MO, QCNE).

Tree, ca. 7 m tall. 100 m. Several undetermined species of *Ilex* have been collected in the area.

## ARACEAE

***Anthurium angamarcanum*** Sodiro, Anales Univ. Centr. Ecuador 15(108): 12. 1901. Type: Ecuador: Cotopaxi: Cordillera Angamarca, *Sodiro s.n.* (LT: QPLS; ILT: B, MO).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 16 May 1995, *J.L. Clark 882* (MO, QCNE).

Terrestrial. Chocó

***Anthurium asplundii*** Croat, Ann. Missouri Bot. Gard. 78(3): 601, f. 8, 10, 35–37, 43. 1991. Type: Ecuador: Los Ríos: Río Blanco, across river from Villa Hermosa, 3 km S of Sto. Domingo-Esmeraldas hwy. at km 24, 00°5'S, 79°15'W, *T. Croat 50688* (HT: MO; IT: K, QCA, US).

Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor 50 m, 25 Aug 1998, *D. Neill QCNE botany interns 11279* (MO, QCNE).

Usually epiphytic; rarely terrestrial. 0–700 m. Chocó.

***Anthurium balaoanum*** Engl., Bot. Jahrb. Syst. 25: 432. 1898. Type: Ecuador. Guayas: Balao (sic Bulao, Engler, 1898), *H. Eggers 14532* (HT: B; IT: LE).

Representative Specimen: Ecuador: Manabí: Pedernales, 450–500 m, 28 Nov 1999, *T. Delinks 507* (K, MO).

Terrestrial or epiphytic herb, 5–700 m. Amazonia.

***Anthurium balslevii*** Croat & J. Rodr., Aroideana 18: 54–57. 1995(1996). Type: Ecuador. Pichincha: Reserva ENDESA, 8 km N of

km 113 on Quito-Puerto Quito Highway, ca. 700 m, *T. Croat & J. Rodríguez 61505* (HT: MO; IT: AAU, B, K, NY, QCA, US).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 5 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3721* (MO, QCNE).

Hemiepiphyte. 400–600 m. Endemic.

***Anthurium brevipes*** Sodiro, Anales Univ. Centr. Ecuador 19(136): 270. 1905. Type locality: Ecuador. Esmeraldas, Rio Cachaba.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 19 Sep 1994, *M.S. Bass & N. Pitman 19* (CM, MO, QCNE).

Epiphyte. 400–600 m. Chocó.

***Anthurium carchiense*** Croat, Ann. Missouri Bot. Gard. 78(3): 621, f. 77, 78, 81. 1991. Type: Ecuador: Carchí: vic. Maldonado, 1500–1900 m, *Madison 3998* (HT: SEL; IT: MO).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 19 Feb 1997, *J.L. Clark 3952* (MO, QCNE).

Epiphyte. 650 m. Amazonia, Chocó.

***Anthurium caulorrhizum*** Sodiro, Anales Univ. Centr. Ecuador 19(137): 309. 1905. Type: Ecuador. Imbabura: between Hacienda Paramba and Lita, Aug 1904, *Sodiro s.n.* (HT: B; photo: F).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 8 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3770* (MO, QCNE).

Epiphyte. 500 m. Chocó.

***Anthurium citrifolium*** Sodiro, Anales Univ. Centr. Ecuador 15(108): 5. 1901. Type: Ecuador. Pichincha: Nanegal, *Sodiro s.n.* (NT: B; photo: F).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 17 Nov 1996, *J.L. Clark, B. Neill & K. Zambrano 3424* (MO, QCNE).

Common herbaceous hemiepiphyte. 400–700 m. Amazonia, Chocó.

- Anthurium columbianum** Engl., Bot. Jahrb. Syst. 25: 379. 1898.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 19 Feb 1997, *J.L. Clark 3843* (MO, QCNE).  
 Epiphyte. 650 m. Amazonia, Chocó.
- Anthurium cupulispalum** Croat & J. Rodr., Aroideana 18: 63-68. 1995. Type: Ecuador. Pichincha: ENDESA reserve, 9 km N of km 113 on Quito-Puerto Quito rd., 750 m, *T. Croat & Rodríguez 61456* (HT: MO; IT: B, COL, K, QCA, US).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 10 May 1995, *J.L. Clark & C. Watt 815* (MO, QCNE).  
 Epiphyte. 400-600 m. Chocó.
- Anthurium dolichostachyum** Sodiro, Anales Univ. Centr. Ecuador 15(108): 12. 1901. Type: Ecuador. Cotopaxi: Angamarca, *Sodiro s.n.* (HT: B; IT: G; photo: F).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 6 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan* (MO, QCNE).  
 Hemiepiphyte. 400-600 m. Chocó.
- Anthurium incomptum** Madison, Selbyana 2: 286, t. 1A. 1978. Type: Ecuador: Los Ríos. Río Palenque Science Center, km 56 on Quevedo-Sto. Domingo road, 150-220 m, Nov 1975, *M.T. Madison 2114* (HT: SEL; IT: MO, QCA, RPSC, US).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 26 Feb 1996, *J.L. Clark 2162* (MO, QCNE).  
 Common terrestrial or epiphytic herb. 500-600 m. Amazonia, Chocó.
- Anthurium interruptum** Sodiro, Anales Univ. Centr. Ecuador 15(108): 5. 1901. Type: Ecuador. Cotopaxi: western slopes of the Cordillera de Angamarca, Nov 1899, *Sodiro s.n.* (HT: B; photo: F).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 16 Jan 1997, *J.L. Clark, L. Chatrou, C. Repetur & P. Maas 3813* (MO, QCNE).  
 Common hemiepiphytic herb. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Anthurium jaramilloi** Croat & J. Rodr., Aroideana 18: 80-83. 1995 [1996]. Type: Ecuador. Pichincha: ENDESA reserve, 9 km N of km 113 on Quito-Puerto Quito rd., ca. 750 m, *Croat & Rodríguez 61465* (HT: MO; IT: AAU, B, F, K, NY, QCA, QCNE, K, US).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 25 Nov 1995, *J.L. Clark & K. Cunningham, C. Roberts 1687* (MO, QCNE).  
 Epiphyte. 500 m. Endemic.
- Anthurium lancea** Sodiro, Anales Univ. Centr. Ecuador 15(108): 13. 1901. Type: no type information cited, *Sodiro s.n.*  
 Representative Specimen: Ecuador: Esmeraldas: 800 m, 12 May 1990, *A. Gentry, C. Dodson, B. Boyle & D. Rubio 70157* (MO).  
 Terrestrial, epiphyte, or hemiepiphyte. 400-600 m. Amazonia, Chocó.
- Anthurium magnifolium** Croat & J. Rodr., Aroideana 18: 93-95. 1995 [1996]. Type: Ecuador. Pichincha: ENDESA reserve, 8 km N of km 113 on Quito-Puerto Quito rd., vic. Río Cabuyales, 750 m, 16 Jul 1986, *T. Croat & J. Rodríguez 61506* (HT: MO; IT: AAU, B, BR, CAS, CM, COL, CR, CUVC, DUKE, EAP, F, G, GB, GH, HUA, K, MEXU, MY, NY, P, PMA, Q, QCA, QCNE, QPLS, RB, RSA, SCZ, S, TEX, US, VEN).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 4 Dec 1996, *J.L. Clark, M. Lysinger, T. Walla & H. Greeney 3563* (MO, QCNE, US).  
 Epiphyte. 350-700 m. Endemic.
- Anthurium margaricarpum** Sodiro, Anales Univ. Centr. Ecuador 15(108): 4. 1901. Type: Ecuador. Pichincha: Guala, *Sodiro s.n.* (LT: SI; ILT: B, G).

- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 16 May 1995, *J.L. Clark & C. Watt 892* (MO, QCNE).  
Epiphyte. 400-600 m. Amazonia, Chocó.
- Anthurium marmoratum** Sodiro, *Anales Univ. Centr. Ecuador* 17(123): 261. 1903. Type: Ecuador. Pichincha: along Río toachi & río Pilatón, Oct 1902, *Sodiro s.n.* (HT: B; IT: QPLS).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 550 m, 2 Sep 1998, *S. Roponen & A. Johannessen 4023* (LPB, MO).  
Epiphyte. 550 m. Chocó.
- Anthurium microspadix** Schott, *Oesterr. Bot. Z.* 8(6): 180. 1858.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 19 Feb 1997, *J.L. Clark 3954* (LE, MO, QCNE, SAR).  
Epiphyte. 650 m. Amazonia, Chocó, Mesoamerica.
- Anthurium mindense** Sodiro, *Anales Univ. Centr. Ecuador* 15(108): 17. 1901. Type: Ecuador. Pichincha: valley of Mindo, 1500-2000 m, *Sodiro s.n.* (HT: B; photo: F)  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 5 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3724* (MO, QCNE).  
Hemiepiphyte. 400-600 m. Amazonia, Chocó.
- Anthurium nigrescens** Engl., *Bot. Jahrb. Syst.* 25(3): 441. 1898.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 28 Sep 1994, *M.S. Bass, L. Kueppers & N. Pitman 96* (MO, QCNE).  
Epiphyte. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Anthurium nigropunctatum** Croat & J. Rodr., *Aroideana* 18: 101-104. 1995 [1996]. Type: Ecuador. Pichincha: Reserva Endesa, 9 km N of Km 113 on Quito-Pto. Quito Highway, ca. 750 m, 0°05'N, 79°02'W, *T. Croat & J. Rodriguez 61457* (HT: MO; IT: AAU, B, CAS, COL, F, K, M, NY, QCA, QCNE, US, VEN).
- Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 500 m, 26 Aug 1998, *D. Neill & QCNE botany interns 11370* (MO, QCNE).  
Common hemiepiphyte. 280-700 m. Chocó.
- Anthurium obscurinervium** Croat, *Ann. Missouri Bot. Gard.* 78(3): 686, f. 203-204. 1991. Type: Ecuador: Cañar: along road between Azogues and El Triunfo, ca. 2 km S of Hwy. at Cedro Pampa, 800-1000 m, 2° 25'S, 79° 10'W, *T. Croat 50914* (HT: MO; IT: AAU, BM, G, K, LL, M, MICH, MO, NY, QCA, RSA, SEL, US).  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 5 Mar 1997, *H. Vargas, X. Aguirre, R. Miranda & C. Robles 1222* (MO, QCNE).  
Terrestrial and epiphytic herb. 300-700 m. Chocó.
- Anthurium obtusum** (Engl.) Grayum, *Phytologia* 82(1): 35. 1997.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 500 m, 26 Aug 1998, *D. Neill & QCNE botany interns 11324* (MO QCNE).  
Common hemiepiphytic herb, 0-800 m. Amazonia, Chocó, Mesoamerica.
- Anthurium oreophilum** Sodiro, *Anales Univ. Centr. Ecuador* 15(108): 15. 1901. Type: Ecuador: Pichincha: In forest W of Mt. Pichincha, 1400-2000 m, *L. Sodiro s.n.* (IT: B? photo: F, US).  
Representative Specimen: Ecuador: Esmeraldas: 500 m, 2 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3688* (MO, QCNE).  
Epiphyte. 400-600 m. Chocó.
- Anthurium palenquense** Croat, *Ann. Missouri Bot. Gard.* 78(3): 694, f. 221, 223, 224. 1991. Type: Ecuador: Los Ríos: Río Palenque Science Center, along trails W of laboratory and in vicinity of laboratory clearing, 210-250 m, *T. Croat 38670* (HT: MO; IT: AAU, B, K, MO, NY, PMA, QCA, RSA, US).

- Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300–700 m, 19 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2668* (MO, QCNE).  
Terrestrial or epiphytic herb, 300–850 m. Endemic.
- Anthurium pallidiflorum** Engl., Bot. Jahrb. Syst. 25(3): 395–396. 1898. Type: Ecuador: in silvis tropicis pr. San Miquel de los Colorados, Jul 1875, *A. Sodiro, S. J. n. 15*.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 18 May 1995, *J.L. Clark & C. Watt 917* (MO, QCNE).  
Epiphyte. 400–600 m. Endemic
- Anthurium x pallidinervium** x Engl., Pflanzenz. 197: 245. 1898.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 24 Sep 1994, *N. Pitman 718* (MO, QCNE).  
Epiphyte. 400–600 m. Natural hybrid.
- Anthurium propinquum** Sodiro, Anturios Ecuador. 197: 245. 1903. Type: Ecuador: en el valle del rio Cañar, hacienda de San Nicolás, 1500 m, *Rimbach 88* (HT: B; IT: G; photo: F).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 19 Feb 1997, *J.L. Clark 3951* (MO, NY, QCNE).  
Terrestrial herb. 450–650 m. Amazonia, Chocó, Mesoamerica.  
Infrasp.: *Anthurium propinquum* var. *albispadix* Croat & J. Rodr.
- Anthurium pulverulentum** Sodiro, Anales Univ. Centr. Ecuador 15(108): 110. 1901. Type: Ecuador. Pichincha: Volcan Atacatzto along the Rio Pilaton, 1400–2000 m, *Sodiro s.n.* (T: QPLS).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 16 Jan 1997, *J.L. Clark, L. Chatrou, C. Repetur & P. Mass 3815* (MO, QCNE).  
Terrestrial and epiphytic herb. 850 m. Amazonia, Chocó.
- Anthurium rimbachii** Sodiro, Anturios Ecuador. 2: 202. 1903. Type: Ecuador: Guayas: near Quillallpa, 200 m, *Rimbach 80*.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 19 May 1995, *J.L. Clark & C. Watt 920* (MO, QCNE).  
Common hemiepiphyte or terrestrial herb. 280–850 m. Endemic. Amazonia.
- Anthurium rodrigueziae** Croat, Aroideana 18: 126–130. 1995(1996). Type: Ecuador. Pichincha: Reserva Endesa, ca. 8 km N of Km 113 on Quito-Pto. Quito Hwy., vic. Rio Cabayales, 700 m, *T. Croat & J. Rodriguez 61517* (HT: MO; IT: AAU, B, K, NY, QCA, US).  
Representative Specimen: Ecuador: Esmeraldas: 300–500 m, 12 May 1990, *A. Gentry, C. Dodson, B. Boyle & D. Rubio 70047* (AAU, CM, MO, NY, QCNE, US).  
Epiphyte. 280 m. Chocó
- Anthurium saccardoii** Sodiro, Anturios Ecuador. 218. 1903. Type: Ecuador: Guayas: near Quillapa, *Rimbach s.n.* (T: QPLS).  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro 200 – 500 m, 9 Nov 1998, *T. Delinks & C. Robles 103* (MO, QCNE).  
Terrestrial herb and hemiepiphyte. 500 m. Endemic.
- Anthurium sarmentosum** Engl., Bot. Jahrb. Syst. 25: 375. 1898. Type: Ecuador: Pichincha: near San Florencio, May 1885, *Sodiro s.n.* (HT: B; photo: F).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 17 Nov 1996, *J.L. Clark, B. Neill & K. Zambrano 3426* (MO, QCNE, US).  
Herbaceous vine. 500 m. Amazonia, Chocó.
- Anthurium scandens** (Aubl.) Engl., Fl. Bras. 3(2): 78. 1878.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 4 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3707* (MO, QCNE, US).  
Epiphyte. 100–700 m. Amazonia, Chocó, Mesoamerica.



- Infrasp. *Anthurium scandens* subsp. *pusillum* R. Sheffer, *Anthurium scandens* subsp. *scandens* Engl., *Anthurium scandens* var. *ovalifolium* Engl.
- Anthurium spathiphyllum** N.E. Br., Gard. Chron., n.s., 7: 652-653. 1877.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 20 May 1995, *J.L. Clark & C. Watt 949* (MO, QCNE).  
Epiphyte. 400-600 m. Amazonia, Mesoamerica.
- Anthurium spathulatum** Sodiro, Anales Univ. Centr. Ecuador 15(108): 6. 1901.  
Representative Specimen: Ecuador: Esmeraldas: 550 m, 24-26 febrero 1995, *W. Palacios 13627* (MO, QCNE).  
Epiphyte. 400-600 m. Chocó.
- Anthurium testaceum** Croat & R.A. Baker, Brenesia 16(Supl. 1): 92-94. 1979.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 18 Nov 1996, *J.L. Clark, F. Gurumendi & H. Weinert 3441* (K, MO, QCNE).  
Epiphyte or Terrestrial herb. 500-550 m. Chocó, Mesoamerica.
- Anthurium tremulum** Sodiro, Revista Chilena Hist. Nat. 4(6): 15. 1900. Type: Ecuador: Pichincha: Nanegal, May 1901, *Sodiro s.n.* (HT: B; IT: G, MO).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 30 Mar 1996, *J.L. Clark, K. Berg & J. Leffingwell 2349* (MO, QCNE).  
Epiphyte or Terrestrial herb. 400-600 m. Endemic. Amazonia.
- Anthurium tripartitum** Engl., Pflanzenr. IV. 23B(Heft 21): 277. 1905. Type: Colombia: im Begiet von Barbacoas, 200 m, *Triana 687 bis* (HT: BM).  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry, R. Foster & C. Josse 72981* (MO).
- Terrestrial herb. 280 m. Chocó, Mesoamerica.
- Anthurium trisetum** Sodiro, Anales Univ. Centr. Ecuador 20(140): 100-102. 1905. Type: Crece en la prov. de Esmeraldas, en la orilla del río S. Antonio, *Sodiro 8/904*.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 18 Nov 1996, *J.L. Clark, F. Gurumendi & H. Weinert 3443* (MO, QCNE).  
Terrestrial herb. 500 m. Chocó, Mesoamerica.
- Anthurium umbraculum** Sodiro, Anales Univ. Centr. Ecuador 16: 101. 1902. Type: Ecuador: Pichincha: Volcán Pichincha, Nono, *Sodiro s.n.* (LT: MO; ILT: B destr.?, G; photo: F(B)).  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 29 Jan 1991, *A. Gentry, R. Foster & C. Josse 72879* (MO).  
Epiphyte. 280 m. Amazonia, Chocó.
- Anthurium umbricola** Engl., Bot. Jahrb. Syst. 25: 407. 1898.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro 400-700 m, 1 Sep 1998, *T. Delinks & C. Robles 60* (MO, QCNE, UB).  
Terrestrial herb. 400-700 m. Chocó.
- Anthurium versicolor** Sodiro, Anales Univ. Centr. Ecuador 15(108): 13. 1901. Type: Ecuador. Napo: Río Masfa, between Cuyuja and Baeza, *Sodiro s.n.* (T: QPLS).  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 29 Jan 1991, *A. Gentry & C. Josse 72838* (MO).  
Terrestrial herb. 280-600 m. Amazonia, Chocó.
- Chlorospatha atropurpurea** (Madison) Madison, Selbyana 5(3-4): 354. 1981. *Caladiopsis atropurpurea* Madison. Type: Ecuador: Los Ríos: Río Palenque Science Center, 150-200 m, Aug 1975, *C.H. Dodson 5911* (HT: SEL; IT: MO, RSPC, US).  
Representative Specimen: Ecuador: Manabí: Mache-Chindul, comunidad Ambache, 250 m, 5 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4174* (MO, QCNE).  
Terrestrial herb. 250 m. Endemic.

- Chlorospatha dodsonii** (G.S. Bunting) Madison, Selbyana 5(3-4): 352. 1981. Caladiopsis dodsonii G.S. Bunting. Type: Ecuador: Pichincha: along Río Baba 28 km S of Santo Domingo, 350 m, Nov 1961, *C.H. Dodson & Thien 1190* (HT: MO).  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300–700 m, 19 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2645* (CAS, MO, QCNE).  
Terrestrial herb. 300-700 m. Endemic.
- Dieffenbachia killipii** Croat, Ann. Missouri Bot. Gard. 91(4): 720-726, f. 15, 28b. 2004.  
Representative Specimen: Ecuador: Manabí: Jama 400 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11683* (MO, QCNE).  
Epiphyte or Terrestrial herb. 400-700 m. Amazonia, Chocó, Mesoamerica.
- Dieffenbachia oerstedii** Schott, Oesterr. Bot. Z. 8: 179. 1858.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro 300 - 700 m, 21 Jun 1996, *J.L. Clark et al. 2710* (MO, QCNE).  
Terrestrial herb. 300-700 m. Chocó, Mesoamerica.
- Dieffenbachia tonduzii** Croat & Grayum, Novon 9(4): 497-500. 1999.  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry, R. Foster & C. Josse 72955* (MO).  
Subshrub. 280-600 m. Amazonia, Chocó, Mesoamerica.
- Heteropsis ecuadorensis** Sodiro, Anales Univ. Centr. Ecuador 22(162): 278. 1903.  
Representative Specimen: Ecuador: Esmeraldas: Estero La Fortuna 25 m, 24 May 2000, *D. Neill & QCNE botany interns 12785* (MO, QCNE).  
Epiphyte. 25-700 m. Amazonia, Chocó, Mesoamerica
- Homalomena peltata** Mast., Gard. Chron., n.s., 7: 273, f. 46. 1877.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 6 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3738* (MO, QCNE).  
Terrestrial herb. 300-520 m. Chocó.
- Monstera adansonii** Schott, Wiener Z. Kunst 4: 1028. 1830.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro 400–700 m, 1 Sep 1998, *T. Delinks & C. Robles 73* (MO, QCNE).  
Hemiepiphyte. 400-700 m. Amazonia, Chocó, Mesoamerica.  
Infrac.: *Monstera adansonii* var. *laniata* (Schott) Madison.
- Monstera dubia** (Kunth) Engl. & K. Krause, Pflanzenz. IV.23B(Heft 37): 117. 1908.  
Representative Specimen: Ecuador: Manabí: Jama 400 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11692* (MO, QCNE).  
Hemiepiphyte. 100-500 m. Amazonia, Chocó, Mesoamerica.
- Monstera lechleriana** Schott, Prodr. Syst. Aroid. 366. 1860.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 25 Oct 1994, *N. Pitman, M.S. Bass & L. Kueppers 880* (MO, QCNE).  
Epiphyte. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Monstera pinnatipartita** Schott, Oesterr. Bot. Wochenbl. 7(25): 197-198. 1857.  
Representative Specimen: Ecuador: Manabí: 7 Km al este de Pedernales 100 m, 14 Aug 1998, *T. Delinks 30* (MO, QCNE).  
Terrestrial herb. 100 m. Amazonia, Chocó, Mesoamerica.
- Monstera spruceana** (Schott) Engl., Fl. Bras. 3(2): 115. 1878.  
Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 28 Mar 1998, *J.L. Clark & S. Nazzaro 4932* (MO, QCNE).  
Epiphyte. 100-200 m. Amazonia, Chocó, Mesoamerica.
- Philodendron alliodorum** Croat & Grayum, Phytologia 73(1): 30. 1992.

- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 8 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3759* (B, F, K, MO, QCNE, US, WU).  
Hemiepiphyte. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Philodendron brunneicaule** Croat & Grayum, *Ann. Missouri Bot. Gard.* 84(3): 414-416. 1997.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 11 Dec 1994, *Pitman & Marsh 1085* (MEXU, MO, NY, QCNE).  
Hemiepiphyte. Chocó, Mesoamerica.
- Philodendron clarkei** Croat, *Aroideana* 27: 38-60, f. 1-20. 2004. Type: Esmeraldas, along road to Tulubi from main San Lorenzo-Lita Hwy, *T. Croat et al. 83915* (HT: MO; IT: AAU, B, CAS, COL, DUKE, F, GB, HUA, INB, K, MEXU, NY, SA, S, SEL, TEX, UB, US, VEN)  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark 2773* (B, K, MO, QCNE).  
Hemi-epiphyte. 100-600 m. Endemic.
- Philodendron dodsonii** Croat & Grayum, *Ann. Missouri Bot. Gard.* 84(3): 430-432. 1997. Type: Ecuador. Pichincha: along Río Blanco across from Villa Hermosa on road 1.9 km N of main Sto. Domingo de Los Colorados-Esmeraldas Hwy., *T. Croat 72982* (HT: MO; IT: AAU, B, COL, CR, K, NY, PMA, QCA, QCNE, US).  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 10 km E of Pedernales, 400-700 m, Sep 1998, *T. Delinks & C. Robles 61* (MO, QCNE).  
Hemiepiphyte. 280-700 m. Amazonia. Chocó, Mesoamerica.
- Philodendron grandipes** K. Krause, *Pflanzenr.* IV. 23Db(Heft 60): 48. 1913.  
Representative Specimen: Ecuador: Esmeraldas: Camino vecinal Herrera-Los Monos 550 m, 24-26 Feb 1995, *W. Palacios 13670* (MO, QCNE).
- Hemiepiphyte. 550 m. Chocó, Mesoamerica.
- Philodendron hederaceum** (Jacq.) Schott, *Wiener Z. Kunst* 1829(3): 780. 1829.  
Representative Specimen: Ecuador: Manabí: 7 Km al este de Pedernales 100 m, 14 Aug 1998, *T. Delinks 27* (MO, QCNE).  
Hemiepiphyte. 100 m. Amazonia, Chocó, Mesoamerica.
- Philodendron hooveri** Croat & Grayum, *Syst. Bot. Monogr.* 47: 111-114. 1996. Type: Ecuador. Carchi: along Quebrada Mongon, 1200-1400 m, *Hoover, Gelpi, Arguello & Lorentzen 2963* (HT: QCA; IT: MO).  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 29 Jan 1991, *A. Gentry, R. Foster & C. Josse 72874* (MO).  
Hemiepiphyte. 280-600 m. Chocó.
- Philodendron inaequilaterum** Liebm., *Vidensk. Meddel. Dansk Naturhist. Foren. Kjobenhavn* 1849: 16. 1849.  
Representative Specimen: Ecuador: Esmeraldas: 270 m, 31 Mar 1983, *T. Croat 55552* (MO, QCA).  
Hemiepiphyte. 280-550 m. Amazonia, Chocó, Mesoamerica.
- Philodendron jodavisianum** G.S. Bunting, *Gentes Herb.* 9: 337-338. 1965.  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry & C. Josse 72923* (MO, QCNE).  
Hemiepiphyte. 280 m. Chocó, Mesoamerica.
- Philodendron mexicanum** Engl., *Fl. Bras.* 3(2): 143. 1878.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro 400-700 m, 1 Sep 1998, *T. Delinks & C. Robles 69* (MO, QCNE).  
Hemiepiphyte. 400-700 m. Chocó, Mesoamerica.
- Philodendron pogonocaula** Madison, *Selbyana* 2(1): 23. 1977. Type: Ecuador: Los Ríos: Río Palenque Science Center, km 56 road Quevedo-Sto. Domingo, 150-220 m, March

- 1977, *C. Dodson 6669* (HT: SEL; IT: MO, RPSC).
- Representative Specimen: Ecuador: Esmeraldas: 700 m, 20 Feb 1992, *T.B. Croat 72278* (AAU, GB, JBGP, M, MO, QCA, RSA, SEL, TEX, UB).
- Hemiepiphyte. 350-700 m. Chocó.
- Philodendron rhodoaxis*** G.S. Bunting, *Acta Bot. Venez.* 10(1-4): 308-309. 1975.
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 17 Nov 1996, *J.L. Clark, B. Neill & K. Zambrano 3431* (MO, QCNE).
- Hemiepiphyte. 200-500 m. Chocó, Mesoamerica.
- Infrasp.: *Philodendron rhodoaxis* subsp. *lewisii* Croat & Grayum.
- Philodendron rodrigueziae*** Croat & Grayum, *Syst. Bot. Monogr.* 47: 152-155. 1996. Type: Ecuador. Pichincha: Reserva ENDESA, Corporacion Forestal Juan Manuel Durini, turnoff at Km 113 Quito to Puerto Quito rd., 450 m, *Hammel & Wilder 17222* (HT: QCNE; IT: AAU, COL, MO, NY).
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 13 May 1998, *J.L. Clark & C. Pallis 5584* (MO, QCNE).
- Epiphyte. 500 m. Chocó.
- Philodendron senatocarpium*** Madison, *Selbyana* 2(1): 23-24, t. 5d. 1977. Type: Ecuador: Los Ríos: Río Palenque Science Center, km 56 road Quevedo-Sto. Domingo, 150-220 m, April 1977, *Madison 3841* (HT: SEL; IT: MO).
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 6 Apr 1995, *J.L. Clark & Y. Troya 640* (MO, QCNE, US).
- Epiphyte. 280-600 m. Chocó, Mesoamerica.
- Philodendron sparreorum*** Croat, *Aroideana* 27: 38-60, f. 1-22. 2004. Type: Ecuador, Esmeraldas, 8.8 km NW of Quinde, 85 km SE of Esmeraldas, 270 m, *T. Croat 55555* (HT: MO; IT: AAU, B, F, K, NY, QCA, QCNE, US).
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4825* (MO, QCNE, US).
- Hemiepiphyte. 380-600 m. Chocó.
- Philodendron squamipetiolatum*** Croat, *Ann. Missouri Bot. Gard.* 84(3): 531-532, f. 375, 385-388. 1997.
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 580 m, 18 Feb-5 Mar 1995, *W. Palacios, J.L. Clark & N. Jaramillo 13502* (MO, QCNE).
- Hemiepiphyte. 500-600 m. Chocó, Mesoamerica.
- Philodendron subhastatum*** Engl. & K. Krause, *Pflanzenr. Fam.* 23 Db: 97. 1913. Type: Ecuador: Pichincha: Nanegal-Gualea, *Sodirol 12g* (HT: B; IT: G).
- Representative Specimen: Ecuador: Manabí: Cordillera de Jama 16 Dec 1998, *D. Neill & QCNE botany interns 11567* (F, MEXU, MO, QCNE).
- Common hemiepiphyte. 200-700 m. Chocó.
- Philodendron sulcatum*** K. Krause, *Pflanzenr. IV.* 23Db(Heft 60): 19. 1913. Type: Ecuador: Am Pilatonfluss, Oct 1902, *Sodirol 2B* (HT: B).
- Representative Specimen: Ecuador: Esmeraldas: 270 m, 31 Mar 1983, *T. Croat 55544* (MO, QCA).
- Hemiepiphyte. 350-700 m. Amazonia, Chocó, Mesoamerica.
- Philodendron tenue*** K. Koch & Augustin, *Index Sem. (Berlin) IV.* 23Db(Heft 60): 19. 1854. Representative Specimen: Ecuador: Manabí: 45 Km al norte de Pedernales, 5 m, 28 Aug 1998, *D. Neill & QCNE botany interns 11424* (COL, F, MO, QCNE, US, WIS).
- Common hemiepiphyte. 0-600 m. Chocó, Mesoamerica.
- Philodendron tenuipes*** Engl., *Bot. Jahrb. Syst.* 37: 131. 1905.
- Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 100-300 m, 7 Jul 1996, *J.L. Clark, N. Binder & W. Naranjo 2773* (MO, QCNE).

Common hemiepiphyte. 100-850 m. Chocó.

**Philodendron tuerckheimii** Grayum, Syst. Bot. Monogr. 47: 174-181. 1996.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 30 Dec 1996, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3663* (MO, QCNE, US).

Herbaceous vine. 500 m. Chocó, Mesoamerica.

**Philodendron verrucosum** L. Mathieu ex Schott, Syn. Aroid. 85. 1856.

Representative Specimen: Ecuador: Esmeraldas: 80 m, 1 Apr 1983, *T.B. Croat 55609* (MO).

Common hemiepiphyte. 380-700 m. Amazonia, Chocó, Mesoamerica.

**Pistia stratiotes** L., Sp. Pl. 2: 963. 1753.

Representative Specimen: Ecuador: Esmeraldas: Herrera, La Y de la laguna 400 m, 15 Feb 1998, *J.L. Clark 5511* (MO, QCNE).

Common aquatic herb. 400 m. Amazonia, Chocó, Mesoamerica.

**Rhodospatha latifolia** Poepp., Nov. Gen. Sp. Pl. 3: 91, pl. 300. 1845.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 8 Dec 1994, *M.S. Bass & N. Pitman 313* (MO, QCNE).

Herbaceous vine. 400-600 m. Amazonia, Chocó.

**Stenospermation angustifolium** Hemsl., Biol. Cent.-Amer., Bot. 3(18): 425. 1885.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 21 Nov 1994, *J.L. Clark & C. Bergman 312* (MO, QCNE, RSA).

Hemiepiphyte. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Stenospermation densiovulatum** Engl., Bot. Jahrb. Syst. 37: 112. 1905.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 5 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3723* (MO, QCNE).

Common terrestrial herb or Epiphyte. 280-700 m. Chocó.

**Stenospermation gracile** Sodiro, Sert. Fl. Ecuad. Ser., Ser. 2: 71. 1908. Type: Ecuador: Esmeraldas. *Sodiro s.n.*

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 16 Sep 1994, *J.L. Clark & B. Adnepos 57* (MO, QCNE).

Hemiepiphyte. 400-600 m. Endemic.

**Stenospermation latifolium** Engl., Bot. Jahrb. Syst. 37: 112. 1905.

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 700 m, 26 Aug 1998, *D. Neill & QCNW botany interns 11359* (MO, QCNE).

Hemiepiphyte. 540 m. Chocó.

**Stenospermation longipetiolatum** Engl., Bot. Jahrb. Syst. 37: 112. 1905. Type: Ecuador: Pichincha: Nanegal-Gualea, vic. Gualea, 800 m Oct. 1900, *Sodiro 29* (HT: B, photo F).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 30 Dec 1996, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3662* (MO, QCNE).

Herbaceous vine. 400-600 m. Amazonia, Chocó.

**Stenospermation sodiroanum** Engl., Bot. Jahrb. Syst. 37: 112. 1905. Type: Ecuador. In Regenwaldern zwischen Mindo und Nanegal, *Sodiro 27* (HT: B).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 13 Sep 1994, *J.L. Clark & B. Adnepos 20* (MO, QCNE).

Hemiepiphyte. 400-600 m. Chocó

**Syngonium crassifolium** (Engl.) Croat, Ann. Missouri Bot. Gard. 68(4): 591. 1981 [1982].

Representative Specimen: Ecuador: Esmeraldas: Río Cayapa 100 m, 25 Jun 1982, *L. Kvist & Asanza 40330* (AAU).

Epiphyte. 280-600 m. Chocó.

- Syngonium macrophyllum** Engl., Pflanzenr. IV. 23E(Heft 71): 128. 1920.  
 Representative Specimen: Ecuador: Esmeraldas: 350 m, 21 Feb 1992, *T.B. Croat 72328* (MO).  
 Hemiepiphyte. 350-700 m. Choco, Mesoamerica.
- Syngonium podophyllum** Schott, Bot. Zeitung (Berlin) 9(5): 85. 1851.  
 Representative Specimen: Ecuador: Manabí: 43 Km al norte de Pedernales 100 m, 19 Dec 1998, *D. Neill & QCNE botany interns 11729* (CM, MO, QCNE, SEL).  
 Epiphytic Terrestrial herb. 100-700 m. Amazonia, Chocó, Mesoamerica.
- Syngonium triphyllum** Birdsey ex Croat, Ann. Missouri Bot. Gard. 68(4): 642-645, f. 68, 73-75. 1981 [1982].  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 6 Dec 1994, *M.S. Bass & N. Pitman 290* (MO, QCNE).  
 Hemiepiphyte. 400-600 m. Chocó, Mesoamerica.
- Xanthosoma daguense** Engl., Bot. Jahrb. Syst. 37: 137. 1905.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 13 May 1998, *J.L. Clark & C. Pallis 5579* (MO, QCNE).  
 Terrestrial herb. 400-600 m. Amazonia, Chocó.
- Xanthosoma eggersii** Engl., Pflanzenr. Fam. 23 E: 56. 1920. Type: Ecuador: Guayas: El Recreo, *H. Eggers 15543* (HT: B; photo: F).  
 Representative Specimen: Ecuador: Esmeraldas: 50 m, 17 Mar 1992, *T.B. Croat 73117* (MO, QCNE).  
 Terrestrial herb. 300-700 m. Endemic.
- Xanthosoma undipes** (K. Koch & C.D. Bouché) K. Koch, Bonplandia (Hanover) 4(1-2): 4. 1856.  
 Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 300 m, 16 Dec 1998, *D. Neill & QCNE botany interns 11552* (MO, QCNE).
- Terrestrial herb. 300-700 m. Amazonia, Chocó, Mesoamerica.
- ARALIACEAE**
- Dendropanax sp.**  
 Representative Specimen: Ecuador: Esmeraldas: Carretera Herrera-El Páramo (Santa Isabel), Estación Biológica Bilsa, 18 Feb-5 Mar 1995, *W. Palacios, J.L. Clark & N. Jaramillo 13546* (MO, QCNE).  
 Tree, ca. 20 m tall. 400-600 m.
- Oreopanax confusum** Marchal, Bull. Acad. Roy. Sci. Belgique, ser. 2, 47(1): 85-87. 1879.  
 Type: Ecuador in sylvis Andium frequens, Pallatanga, *R. Spruce 5525* (ST: C, E, G, K, LE).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 7 Oct 1994, *J.L. Clark & H. Lintz 149* (MO, QCNE).  
 Shrub, Tree, or woody Hemiepiphyte. 400-600 m. Amazonia, Chocó
- Schefflera lasiogyne** Harms, Res. Note, Forest. Commiss. New South Wales 15: 245. 1918.  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4304* (MO, QCNE).  
 Liana. 300-700 m. Chocó.
- Schefflera sphaerocoma** (Benth.) Harms, Die Naturlichen Pflazenfamilien 3(8): 37. 1894 [1898].  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 1 Dec 1994, *J.L. Clark 349* (MO, QCNE).  
 Hemiepiphyte. 400-600 m. Common name: "Pata de Gallina." Amazonia, Chocó, Mesoamerica.
- Schefflera ternata** Cuatrec., Revista Acad. Colomb. Ci. Exact. 6: 546. 1946.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 31 Mar 1996, *J.L. Clark, Karl Berg & J. Leffingwell 2352* (MO, QCNE).  
 Hemiepiphyte. 380-500 m. Chocó.

## ARECACEAE

- Aiphanes eggersii** Burret, Notizbl. Bot. Gart. Berlin-Dahlem 11(107): 563. 1932. Type: Ecuador: El Recreo, Corozo, 14 Feb 1897, *H. Eggers 15480*.  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 30 km S of Pedernales on coastal highway, 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11266* (AAU, COL, MO, QCNE).  
Shrub. 50 m. Endemic (including coastal Tumbes, Peru).
- Aiphanes tricuspidata** Borchs., R. Bernal & M. Ruiz, Brittonia 41(2): 156, f. 1. 1989. Type: Ecuador. El Oro: rd. from Machala to Naranjal, km 33, 8 km E along dirt rd. leaving from Río Bonito, 380 m, 19 Nov 1987, *F. Skov, F. Borchsenius, U. Blicher Mathiesen, & B. Bang Klitgaard 64836* (HT: AAU; IT: COL, K, NY, QCA, QCNE).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 14 Feb 1996, *J.L. Clark & N. Kerber, J. Plihal 1991* (MO, QCNE).  
Shrub. 500 m. Common name: "Corozo." Amazonia, Chocó.
- Attalea colenda** (O.F. Cook) Balslev & An. Hend., Brittonia 39(1): 1. 1987. *Ynesa colenda* O.F. Cook. Type: Ecuador: Los Rios: Cantón Vinces, Hcda. Sta. Lucia, 50 m, *Y. Mexía 6574* (T: US-4 sheets).  
Representative Specimen: Ecuador: Manabí: 31 km al norte de Pedernales, 60 m, 27 Aug 1998, *D. Neill & QCNE botany interns 11377* (MO, QCNE).  
Tree. 0-100 m. A large palm common in wet to moist forest and often the only tree species left in deforested pastures. Formerly used for edible oil extracted from fruit mesocarp. Common name: "Palma Real." Chocó.
- Bactris setulosa** H. Karst., Linnaea 28: 408. 1856.  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry, R. Foster & C. Josse 72972* (MO).
- Tree. 280-600 m. Common name: "Chontillo." Amazonia, Chocó.
- Chamaedorea linearis** (Ruiz & Pav.) Mart., Hist. Nat. Palm. 2: 5. 1823.  
Representative Specimen: Ecuador: Manabí: Jama 400 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11675* (MO, QCNE).  
Tree. 400-800 m. Amazonia, Chocó.
- Chamaedorea pinnatifrons** (Jacq.) Oerst., Vidensk. Meddel. Dansk Naturhist. Foren. Kjobenhavn 1858(1-4): 14. 1859.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 24 Nov 1994, *J.L. Clark & S. Mora 332* (MO, QCNE).  
Common Shrub. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Desmoncus cirrhiferus** A.H. Gentry & Zardini, Ann. Missouri Bot. Gard. 75(4): 1436-1438, f. 3. 1988 [1989].  
Representative Specimen: Ecuador: Manabí: Mache-Chindul, comunidad Ambache, 250 m, 25 Mar 1997. *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4223* (MO, QCNE).  
Liana. 250 m. Common names: "Bora Negra" or "Matmpa." Chocó.
- Geonoma cuneata** H. Wendl. ex Spruce, J. Linn. Soc., Bot. 11: 104. 1869.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 13 Feb 1996, *J.L. Clark & N. Kerber, J. Plihal 1947* (MO, QCNE).  
Common understory Shrub. 280-650 m. Amazonia, Chocó, Mesoamerica.  
Infrasp.: *Geonoma cuneata* var. *cuneata*, *Geonoma cuneata* var. *gracilis* (H. Wendl. ex Spruce) Skov, *Geonoma cuneata* var. *procumbens* (H. Wendl. ex Spruce) Skov.
- Geonoma interrupta** (Ruiz & Pav.) Mart., Hist. Nat. Palm. 2(1): 8-9, t. 7. 1823.  
Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 6 Jul 1996, *J.L. Clark 2759* (MO, QCNE).  
Understory Shrub. 200 m. Amazonia, Chocó, Mesoamerica.

- Infrasp.: *Geonoma interrupta* var. *euspatha* (Burret) An. Hend. m, 24 Nov 1999, *D. Neill & QCNE botany interns 12217* (QCNE).  
Very common canopy Tree. 200-650 m.  
Common names: "Patoma," "Pinnachi."  
Amazonia, Chocó, Mesoamerica.
- Geonoma macrostachys** Mart., Hist. Nat. Palm. 2: 19, pl. 20. 1823.  
Representative Specimen: Ecuador: Esmeraldas: Camino vecinal Herrera-Los Monos 550 m, 24-26 Feb 1995, *W. Palacios 13639* (MO, QCNE).  
Understory Shrub. 500 m. Amazonia.
- Iriartea deltoidea** Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. 298. 1798.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 550 m, 24 Feb 1999, *D. Neill & QCNE botany interns 12216* (MO, QCNE).  
Very common canopy Tree. 200-650 m.  
Common name: "Pambil." Amazonia, Choco, Mesoamerica.
- Pholidostachys synanthera** (Mart.) H.E. Moore, Taxon 18(2): 231. 1969.  
Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 11 Mar 1998, *J.L. Clark 4611* (MO, QCNE).  
Understory Shrub. 250-600 m. Amazonia, Chocó, Mesoamerica.
- Phytelephas aequatorialis** Spruce, J. Linn. Soc., Bot. 11: 179-180. 1871. Type: Ecuador: "Chimborazo, Andes Quitensis," *R. Spruce 64* (HT: K)  
Tree. Common name: "Tagua." Endemic. Amazonia.
- Prestoea decurrens** (H. Wendl. ex Burret) H.E. Moore, Gentes Herb. 9(3): 286. 1963.  
Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 16 Mar 1998, *J.L. Clark 4663a* (MO, QCNE).  
Understory Shrub. 250-600 m. Common name: "Palmiche." Amazonia, Chocó, Mesoamerica.
- Socratea exorrhiza** (Mart.) H. Wendl., Bonplandia (Hanover) 8(6): 103. 1860.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 550 m, 24 Nov 1999, *D. Neill & QCNE botany interns 12217* (QCNE).  
Very common canopy Tree. 200-650 m.  
Common names: "Patoma," "Pinnachi."  
Amazonia, Chocó, Mesoamerica.
- Synechanthus warscewiczianus** H. Wendl., Bot. Zeitung (Berlin) 16(21): 145. 1858.  
Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 6 Jul 1996, *J.L. Clark 2750* (MO, QCNE).  
Tree. 200-600 m. Chocó, Mesoamerica.
- Welfia regia** Mast., Gard. Chron. 1869: 1236. 1869.  
Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 11 Mar 1998, *J.L. Clark 4605* (MO, QCNE).  
Tree, uncommon in west forest. 250 m. Chocó, Mesoamerica.
- Wettinia equalis** (O.F. Cook & Doyle) R. Bernal, *Caldasia* 17(82-85): 368. 1995. *Acrostigma equale* O.F. Cook & Doyle. Type: Colombia: Cauca: collected in deep, marshy forests near Córdoba, Dec 1905, *C.B. Doyle s.n.* (HT: US).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 550 m, 24 Nov 1999, *D. Neill & QCNE botany interns 12215* (MO, QCNE).  
Tree. 250-550 m. Common names: "Gualte," and "Rosario." Chocó, Mesoamerica.

## ARISTOLOCHIACEAE

- Aristolochia pilosa** Kunth, Nov. Gen. Sp. (quarto ed.) 2: 146-147, t. 113. 1817.  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 29 Jan 1991, *A. Gentry, R. Foster & C. Josse 72880* (MO).  
Herbaceous vine. 100-280 m. Amazonia, Chocó, Mesoamerica.
- Aristolochia sprucei** Mast., Fl. Bras. 4(2): 88. 1875.  
Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 10 Oct 1996, *J.L. Clark 3043* (MO, QCNE).



Herbaceous vine. 200 m. Amazonia, Chocó, Mesoamerica.

### ASCLEPIADACEAE

**Asclepias curassavica** L., Sp. Pl. 1: 215. 1753.

Representative Specimen: Ecuador: Esmeraldas: 50 km N of Pedernales along new coastal highway, 3 km N of Río Cojimies, 50 m, 19 December 1998, *D. Neill & QCNE botany interns 11705* (MO, QCNE).

Herb or subshrub. 0-100 m. Amazonia, Chocó, Mesoamerica.

**Blepharodon mucronatum** (Schltdl.) Decne., Prodr. 8: 603-604. 1844. *Astephanus mucronatus* Schltdl. Linnaea 8(5): 518-519. 1833 [1834].

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 16 May 1995, *J.L. Clark & C. Watt 878* (MO, QCNE, UPS).

Herbaceous vine. 200-600 m. Chocó, Mesoamerica.

**Fischeria columbiana** Schltr., Bot. Jahrb. Syst. 37: 623-624. 1906.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 13 September 1994, *J.R. Abbott 15080* (BEREA, MO, QCNE).

Common Herbaceous vine. 250-600 m. Chocó, Mesoamerica.

**Gonolobus fimbriatiflorus** (Morillo) W.D. Stevens, Novon 10(3): 243-244. 2000. *Matelea fimbriatiflora* Morillo. Type: Ecuador: Prov. de Pichincha: 20 km W of St. Domingo de los Colorados seasonal rainforest, 1000 ft, 18 Oct 1961, *Cazalet & Pennington 5061* (HT: US; IT: BM, F, K, NY).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 11 Dec 1994, *M.S. Bass & N. Pitman 332* (MO, QCNE).

Herbaceous vine. 400-600 m. Mesoamerica.

**Gonolobus ophioglossa** Woodson, Ann. Missouri Bot. Gard. 29(4): 366. 1942.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 20 May 1995, *J.L. Clark & C. Watt 965* (MO, QCNE).

Herbaceous vine. 400-600 m. Mesoamerica.

**Matelea reflexa** (Hemsl.) Morillo, Ernstia 24: 39. 1984.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4782* (MO, QCNE).

Herbaceous vine. 400-600 m. Amazonia, Chocó, Mesoamerica.

### ASTERACEAE

**Acmella** sp.

Esmeraldas: Bilsa Biological Station, 600 m, 13 Sep 1994, *J.R. Abbott 15039* (BEREA, QCNE).

Common terrestrial herb in disturbed areas. 600 m.

**Adenostemma platyphyllum** Cass., Dict. Sci. Nat. (ed. 2) 25: 363-364. 1822.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 15 Oct 1994, *N. Pitman, M.S. Bass & L. Kueppers 857* (MO, QCNE).

Terrestrial herb. 600 m. Amazonia, Chocó, Mesoamerica.

**Ageratina** sp.

Esmeraldas: Bilsa Biological Station, 600 m, 13 Sep 1994, *J.R. Abbott 15054* (BEREA, QCNE).

Common terrestrial herb in disturbed areas. 600 m.

**Bidens** sp.

Esmeraldas: Bilsa Biological Station, 600 m, 13 Sep 1994, *J.R. Abbott 15068* (BEREA, QCNE).

Common terrestrial herb in disturbed areas. 600 m.

**Centratherum punctatum** Cass., Dict. Sci. Nat. (ed. 2) 7: 384. 1817.

Representative Specimen: Ecuador: Manabí: Jama 200 m, 18 Dec 1998, *D. Neill &*

- QCNE botany interns 11648* (MO, QCNE).  
Terrestrial herb. 200-600 m. Amazonia, Chocó,  
Mesoamerica.
- Chromolaena roseorum** (B.L. Rob.) R.M. King  
& H. Rob., *Phytologia* 20: 205. 1970.  
*Eupatorium roseorum* B.L. Rob. Type:  
Ecuador: Guayas: vicinity of Guayaquil, 30  
Aug-2 Sep 1918, *J.N. Rose & G. Rose 22464*  
(HT: GH; IT: NY, US).  
Representative Specimen: Ecuador: Manabí:  
Jama 200 m, 18 Dec 1998, *D. Neill &*  
*QCNE botany interns 11646* (MO, QCNE).  
Terrestrial herb. 200-600 m. Amazonia.
- Clibadium eggersii** Hieron., *Bot. Jahrb. Syst.* 28:  
598. 1901. Type: Ecuador: Manabí: Río  
Rapallo near El Recreo, 6 Sep 1893, *H.*  
*Eggers 15309* (HT: B (dest.); LT: K; ILT: P,  
US).  
Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 20 Sep 1994, *J.L. Clark & B.*  
*Adnepos 81* (MO, QCNE).  
Shrub in disturbed areas. 400-600 m.  
Amazonia, Chocó, Mesoamerica.
- Clibadium laxum** S.F. Blake, *J. Wash. Acad. Sci.*  
16: 418. 1926. Type: Ecuador: Guayas:  
Teresita, 270 m, *A.S. Hitchcock. 20430* (HT:  
US).  
Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 27  
Sep 1996, *J.L. Clark 2923* (MO, QCNE).  
Common tree in disturbed areas. 400-600 m.  
Amazonia, Chocó.
- Cyrtocymura scorpioides** (Lam.) H. Rob., *Proc.*  
*Biol. Soc. Wash.* 100(4): 852. 1987.  
Representative Specimen: Ecuador: Manabí:  
Reserva de Lalo Loor, 100 m, 15 Dec 1998,  
*D. Neill & QCNE botany interns 11507*  
(MO, QCNE).  
Terrestrial herb. 100 m. Amazonia,  
Mesoamerica.
- Elephantopus mollis** Kunth, *Nov. Gen. Sp. (folio*  
*ed.)* 4: 20. 1820 [1818].  
Representative Specimen: Ecuador: Manabí:  
Cordillera de Jama, 600 m, 16 Dec 1998,  
*D. Neill & QCNE botany interns 11568*  
(MO, QCNE).  
Terrestrial herb. 100-600 m. Amazonia, Chocó,  
Mesoamerica.
- Erechtites prenanthoides** (A. Rich.) DC., *Prodr.*  
6: 296. 1837.  
Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 9 Dec 1994, *N. Pitman & M.S. Bass*  
*1064* (MO, QCNE).  
Terrestrial herb. 400-600 m. Amazonia,  
Mesoamerica.
- Fleischmannia pratensis** (Klatt) R.M. King & H.  
Rob., *Phytologia* 19: 205. 1970.  
Representative Specimen: Ecuador: Manabí: 50  
km N of Pedernales along new coastal  
highway, 3 km N of Río Cojimies, 50, 19  
Dec 1998, *D. Neill & QCNE botany interns*  
*11711* (MO, QCNE, US).  
Terrestrial herb growing in open pasture. 50 m.  
Amazonia, Chocó, Mesoamerica.
- Fulcaldea laurifolia** (Bonpl.) Poir., *Encycl.*,  
*Suppl.* 5(2): 575. 1817.  
Representative Specimen: Ecuador: Manabí:  
Cerro del Matal 100 m, 17 Dec 1998, *D.*  
*Neill & QCNE botany interns 11621* (MO,  
QCNE, US).  
Tree, with spines on trunk. 30-100 m. Common  
in dry forest on slopes at Reserva de Lalo  
Loor.
- Hidalgoa ternata** La Llave, *Nov. Veg. Descr.* 1:  
15. 1824.  
Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 5 Dec 1994, *N. Pitman & M.S. Bass*  
*994* (MO, QCNE).  
Herbaceous vine. 400-600 m. Mesoamerica.
- Lycoseris eggersii** Hieron., *Bot. Jahrb. Syst.* 29:  
75. 1900.  
Representative Specimen: Ecuador: Manabí: 25  
km al sur de Pedernales 5 – 30 m, 11 Oct  
1999, *T. Delinks 451* (MO, QCNE).  
Shrub. 0-30 m.
- Mikania decora** Poepp., *Nov. Gen. Sp. Pl.* 3: 53.  
1845.

- Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 700 m, 8 Mar 1997, *H. Vargas, X. Aguirre, R. Miranda & C. Bobles 1265* (MO, QCNE).  
Herbaceous vine. 580-700 m. Amazonia.
- Mikania guaco** Bonpl., Pl. Aequinoct. 2(13): 84, t. 105. 1809 [1811].  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 8 Dec 1994, *N. Pitman & M.S. Bass 1054* (MO, QCNE).  
Herbaceous vine. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Mikania houstoniana** (L.) B.L. Rob., Proc. Amer. Acad. Arts 42: 47. 1906.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 850 m, 18 Feb-5 Mar 1995, *W. Palacios, J.L. Clark & N. Jaramillo 13592* (MO, QCNE).  
Liana. 850 m. Amazonia, Chocó, Mesoamerica.
- Mikania micrantha** Kunth, Nov. Gen. Sp. (folio ed.) 4: 105. 1820 [1818].  
Representative Specimen: Ecuador: Esmeraldas: Cotacachi-Cayapas 250 m, 28-31 Oct 1993, *Milton Tirado & P. Asimbaya, M. Coroso, J. Arroyo 697* (MO, QCNE).  
Herbaceous vine. 500 m. Amazonia, Chocó, Mesoamerica.
- Neurolaena lobata** (L.) R. Br. ex Cass., Dict. Sci. Nat. (ed. 2) 34: 501, 502. 1825.  
Representative Specimen: Ecuador: Esmeraldas: Carretera Herrera-El Páramo (Sta. Isabel) 580 m, 19 Feb-5 Mar 1995, *W. Palacios, J.L. Clark & N. Jaramillo 13554* (MO, QCNE).  
Shrub. 580-600 m. Amazonia, Chocó, Mesoamerica.
- Piptocarpha poeppigiana** (DC.) Baker, Fl. Bras. 6(2): 131. 1873.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 10 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3787* (MO, QCNE).  
Liana. 500 m. Amazonia, Chocó, Mesoamerica.
- Pluchea carolinensis** (Jacq.) G. Don, Hort. Brit. (ed. 3) 350. 1839.
- Representative Specimen: Ecuador: Manabí: 25 km al sur de Pedernales 5-80 m, 11 Oct 1999, *Tom Delinkns 417* (MO, QCNE).  
Shrub. 0-100 m. Mesoamerica.
- Pseudelephantopus spicatus** (Juss. ex Aubl.) C.F. Baker, Trans. Acad. Sci. St. Louis 12(5): 55. 1902.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 7 Dec 1994, *N. Pitman & M.S. Bass 1027* (MO, QCNE).  
Terrestrial herb. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Pseudelephantopus spiralis** (Less.) Cronquist, Madrono 20: 255. 1970.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 14 Sep 1994, *J.R. Abbott 15093* (QCNE).  
Terrestrial herb. 600 m. Amazonia, Chocó, Mesoamerica.
- Pseudogynoxys bogotensis** (Spreng.) Cuatrec., Brittonia 8: 156. 1955.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 19 Oct 1994, *N. Pitman, M.S. Bass & L. Kueppers 866* (MO, QCNE).  
Terrestrial herb. 400-600 m. Chocó.
- Schistocarpha eupatorioides** (Fenzl) Kuntze, Revis. Gen. Pl. 3(2): 170. 1898.  
Representative Specimen: Ecuador: Esmeraldas: Carretera Herrera-El Páramo (Sta. Isabel) 580 m, 18 Feb-5 Mar 1995, *W. Palacios, J.L. Clark & N. Jaramillo 13553* (QCNE).  
Shrub. 580 m. Amazonia, Chocó, Mesoamerica.
- Verbesina minuticeps** S.F. Blake, Bull. Torrey Bot. Club 51: 431. 1924. Type: Ecuador: Guayas: Guayaquil, 0-50 m, *Hitchcock, A.S. 20159* (HT: US).  
Representative Specimen: Ecuador: Manabí: Jama 200 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11643* (MO, QCNE).  
Shrub. 200 m. Endemic.
- Vernonanthura patens** (Kunth) H. Rob.,

Phytologia 73(2): 72. 1992.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 9 Dec 1994, *M.S. Bass & N. Pitman*  
319 (MO, QCNE).

Tree. 400-600 m. Amazonia, Chocó,  
Mesoamerica.

**Vernonia patens** Kunth, Nov. Gen. Sp. (folio ed.)  
4: 32. 1820 [1818].

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 9 Dec 1994, *N. Pitman & M.S. Bass*  
1066 (MO, QCNE).

Tree. 400-600 m. Amazonia, Chocó,  
Mesoamerica.

**Wulffia baccata** (L.) Kuntze, Revis. Gen. Pl. 1:  
373. 1891.

Representative Specimen: Ecuador:  
Esmeraldas: 300 m, 19 Oct 1992 - 24 Oct  
1992, *Galo Tipaz, C. Aulestia & A. Llanos*  
2124 (MO).

Herbaceous vine. 300-700 m. Amazonia,  
Chocó, Mesoamerica.

#### BALANOPHORACEAE

**Helosis cayennensis** (Sw.) Spreng., Syst. Veg. 3:  
765. 1826.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 24 Sep 1996, *J.L. Clark 2901* (MO,  
QCNE).

Common root parasite. 100-500 m. Amazonia,  
Chocó, Mesoamerica.

#### BALSAMINACEAE

**Impatiens balsamina** L., Sp. Pl. 2: 938. 1753.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 5 Apr 1995, *J.L. Clark & Y. Troya*  
609 (MO, QCNE).

Common cultivated terrestrial herb. 0-600 m.  
Introduced; widely naturalized in the  
tropics.

#### BEGONIACEAE

**Begonia glabra** Aubl., Hist. Pl. Guiane 2: 916–

917, t. 349. 1775.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 14 Nov 1994, *J.L. Clark, H. Lintz &*  
*S. Mora 233* (MO, QCNE).

Herbaceous vine. 400-600 m. Amazonia,  
Chocó, Mesoamerica.

**Begonia harlingii** L.B. Sm. & Wassh., Phytologia  
44: 246, pl. 9. 1979. Type: Ecuador. Los  
Ríos, 750 m, *Harling 487* (HT: S; photo:  
US).

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 27 Sep 1997, *J.L. Clark 2915* (MO,  
QCNE).

Common terrestrial herb with succulent stems.  
400-650 m. Endemic.

**Begonia sodiroi** C. DC., Bull. Herb. Boissier, ser.  
2, 8: 323. 1908.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 22 Oct 1996, *J.L. Clark 3075* (MO,  
QCNE).

Common herbaceous vine. 400-600 m.  
Amazonia.

#### BIGNONIACEAE

**Amphilophium paniculatum** (L.) Kunth, Nov.  
Gen. Sp. 3: 149. 1818[1819].

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 17 Jan 1997, *J.L. Clark, L. Chatrou, C.*  
*Repetur & P. Maas 3816* (MO, QCNE).

Herbaceous vine. 400-600 m. Amazonia,  
Chocó, Mesoamerica.

**Amphitecna latifolia** (Mill.) A.H. Gentry, Taxon  
25(1): 108. 1976.

Representative Specimen: Ecuador: Manabí: 45  
km al norte de Pedernales, 5 m, 28 Aug  
1998, *D. Neill & QCNE botany interns*  
11409 (QCNE).

Tree. 0-50 m. Chocó, Mesoamerica.

**Anemopaegma chrysanthum** Dugand, Caldasia  
4(19): 307-309. 1947. Type: Colombia:  
Cauca: Costa del Pacífico, río Micay, brazo  
Noanamito, orilla derecha, El Chachajo, 2-

- 5 m, 27 Feb 1943, *J. Cuatrecasas 14269* (HT: COL).  
 Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 29 Jan 1991, *A. Gentry, R. Foster & C. Josse 72876* (MO).  
 Liana. 280-600 m. Chocó, Mesoamerica.
- Arrabidaea verrucosa** (Standl.) A.H. Gentry, *Selbyana* 2(1): 43. 1977.  
 Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry, R. Foster & C. Josse 72941* (MO).  
 Liana. 280 m. Amazonia, Chocó, Mesoamerica.
- Crescentia cujete** L., *Sp. Pl.* 2: 626. 1753.  
 Representative Specimen: Ecuador: Manabí: 25 km al sur de Pedernales 5–80 m, 11 Oct 1999, *T. Delinks 414* (QCNE).  
 Common cultivated Tree. 0-100 m. Introduced. Amazonia, Chocó, Mesoamerica.
- Exarata chocoensis** A.H. Gentry, *Syst. Bot.* 17(3): 503-506, f. 1-3. 1992. Type: Ecuador: Pichincha: near Puerto Quito, 350 m, *T. Pennington & J. de la Cruz 10550* (HT: MO; IT: K, QCNE). (Fig. 9A-B, p.136; 10A-E, p.137).  
 Representative Specimen: Esmeraldas: Bilsa Biological Station, Loma de los Guerrilleros, 650 m, 19 Feb 1997, *J.L. Clark 3944* (COL, MO, QCNE, US).  
 Subcanopy tree, common in wet forest. 100-650 m. Common name: "Piedrita." Chocó.
- Paragonia pyramidata** (Rich.) Bureau, *Kongel. Danske Vidensk. Selsk. Skr., Naturvidensk. Math. Afd., ser. 6* 6(3): 422. 1892.  
 Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, Cabaceras del Río Viche, estero Sabaleta, 250 m, 16 Mar 1998, *J.L. Clark 4724* (MO, QCNE).  
 Vine. 250 m. Amazonia, Chocó, Mesoamerica.
- Schlegelia darienensis** Sandwith, *Kew Bull.* 1930: 212. 1930.  
 Representative Specimen: Esmeraldas: Bilsa Biological Station, 500 m, 6 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan* 3733 (COL, MO, QCNE, US).  
 Common woody vine. 100-650 m. Chocó.
- Schlegelia dressleri** A.H. Gentry, *Ann. Missouri Bot. Gard.* 60(3): 924, f. 32K-O. 1973 [1974].  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 6 Feb 1996, *J.L. Clark, N. Kerber & J. Plihal 1939* (COL, MO, QCNE).  
 Common woody vine. 280-600 m. Chocó, Mesoamerica.
- Schlegelia sulphurea** Diels, *Notizbl. Bot. Gart. Berlin-Dahlem* 14: 39. 1938. Type: Ecuador: San Carlos de los Colorados, primaren Regenwald, 150 m, *Schultze-Rhnhof 2016* (T: B).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 12 Sep 1994, *J.L. Clark 7* (MO, QCNE).  
 Common woody vine. 280-600 m. Chocó, Mesoamerica.
- Tabebuia chrysantha** (Jacq.) G. Nicholson, *Ill. Dict. Gard.* 4: 1. 1887.  
 Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11613* (QCNE).  
 Canopy tree. 100-300 m. Common name: "Guayacan boqueño." Amazonia, Chocó, Mesoamerica.  
 Infrasp.: *Tabebuia chrysantha* subsp. *pluvicola* A.H. Gentry.
- Tecoma castanifolia** (D. Don) Melch., *Ber. Deutsch. Bot. Ges.* 59: 26. 1941.  
 Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11632* (QCNE).  
 Tree or shrub, in dry forest. 0-300 m. Endemic (coastal Ecuador and coastal NW Peru).

## BIXACEAE

**Bixa orellana** L., *Sp. Pl.* 1: 512. 1753.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–

600 m, 27 Sep 1994, *M.S. Bass & J. Wolf* 74 (MO, QCNE).

Common cultivated shrub. 100-600 m.  
Common name: "Achote." Introduced;  
widely cultivated in the tropics.

### BOMBACACEAE

**Eriotheca globosa** (Aubl.) A. Robyns, Bull. Jard. Bot. Etat 33(1): 142. 1963.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 9 Oct 1994, *J.L. Clark 173* (MO, QCNE, WIS).

Common tree in wet forest. 400-600 Amazonia, Chocó [Possibly a mis-identification; the taxon in coastal Ecuador and Colombia is probably distinct from the Amazonian species; J.L. Fernández-Alonso, pers. comm.]

**Eriotheca ruizii** (K. Schum.) A. Robyns, Bull. Jard. Bot. Etat 33(2): 162. 1963.

Representative Specimen: Ecuador: Manabí: Punta Los Frailes 5-60 m, 29 Jun 1999, *T. Delinks & C. Robles 337* (QCNE).

Common tree in dry forest. 0-50 m. Amazonia.

**Matisia castano** H. Karst. & Triana, Ann. Sci. Nat., Bot., ser. 4, 27: 326. 1862.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 12 Feb 1996, *J.L. Clark & N. Kerber, J. Plihal 1952* (MO, QCNE).

Tree. 400-600 m. Chocó.

**Matisia giacomettoii** Romero, Mutisia 33: 16, f. 10, 11. 1970.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 10 May 1995, *J.L. Clark & C. Watt 822* (MO, QCNE).

Tree. 400-600 m.

**Matisia grandifolia** Little, J. Wash. Acad. Sci. 38: 102, f. 18. 1948. Type: Ecuador: Pichincha: Sto. Domingo de los Colorados, *E.L. Little 6146* (HT: US; IT: F).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 13 May 1998, *J.L. Clark & C. Pallis*

5524 (MO, QCNE).

Tree. 400-600 m. Amazonia, Chocó.

**Matisia idroboi** Cuatrec., Phytologia 4: 476. 1954.

Synonym: *Quararibea idroboi* (Cuatrec.) A. Robyns & S. Nilsson

Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 16 Mar 1998, *J.L. Clark 4657* (MO, QCNE).

Tree. 250 m. Amazonia, Chocó.

**Matisia longipes** Little, Phytologia 18: 200, f. 3.

1969. Type: Ecuador: Esmeraldas: Alto Tambo, 650 m, lower montane forest, 23 Sep 1965, *E.L. Little & R.G. Dixon 21125* (HT: US: IT: NY).

Representative Specimen: Ecuador: Esmeraldas: Reserva Awa 500 m, 21 Jan 1993, *C. Aulestia & M. Aulestia 1003* (MO, QCNE, WIS).

Tree. 280 m. Chocó.

**Matisia palenquiana** (A. Robyns) W.S. Alverson,

Taxon 38(3): 386. 1989. *Quararibea palenquiana* A. Robyns. Type: Ecuador: Los Rios, 200 m, 22 Feb 1974, *A. Gentry 10134* (HT: BR).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 550 m, 24 Nov 1999, *D. Neill & QCNE botany interns 12222* (MO, QCNE).

Tree. 500-600 m. Endemic.

**Ochroma pyramidale** (Cav. ex Lam.) Urb., Repert. Spec. Nov. Regni Veg. Beih. 5: 123. 1920.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 12 Dec 1994, *M.S. Bass & N. Pitman 338* (MO, QCNE).

Common tree in light gaps. 400-600 m.  
Common names: "Balsa" or "Boya."  
Amazonia, Chocó, Mesoamerica.

**Pachira patinoi** (Dugand & Robyns) Fern. Alonso, Revista Acad. Colomb. Ci. Exact. 22(82): 7-12. 1998.

Synonym: *Bombacopsis patinoi* Dugand & Robyns.

Representative Specimen: Ecuador:

Esmeraldas: Bilsa Biological Station, 650 m, 12 Mar 1997, *J.L. Clark, T. Nuñez & J. Richter 3998* (MO, QCNE).

Common subcanopy tree. 400-600 m. Chocó.

**Patinoa almirajo** Cuatrec., Rev. Int. Bot. Appl. Agric. Trop. 33(369-370): 309-310, 312, f. 1-2, 6-13. 1953. Type: Colombia: Choco: La Playa, margen derecha del Río Atrato, frente a Quibdo, 50 m, 12 Mar 1953, *V.M. Patiño 122* (HT: F). (Fig. 8A).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 1 Oct 1996, *J.L. Clark 2961* (MO, QCNE).

Common subcanopy tree along rivers. Fruits large (>30 cm) and heavy. 400-600 m. Chocó, Mesoamerica.

**Pseudobombax millei** (Standl.) A. Robyns, Bull. Jard. Bot. Etat 33: 69. 1963. *Bombax millei* Standl. Type: Ecuador, *L. Mille 868* (HT: F; photo: F).

Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loo 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 1129* (MO, QCNE).

Tree, in dry to moist forest. 0-100 m. Endemic.

**Quararibea casasecae** Fern. Alonso & Castro., Anales Jard. Bot. Madrid 59(1): 155, f. 3. 2001. Type: Ecuador. Estación Biológica Bilsa, Montañas Mache-Chindul, 35 km al W de Quinde, 650 m, 2 Oct 1996, *J.L. Clark 3000* (HT: QCNE; IT: COL, MO).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 12 Mar 1997, *J.L. Clark, A. Cousins, T. Nuñez & J. Richter 4015* (MO, QCNE).

Tree. 500-650 m. Endemic.

**Spirotheca awadendron** Fern. Alonso, Revista Acad. Colomb. Ci. Exact. 25(95): 201-203, f. 9. 2001. Type: Ecuador. Esmeraldas: Quinindé. Reserva Ecológica Mache-Chindul. Bilsa Biological Station, 500 m, 1-10 Jan 1997, *J.L. Clark, E. Austen & D. Kapan 3708* (HT: QCNE; IT: COL, MO, GH, US, AAU). (Fig. 8C-D, p.135).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650

m, 12 Mar 1997, *J.L. Clark, A. Cousins, T. Nuñez & J. Richter 4091* (US, QCNE, COL, MO).

Emergent canopy tree. 400-650 m. Endemic.

## BORAGINACEAE

**Cordia alliodora** (Ruiz & Pav.) Oken, Allg. Naturgesch. 3(2): 1098. 1841.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 20 May 1995, *J.L. Clark & C. Watt 963* (MO, QCNE).

Common roadside tree. 400-650 m. Common name, "Laurel Negro." Amazonia, Chocó, Mesoamerica.

**Cordia cylindrostachya** (Ruiz & Pav.) Roem. & Schult., Syst. Veg. 4: 459. 1819.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 17 May 1995, *J.L. Clark & C. Watt 906* (MO, QCNE).

Tree. 400-600 m. Common name: "Tutumbe." Amazonia, Chocó, Mesoamerica.

**Cordia dwyeri** Nowicke, Phytologia 18(7): 419-420. 1969.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 25 Feb 1996, *J.L. Clark 2132* (MO, QCNE).

Tree. 280-600 m. Choco, Mesoamerica.

**Cordia fallax** I.M. Johnst., J. Arnold Arbor 16: 10. 1935.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 8 May 1996, *J.L. Clark 2561* (MO, QCNE).

Tree. 400-600 m. Amazonia.

**Cordia hebeclada** I.M. Johnst., J. Arnold Arbor. 31: 176. 1950.

Representative Specimen: Ecuador: Manabí: 45 km al norte de Pedernales, 5 m, 28 Aug 1998, *D. Neill & QCNE botany interns 11439* (QCNE).

Tree. 0-600 m. Amazonia, Chocó.

**Cordia lucidula** I.M. Johnst., J. Arnold Arbor.

- 21(3): 352-353. 1940.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 9 May 1995, *J.L. Clark & C. Watt 809* (MO, QCNE).  
 Subcanopy tree; inflorescence to 1 m wide. 400-600 m. Chocó, Mesoamerica.
- Cordia lutea*** Lam., Tabl. Encycl. 1: 421. 1791.  
 Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11627* (QCNE).  
 Shrub. 100 m. Amazonia, Chocó. \*
- Cordia mexiana*** I.M. Johnst., *J. Arnold Arbor.* 18: 12. 1937.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 19 Feb 1996, *J.L. Clark 2083* (MO, QCNE).  
 Tree. 400-600 m. Amazonia.
- Cordia spinescens*** L., *Mant. Pl.* 2: 206. 1771.  
 Synonym: *Varronia spinescens* (L.) Borhidi.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 11 Nov 1994, *M.S. Bass & N. Pitman 230* (MO, QCNE).  
 Common shrub along disturbed roadsides. 250-600. Amazonia, Chocó, Mesoamerica.
- Heliotropium curassavicum*** L., *Sp. Pl.* 1: 130. 1753.  
 Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11611* (MO, QCNE).  
 Terrestrial herb. 100 m. Mesoamerica.
- Heliotropium indicum*** L., *Sp. Pl.* 1: 130. 1753.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 2 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3696* (MO, QCNE).  
 Terrestrial herb. 500 m. Chocó, Mesoamerica.
- Tournefortia angustiflora*** Ruiz & Pav., *Fl. Peruv.* 2: 25-26, t. 151, f. a. 1799.  
 Representative Specimen: Ecuador: Manabí: Cerro Para de Pájaro, 300-700 m, 5 Mar 1997, *H. Vargas, X. Aguirre, R. Miranda & C. Robles 1205* (MO, QCNE).  
 Terrestrial herb. 300-700 m. Amazonia, Chocó, Mesoamerica.
- Tournefortia bicolor*** Sw., *Prodr.* 40. 1788.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 4 Apr 1995, *J.L. Clark & Y. Troya 602* (MO, QCNE).  
 Scandent subshrub. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Tournefortia delicatula*** J.S. Mill. *Novon* 7(3): 265-267, f. 1. 1997.  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 19 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2625* (MO, QCNE).  
 Terrestrial herb. 300-700 m. Amazonia.
- Tournefortia gigantifolia*** Killip ex J.S. Mill., *Novon* 10(1): 49-51, fig. 1. 2000. Type: Ecuador: Napo: Reserva Biologica Jatun Sacha, ca. 8 km ESE of Puerto Misahualli, *J.S. Miller, W. Wilbert & S.F.S. Med. Bot. Class. 2321* (HT: MO, IT: QCA, US).  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 20 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2686* (MO, QCNE).  
 Shrub. 300-700 m. Amazonia, Chocó.
- Tournefortia hirsutissima*** L., *Sp. Pl.* 1: 140. 1753.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 14 Feb 1996, *J.L. Clark 1984* (MO, QCNE).  
 Herbaceous vine. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Tournefortia maculata*** Jacq., *Enum. Syst. Pl.* 14. 1760.  
 Representative Specimen: Ecuador: Manabí: Mache-Chindul, comunidad Ambache, 250 m, 6 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4234* (MO, QCNE).  
 Herbaceous vine. 250 m. Amazonia, Chocó, Mesoamerica.

## BROMELIACEAE

***Aechmea aciculosa*** Mez & Sodiro, *Bull. Herb.*



- Boissier, ser. 2, 4: 620. 1904. Type: Ecuador, *Sodiro 171/2* (B destr., photo: US).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 10 Apr 1995, *John L. Clark & Ivonne Troya 690* (MO, QCNE, SEL).  
 Common epiphyte. 400–600 m. Amazonia.
- Aechmea angustifolia** Poepp. & Endl., Nov. Gen. Sp. Pl. 2: 43, t. 159. 1838.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 20 Nov 1994, *J.L. Clark, C. Bergman, H. Lintz & S. Mora 296* (MO, QCNE, SEL).  
 Common epiphyte. 400–600 m. Amazonia, Chocó, Mesoamerica.
- Aechmea mexicana** Baker, J. Bot. 17: 165. 1879.  
 Representative Specimen: Ecuador: Manabí: 45 km al norte de Padernales 5 m, 28 Aug 1998, *D. Neill & QCNE botany interns 11432* (QCNE).  
 Epiphyte. 0–50 m. Chocó, Mesoamerica.
- Aechmea pyramidalis** Benth., Bot. Voy. Sulphur 173. 1846. Type: Ecuador. Guayaquil, *Sinclair s.n.* (HT: K; photo: GH).  
 Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 100 m, 15 Dec 1998, *D. Neill & QCNE botany interns 11523* (MO).  
 Epiphyte, 100–600 m.
- Catopsis sessiliflora** (Ruiz & Pav.) Mez, Monogr. Phan. 9: 625. 1896.  
 Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 6 Jul 1997, *J.L. Clark 2800* (MO, QCNE).  
 Epiphyte, 200–700 m. Amazonia, Chocó, Mesoamerica.
- Guzmania alborosea** H. Luther, Selbyana 9: 187, f. 1986. Type: Ecuador: Pichincha: Centinela, montañas de la Ila, km 12 on road from Patricia Pilar to Flor de Mayo, 600 m, *C.H. Dodson, M. Fallen & P. Morgan 8422* (HT: SEL; IT: US).  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 700 m, 26 Aug 1998, *D. Neill & QCNE botany interns 11353* (MO).
- Epiphyte. 700 m. Endemic.
- Guzmania amplexans** L.B. Sm., Contr. U.S. Natl. Herb. 29: 292, f. 16. 1949.  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 700 m, 26 Aug 1998, *D. Neill & QCNE botany interns 11340* (QCNE).  
 Epiphyte. 700 m. Chocó.
- Guzmania angustifolia** (Baker) Wittm., Bot. Jahrb. Syst. 11: 62. 1889.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 11 May 1995, *J.L. Clark & C. Watt 830* (MO, QCNE, SEL).  
 Common epiphyte. 300–700 m. Amazonia, Chocó, Mesoamerica.
- Guzmania eduardii** André ex Mez.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 16 Sep 1994, *J.L. Clark & B. Adnepos 69* (MO, QCNE).  
 Epiphyte. 400–600 m. Amazonia, Chocó.
- Guzmania lingulata** (L.) Mez, Monogr. Phan. 9: 899. 1896.  
 Representative Specimen: Ecuador: Manabí: 43 km al norte de Pedernales, 100 m, 19 Dec 1998, *D. Neill & QCNE botany interns 11726* (QCNE).  
 Epiphyte. 50–600 m. Amazonia, Chocó, Mesoamerica.  
 Infrasp.: *Guzmania lingulata* var. *cardinalis* (André) André ex Mez.
- Guzmania monostachia** (L.) Rusby ex Mez, Monogr. Phan. 9: 905. 1896.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 10–13 Jul 1996, *J.L. Clark & P. Hibbs 2853* (MO, QCNE).  
 Epiphyte. 400–600 m. Amazonia, Chocó, Mesoamerica.
- Guzmania remyi** L.B. Sm., Phytologia 19: 285, t. 1, f. 16–18. 1970. Type: Ecuador: Bolívar-Guayas: forests between Guaranda and Bodegas (Babahoyo), Nov 1856, *E.J. Remy s.n.* (HT: P; IT: US).

- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 31 Mar 1996, *J.L. Clark & K. Berg & J. Leffingwell 2364* (MO, QCNE).  
Common epiphyte. 300-700 m. Endemic.
- Guzmania rhonhofiana** Harms, Notizbl. Bot. Gart. Berlin-Dahlem 14: 329. 1939. Type: Ecuador: Los Ríos: San Carlos de los Colordos, 19 Oct 1935, *H. Schultze-Rhonhof 1981* (HT: B).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 8 Oct 1996, *J.L. Clark 3020* (MO, QCNE).  
Epiphyte. 500 m. Chocó
- Guzmania scherzeriana** Mez, Monogr. Phan. 9: 949. 1896.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 19 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2701* (MO, QCNE).  
Epiphyte. 300-700 m. Amazonia, Chocó, Mesoamerica.
- Pitcairnia bakeri** (André) André ex Mez, Monogr. Phan. 9: 460. 1896.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 28 Mar-11 Apr 1995, *J.L. Clark & Y. Troya 586* (MO, QCNE).  
Terrestrial or epiphytic herb, 400-600 m. Amazonia, Chocó.
- Pitcairnia brongniartiana** André, Enum. Bromel. 5. 1888.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 20 Oct 1994, *N. Pitman, M.S. Bass & L. Kueppers 869* (MO, QCNE).  
Terrestrial herb. 400-600 m. Amazonia, Chocó.
- Pitcairnia clarkii** H. Luther, Selbyana 18(1): 98. 1997. Type: Ecuador. Esmeraldas: Quinindé, Bilsa Biological Station, Mache Mountains, 35 km W of Quinindé, 5 km W Santa Isabel, 00 21'N 79 44'W, 400-600 m Premontane wet forest, 28 Mar-11 Apr 1995, *J. L. Clark & Y. Troya 528* (HT: SEL; IT: MO, QCA, QCNE). (Fig. 7A-B, p.134).
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 16 Sep 1994, *J.L. Clark & B. Adnepos 67* (MO, QCNE, SEL).  
Terrestrial or epiphytic subshr. 400-600 m. Endemic.
- Pitcairnia ferrell-ingramiae** H. Luther & Dalström, J. Bromeliad Soc. 47(5): 231. 1997. Type: Ecuador. Imbabura: Los Cedros Reserve, 1550-1600 m. 25 Mar 1996, *S. Dallström, S. Ingram & K. Ferrell-Ingram 2236* (HT: SEL). (Fig. 7D-E, p.134).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 4-5 Oct 1996, *J.L. Clark 2984* (MO, QCNE).  
Epiphyte, stems subwoody. 400-600 m. Endemic.
- Pitcairnia scepstrigera** Mez, Repert. Spec. Nov. Regni Veg. 3: 7. 1906. Type: Ecuador: Manabí: Hacienda El Recreo, ca 50 m, *H. Eggers 15061* (HT: B; IT: F; photo: F(B)).  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4328* (MO, QCNE, SEL).  
Terrestrial, stems subwoody. 300-700 m. Amazonia.
- Racinaea multiflora** (Benth.) M.A. Spencer & L.B. Sm., Phytologia 74(2): 155. 1993. *Tillandsia multiflora* Benth. Type: Ecuador. Guayas, *Cuming 1269* (HT: K; photo: GH).  
Representative Specimen: Ecuador: Manabí: Cojimies 100 m, 6 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4257* (MO, QCNE).  
Epiphyte. 100 m.
- Tillandsia balbisiana** Schult. f., Syst. Veg. 7(2): 1212. 1830.  
Representative Specimen: Ecuador: Manabí: colectada en pastizal, cerca Pedernales, carretera a San Vicente, 5 m, 13 Apr 2001, *José M. Manzanares 7418* (QCNE).  
Epiphyte. 5 m. Amazonia.
- Tillandsia complanata** Benth., Bot. Voy. Sulphur 173. 1846. Type: Ecuador. Esmeraldas:

- Atacames, *Sinclair s.n.* (HT: K; photo: GH).  
 Representative Specimen: Ecuador: Manabí: Mtns. Mache-Chindul, comunidad Ambache, 250 m, 6 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4218* (MO, QCNE, SEL).  
 Epiphyte. 50-700 m. Amazonia.
- Tillandsia cornuta** Mez & Sodiro, Bull. Herb. Boissier, ser. 2, 5: 106. 1905. Type: Ecuador: Bolívar: Balsapamba, Oct 1890, *Sodiro 171/42* (HT: B; photo: B).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 26 Jan 1995, *J.L. Clark 429* (MO, QCNE, SEL).  
 Common Epiphyte. 280-700 m. Chocó, Mesoamerica.
- Tillandsia cyanea** Linden ex K. Koch, Wochenschr. Gartnerei Pflanzenk. 10: 140. 1867.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 6 Feb 1996, *J.L. Clark & N. Kerber, J. Plihal 1942* (MO, QCNE).  
 Epiphyte. 280-700 m. Endemic.
- Tillandsia distichia** Vell., Fl. Flumin. 136. 1825.  
 Representative Specimen: Esmeraldas: Paraíso de Papagayos, 200 m, 6 Jul 1997, *J.L. Clark 2781* (MO, QCNE, SEL).  
 Epiphyte. 0-200 m. Chocó.
- Tillandsia narthecioides** C. Presl, Reliq. Haenk. 1(2): 125. 1827.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 28 Mar–11 Apr 1995, *J.L. Clark & Y. Troya 638* (MO, QCNE, SEL).  
 Epiphyte. 0-600 m. Chocó.
- Tillandsia venusta** Mez & Wercklé, Bull. Herb. Boissier, ser. 2, 5: 108. 1905.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 25 Nov 1995, *J.L. Clark, K. Cunningham & C. Roberts 1692* (MO, QCNE, SEL).  
 Common Epiphyte. 250-600 m. Mesoamerica.
- Vriesea barclayana** (Baker) L.B. Sm., Contr. U.S. Natl. Herb. 29(10): 517, f. 75. 1951.  
*Tillandsia barclayana* Baker. Type: Ecuador: Guayas: Valdivia, Nov 1836, *Barclay 622* (HT: K).  
 Representative Specimen: Ecuador: Manabí: Jama 200 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11642* (MO, QCNE).  
 Epiphyte. 0-200 m.
- Werauhia paupera** (Mez & Sodiro) J.R. Grant, Trop. Subtrop. Pflanzenwelt 91: 47. 1995.  
*Thecophyllum pauperum* Mez & Sodiro. *Vriesea paupera* (Mez & Sodiro) L.B. Sm. & Pittendr., J. Wash. Acad. Sci. 43: 403. 1953. Type: Ecuador: Pichincha: slopes of Pichincha, ca. 75 m, Jul 1886, *Sodiro 171/18* (HT: B; photo: B).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 7 Oct 1994, *J.L. Clark & Heather Lintz 158* (MO, QCNE).  
 Epiphyte. 400-600 m. Endemic.
- Werauhia vittata** (Mez & Wercklé ex Mez) J.R. Grant, Trop. Subtrop. Pflanzenwelt 91: 38. 1995, *Vriesea vittata* (Mez & Wercklé) L.B. Sm. & Pittendr., J. Wash. Acad. Sci. 43: 403. 1953[1954]. *Thecophyllum vittatum* Mez & Wercklé.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 7 Oct 1994, *J.L. Clark, M.S. Bass & N. Pitman 157* (MO, QCNE).  
 Epiphyte. 400-600 m. Mesoamerica.

## BURMANNIACEAE

**Gymnosiphon sp.**

- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 2 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3683* (QCNE).  
 Saprophyte, in wet forest.

## BURSERACEAE

- Protium ecuadorensis** Benoist, Bull. Soc. Bot. France 81: 324. 1934. Type: Ecuador.  
 Representative Specimen: Ecuador: Esmeraldas: Recinto Palma Junta 80 m, 20 May 2000, *D. Neill & QCNE botany interns*

12745 (MO, QCNE).

Canopy tree. 50-200 m. Common name: "Copal Blanco," "Anime." Chocó.

**Tetragastris varians** Little, J. Wash. Acad. Sci. 38: 96, f. 6. 1948. Type: Ecuador: Esmeraldas: San Lorenzo, 10 m, 10 Apr 1943, E.L. Little 6292 (HT: MAD; IT: F, US).

Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 28 Jan 1991, A. Gentry & C. Josse 72775 (MO).

Tree, in wet forest, 280 m. Common name: "Anime." Endemic.

### BUTOMACEAE

**Limnocharis flava** (L.) Buchenau, Index Crit. Butom. Alism. Juncag. 13. 1868.

Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 28 Mar 1998, J.L. Clark & S. Nazzaro 4933 (MO, QCNE).

Aquatic succulent herb, 200 m. Amazonia, Chocó, Mesoamerica.

### CACTACEAE

**Epiphyllum columbiense** (F.A.C. Weber) Dodson & A.H. Gentry, Selbyana 2(1): 31. 1977.

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 21 Jun 1996, J.L. Clark, E. Arroyo & P. Hibbs 2699 (MO, QCNE).

Epiphyte. 300-700 m. Chocó, Mesoamerica.

**Epiphyllum rubrocoronatum** (Kimmach) Dodson & A.H. Gentry, Selbyana 2(1): 31. 1977.

*Epiphyllum phyllanthus* var. *rubrocoronatum* Kimmach. Type: Ecuador: Chimborazo: along Río Chimbo at La Isla, 1958, Horich, C.K. s.n. (cult. UC-58.790) (HT: HNT; IT: K, UC, US)

Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 20 m, 16 Dec 1998, D. Neill & QCNE botany interns 11599 (MO, QCNE).

Epiphyte. 0-50 m. Chocó, Mesoamerica.

**Rhipsalis micrantha** (Kunth) DC., Prodr. 3: 476. 1828.

Representative Specimen: Ecuador:

Esmeraldas: Paraíso de Papagayos, 200 m, 10 Oct 1996, J.L. Clark 3050 (MO, QCNE).

Epiphyte. 200-500 m. Amazonia, Chocó, Mesoamerica.

### CAMPANULACEAE

**Burmeistera brachyandra** E. Wimm., Pflanzenr. 276b: 129. 1943. Type: Ecuador:

Esmeraldas: Parroquia de Concepción, Playa Rica, Y. Mexía 8432 (HT: W; IT: BM, F, G, MO, NY, OXF, U, UC, US).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sep 1996, J.L. Clark 2935 (MO, QCNE).

Shrub. 600 m. Endemic.

**Burmeistera crassifolia** (E. Wimm.) E. Wimm., Repert. Spec. Nov. Regni Veg. 30: 33, t. 125. 1932.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 11 Oct 1994, J.L. Clark 178 (MO, QCNE).

Scandent Shrub. 400-600 m. Endemic.

**Burmeistera crispiloba** Zahlbr., Repert. Spec. Nov. Regni Veg. 13: 528. 1915. Type: Sodiro 91/24.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 25 Mar 1995, J.L. Clark & Y. Troya 499 (MO, QCNE).

Scandent subshrub. 400-600 m. Endemic. Amazonia.

**Burmeistera cyclostigmata** Donn. Sm., Bot. Gaz. 20(7): 291. 1895.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 550 m, 24-25 Feb 1995, W. Palacios 13636 (MO, OSH, QCNE).

Shrub. 550 m. Amazonia, Chocó, Mesoamerica.

**Burmeistera multiflora** Zahlbr., Repert. Spec. Nov. Regni Veg. 13: 530. 1915. Type: Ecuador, Karsten s.n. (LT: W; photo: F).

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 500 m, 26 Aug 1998, D. Neill & QCNE botany interns 11374

(MO, OSH).

Shrub. 500 m. Chocó.

**Burmeistera smaragdi** Lammers, Novon 12(2): 213-214, f. 6. 2002. Type: Ecuador: Esmeraldas: Quinindé, Bilsa Biological Station, Montañas de Mache, 35 km W of Quinindé, 5 km W of Santa Isabel, road between the station and the SE Ridge Trail, 00°21'N, 79°44'W, premontane wet forest, 400-600 m, 19 Sep. 1994, *M.S. Bass & N. Pittman 22* (HT: OSH; IT: MO, QCNE). (Fig. 7C, p.134).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 13 Sep 1994, *J.L. Clark & B. Adnepos 27* (MO, QCNE, F).

Herbaceous vine. 400-600 m. Endemic.

**Centropogon cornutus** (L.) Druce, Bot. Exch. Club Soc. Brit. Isles 3(5): 416. 1914.

Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 6 Jul 1996, *J.L. Clark 2747* (MO, QCNE).

Scandent subshrub in disturbed forest. 50-200 m. Amazonia, Chocó, Mesoamerica.

**Centropogon granulosis** C. Presl, Prodr. Monogr. Lobel. 3(5): 416. 1836.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 20 Nov 1994, *J.L. Clark, C. Bergman, H. Lintz, & S. Mora 287* (MO, QCNE).

Scandent subshrub in disturbed forest, 400-600 m. Amazonia, Chocó, Mesoamerica.

Infrasp.: *Centropogon granulosis* subsp. *granulosus*.

**Hippobroma longiflora** (L.) G. Don, Gen. Hist. 3: 717. 1834.

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 21 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2697* (MO, QCNE).

Common terrestrial herb in disturbed areas. 300-700 m. Amazonia, Chocó, Mesoamerica.

## CANNACEAE

**Canna indica** L., Sp. Pl. 1: 1. 1753.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 12 Mar 1997, *J.L. Clark, A. Cousins, T. Nuñez & J. Richter 4104* (MO, QCNE).

Terrestrial herb in disturbed areas. 500-650 m. Common name: "Lágrimas de San Pe." Amazonia, Chocó, Mesoamerica.

**Canna tuerckheimii** Kraenzl., Pflanzenr. IV. 47(Heft 56): 70. 1912.

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 21 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2704* (MO, QCNE).

Terrestrial herb in disturbed areas. 300-700 m. Common name: "Lágrimas de San Pe." Amazonia, Chocó, Mesoamerica.

## CAPPARACEAE

**Capparis bonifaziana** X. Cornejo & H.H. Iltis, Novon 15(3): 397. 2005. Type: Ecuador. Los Ríos: Hcda. Clementina, Puerta Negra, 9 Oct 2003, X. Cornejo & C. Bonifaz 7812 (IT: MO, WIS). (Fig. 8B, p.135; 14A-F, p.141).

Representative Specimen: Esmeraldas: Bilsa Biological Station, 500 m, 15 Jan 1997, *J.L. Clark, L. Chatrou, C. Repetur & P. Maas 3805* (MO, QCNE).

Common understory Shrub. 50-600 m. Endemic.

**Capparis crotonoides** Kunth, Nov. Gen. Sp. 5: 95, t. 437. 1821.

Representative Specimen: Ecuador: Manabí: 70 m, 21 Nov 1993, *Lindsay Woodruff and Tamara Nuñez 579* (MO, QCNE).

Tree. 0-100 m. Amazonia.

**Capparis ecuadorica** H.H. Iltis, Selbyana 2(2-3): 303-306, pl. 1. 1978. Type: Ecuador: Los Ríos: Río Palenque Field Station, 56 km north of Quevedo on Santo Domingo de los Colorados Highway, wet forest, 200 m, 16 Feb 1974, *A. Gentry 9973* (HT: WIS; IT: MO).

Representative Specimen: Ecuador: Manabí: Cuchilla Seca 450 m, 22 Jan 1991, *A. Gentry & C. Josse 72626* (MO).

Tree. 0-100 m. Endemic.

**Capparis frondosa** Jacq., Enum. Syst. Pl. 24: 1760.

Representative Specimen: Ecuador: Manabí: Punta Los Frailes 5–60 m, 29 Jun 1999, *T. Delinks & C. Robles 341* (QCNE).

Shrub. 0–100 m. Amazonia, Chocó, Mesoamerica.

**Capparis petiolaris** Kunth, Nov. Gen. Sp. 5: 91. 1821.

Representative Specimen: Ecuador: Manabí: Estero Manta Blanca 100–200 m, 24 Jan 1991, *A. Gentry & C. Josse 72719* (MO).

Shrub. 0–100 m.

**Morisonia americana** L., Sp. Pl. 1: 503. 1753.

Representative Specimen: Ecuador: Manabí: Parque Nacional Machalilla, 80–100 m, 18 Jan 1991, *A. Gentry & C. Josse 72389* (MO, WIS).

Tree. 0–100 m. Chocó, Mesoamericana.

**Podandroyne brevipedunculata** Cochrane, Selbyana 2(1): 32 (–36), t. 9, 10. 1977. Type: Ecuador: Esmeraldas: Parroquia de Concepción, El Sajado on Río Santiago, clearing, 60 m, 15 Dec 1936, *Y. Mexía 8443* (HT: UC: IT: BM, F, G, GB, GH, K, MO, NY, U, UC, US).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 11 Apr 1995, *J.L. Clark & Y. Troya 695* (MO, QCNE).

Suffrutescent Shrub. 200–600 m. Endemic.

**Podandroyne jamesonii** (Briq.) Cochrane, Novon 7(4): 353. 1997 [1998].

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 5 Dec 1994, *J.L. Clark & K. Chamberlain 364* (MO, QCNE).

Terrestrial herb. 400–600 m. Endemic.

**Steriphoma urbani** Eggers, Bot. Centralbl. 73: 67. 1898. Type: Ecuador: Manabí, El Recreo, *H. Eggers 15404* (HT: B; IT: US).

Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 250 m, 28 Nov 1999, *T. Delinks 519* (MO, QCNE).

Shrub. 250 m. Endemic.

## CARICACEAE

**Carica microcarpa** Jacq., Pl. Hort. Schoenbr. 3: 32–33, t. 309–310. 1798.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 10 Apr 1995, *J.L. Clark & Y. Troya 687* (MO, NY, QCNE).

Tree. 400–600 m. Common name: “Col de Monte.” Amazonia, Chocó, Mesoamerica. Infrasp.: *Carica microcarpa* subsp. *baccata* (Heilborn) V.M. Badillo.

**Carica parviflora** (A. DC.) Solms, Fl. Bras. 13(3): 177. 1889.

Representative Specimen: Ecuador: Manabí: Cerro del Matal, 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11629* (QCNE).

Unbranched pachycaul Tree. 0–600 m. Amazonia.

**Jacaratia spinosa** (Aubl.) A. DC., Prodr. 15(1): 419. 1864.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 31 March 1996, *J.L. Clark & Karl Berg, J. Leffingwell 2351* (MO, QCNE).

Canopy tree. 500 m. Common name: “Papayuela” & “Tambora.” Amazonia, Chocó, Mesoamerica.

## CARYOPHYLLACEAE

**Stellaria ovata** Willd. ex Schldtl., Ges. Naturf. Freunde Berlin Mag. Neuesten Entdeck. Gesammten Naturk. 7: 196–197. 1816.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 25 Oct 1994, *N. Pitman, M.S. Bass & L. Kueppers 886* (MO, PRC, QCNE).

Sprawling herb in disturbed areas. 600 m. Amazonia, Chocó, Mesoamerica.

## CECROPIACEAE

**Cecropia hispidissima** Cuatrec., Revista Acad. Colomb. Ci. Exact. 9: 325. 1956. Type: Colombia: Valle: Río San Juan, below

- Queremal, *J. Cuatrecasas 23986* (HT: US; IT: F).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4885* (MO, QCNE).  
 Common subcanopy Tree. 400-700 m. Common name: "Guarumo." Chocó, Mesoamerica
- Cecropia obtusifolia** Bertol., *Novi Comment. Acad. Sci. Inst. Bononiensis* 4: 439. 1840.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4889* (MO, QCNE).  
 Canopy tree. 400-600 m. Chocó, Mesoamerica.
- Cecropia reticulata** Cuatrec., *Revista Acad. Colomb. Ci. Exact.* 6: 279. 1945. Type: Colombia: Valle: Río Digua, Piedra de Moler, *J. Cuatrecasas 15117* (HT: COL; IT: F, US).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4806* (MO, QCNE).  
 Understory Tree. 20-600 m. Common name: "Guarumo." Amazonia, Chocó, Mesoamerica.
- Coussapoa contorta** Cuatrec., *Caldasia* 7: 289. 1956.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 13 May 1998, *J.L. Clark & C. Pallis 5559* (MO, QCNE).  
 Common canopy strangler. 400-600 m. Chocó, Mesoamerica.
- Coussapoa herthae** Mildbr., *Notizbl. Bot. Gart. Berlin-Dahlem* 14: 29. 1938. Type: Ecuador: Pichincha: San Carlos de los Colorados, 5 Oct 1935, *Schultze-Rhnhof 1953* (HT: B).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 13 May 1998, *J.L. Clark & C. Pallis 5567* (MO, QCNE).  
 Common canopy strangler. Common name: "Mata palo." 400-600 m. Chocó.
- Coussapoa villosa** Poepp. & Endl., *Nov. Gen. Sp.* Pl. 2: 33, pl. 147. 1838.  
 Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 11 Mar 1998, *J.L. Clark 4629* (MO, QCNE).  
 Canopy strangler. 40-600 m. Common name: "Mata palo." Amazonia, Chocó, Mesoamerica.
- Pourouma bicolor** Mart., *Syst. Mat. Med. Veg. Bras.* 2: 33, pl. 147. 1843.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4811* (MO, QCNE).  
 Understory Tree. 300-600 m. Common name: "Uva de Monte." Amazonia, Chocó, Mesoamerica.  
 Infrasp.: *Pourouma bicolor* subsp. *scobina* (Benoist) C.C. Berg & Exuden.
- Pourouma guianensis** Aubl., *Hist. Pl. Guiane* 2: 892, t. 341. 1775.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 24 Sep 1996, *J.L. Clark 2900* (MO, QCNE).  
 Subcanopy tree. 500 m. Common name: "Uva silvestre." Amazonia.  
 Infrasp.: *Pourouma guianensis* subsp. *guianensis*.

#### CELASTRACEAE

- Maytenus macrocarpa** (Ruiz & Pav.) Briq., *Annuaire Conserv. Jard. Bot. Geneve* 20: 361. 1919.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 25 Nov 1999, *D. Neill & QCNE botany interns 12195* (MO, QCNE).  
 Common subcanopy tree. 500 m. Common name: "Chuchuhuasu." Amazonia, Chocó.
- Perrottetia distichophylla** Cuatrec., *Lloydia* 11: 24. 1949.  
 Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 January 1991, *A. Gentry, R. Foster & C. Josse 72974* (MO).

Tree. 500 m. Amazonia, Chocó.

**Perrottetia sessiliflora** Lundell, *Phytologia* 1(14): 451-452. 1940.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 1 Oct 1996, *J.L. Clark 2965* (MO, QCNE).

Common subcanopy tree. 400-600 m. Amazonia, Chocó, Mesoamerica.

### CHRYSOBALANACEAE

**Couepia platycalyx** Cuatrec., *Fieldiana*, Bot. 27: 66. 1950.

Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 11 Mar 1998, *J.L. Clark 4639* (K, MO, QCNE).

Canopy tree. 250 m. Common name: "Chachaho." Chocó, Mesoamerica.

**Hirtella mutisii** Killip & Cuatrec., *Fieldiana*, Bot. 27(2): 112. 1951.

Representative Specimen: Ecuador: Esmeraldas: Pariso de Papagayos, 200 m, 6 Jul 1996, *J.L. Clark 2771* (K, MO, QCNE, US).

Common understory tree. 180-500 m. Amazonia, Chocó, Mesoamerica.

**Licania celiae** Prance, *Mem. New York Bot. Gard.* 64: 198-201, f. 1. 1990. Type: Ecuador: Napo: Parque Nacional Yasuni, 0°155'S, 76°111'W, 200 m, 28 May-8 Jun 1988, *C.E. Cerón & F. Hurtado 3843* (HT: K; IT: MO).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 25 Mar 199, *J.L. Clark & P. Nutt* (K, MO, QCNE).

Common subcanopy tree. 500 m. Amazonia.

### CLUSIACEAE

**Chrysochlamys macrophylla** Pax, *Repert. Spec. Nov. Regni Veg.* 7: 111. 1909.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 7 Oct 1994, *J.L. Clark, M.S. Bass & N. Pitman 154* (MO, QCNE).

Common understory shrub. 400-600 m. Amazonia.

**Clusia bracteosa** Cuatrec., *Revista Acad. Colomb. Ci. Exact.* 8: 46. 1950. Type: Colombia: Valle: Río Naya, brazo Aji, along Calle Larga, 4 m, *Cuatrecasas 14293* (HT: F).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 21 Sep 1994, *J.L. Clark & B. Adnepos 95* (MO, QCNE).

Common woody hemiepiphyte. 400-600 m. Chocó.

**Clusia caudata** (Planch. & Triana) Pipoly, *Sida* 17(4): 766. 1997. Type: Colombia: Chocó: Pacific coast, 1100-1700 m, 1851-1857, *J. Triana s.n.* (HT: P; IT: P).

Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 7 km E of San Jose de Bilsa, 12 km SE of El Salto on Atacames-Muisne Road, *A. Gentry, R. Foster & C. Josse 72973* (AAU, BRIT, MO).

Woody hemiepiphyte. 200-300 m. Chocó.

**Clusia hammeliana** Pipoly, *Fl. Venez. Guayana* 4: 273. 1998.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 22 Nov 1995, *J.L. Clark & K. Cunningham & C. Roberts 1637* (BRIT, MO, QCNE).

Woody vine in mature forest. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Clusia laurifolia** Planch. & Triana, *Ann. Sci. Nat., Bot.* 13: 344. 1860. Type: Colombia: Cordillere du Choco., *Triana s.n.*

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 27 Mar 1995, *J.L. Clark & Y. Troya 518* (MO, QCNE).

Woody hemiepiphyte. 400-600 m. Chocó.

**Clusia loranthacea** Planch. & Triana, *Ann. Sci. Nat., Bot.*, ser. 4, 13: 346-347. 1860. Type: Colombia: forest of Chocó, 100 m, *Triana s.n.*

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 500 m, 26 Aug 1998,



- D. Neill & QCNE botany interns 11376* (MO, QCNE).  
Understory tree. 500 m. Amazonia, Chocó, Mesoamerica.
- Clusia pallida** Engl., Fl. Bras. 12(1): 414. 1888.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 6 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3747* (BRIT, MO, QCNE, US).  
Woody vine in mature forest. 400-600 m. Amazonia, Chocó.
- Clusia thurifera** Planch. & Triana, Ann. Sci. Nat., Bot., ser. 4, 13: 364-365. 1860.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 23 Nov 1995, *J.L. Clark & K. Cunningham & C. Roberts 1644* (BRIT, MO, QCNE).  
Woody vine in mature forest. 400-600 m. Amazonia, Chocó.
- Garcinia macrophylla** Mart., Flora 24(Band 2): 35. 1841.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 31 Mar 1996, *J.L. Clark, K. Berg & J. Leffingwell 2367* (MO, QCNE).  
Subcanopy tree. 400-600 m. Common name: "Madroño silvestre." Amazonia, Choco, Mesoamerica.
- Marila laxiflora** Rusby, Mem. Torrey Bot. Club 6(1): 9. 1896.  
Representative Specimen: Ecuador: Esmeraldas: Mtns. Mache-Chindul, Comunidad Caña Braval, Cabaceras del Río Viche, estero Sabaleta, 250 m, 16 Mar 1998, *J.L. Clark 4669* (MO, QCNE).  
Tree. 250 m. Amazonia, Chocó, Mesoamerica.
- Symphonia globulifera** L. f., Suppl. Pl. 302. 1781 [1782].  
Representative Specimen: Ecuador: Esmeraldas: Reserva Ecológica Mache-Chindul, Comunidad Caña Braval, Cabaceras del Río Viche, estero Sabaleta, 250 m, 16 Mar 1998, *J.L. Clark 4686* (MO, QCNE).
- Canopy tree. 200-300 m. Common name: "Azufre," "Machare." Amazonia, Chocó, Mesoamerica.
- Tovomita weddelliana** Planch. & Triana, Ann. Sci. Nat., Bot., ser. 4, 14: 277-278. 1860.  
Representative Specimen: Ecuador: Esmeraldas: Reserva Ecologica Mache-Chindul, Comunidad Ambache (vía marginal de la costa-Chindul), 25 Mar 1997, *J.L. Clark, T. Nuñez & C. Robles 4170* (MO, QCNE).  
Common understory tree. 200-600 m. Common name: "Mangle de Montaña." Amazonia, Chocó, Mesoamerica.
- Vismia sprucei** Sprague, Trans. Bot. Soc. Edinburgh 22: 428. 1905.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 22 Jun 1995, *J.L. Clark & Erik Calhoun 1218* (MO, QCNE).  
Common tree along disturbed roadsides. 400-600 m. Amazonia, Chocó.

## COCHLOSPERMACEAE

- Cochlospermum vitifolium** (Willd.) Spreng., Syst. Veg. 2: 596. 1825.  
Representative Specimen: Ecuador: Manabí: Pedernales, 300 m, 14 Mar 1997, *H. Vargas, X. Aguirre, R. Miranda & C. Robles 1362* (MO, QCNE).  
Subcanopy tree. 0-600 m. Chocó, Mesoamerica.

## COMBRETACEAE

- Combretum laxum** Jacq., Enum. Syst. Pl. 19. 1760.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 15 Jul 1996, *J.L. Clark, C. Aulestia, J. Kellermann, and F. Vetel 2882* (MO, QCNE).  
Liana. 400-600 m. Amazonia, Chocó, Mesoamerica.

- Conocarpus erectus** L., Sp. Pl. 1: 176. 1753.  
Representative Specimen: Ecuador: Manabí: 4 km al sur de Pedernales, 0 m, 15 Dec 1998, *D.*

*Neill & QCNE botany interns 11503* (MO, QCNE).

Common tree in lowland mangrove vegetation.  
0 m. Chocó, Mesoamerica.

**Laguncularia racemosa** (L.) C.F. Gaertn., Suppl.  
Carp. 1: 176. 1807.

Representative Specimen: Ecuador: Manabí: 4 km al su de Pedernales, 0 m, 15 Dec 1998, *D. Neill & QCNE botany interns 11502* (MO, QCNE).

Common tree in lowland mangrove vegetation.  
0 m. Chocó, Mesoamerica.

**Quisqualis indica** L., Sp. Pl. (ed. 2) 1: 556. 1762.

Representative Specimen: Ecuador: Esmeraldas: Muisne, 2 Dec 1995, *J.L. Clark & K. Cunningham 1720* (MO, QCNE).

Cultivated shrub. 0-100 m. Introduced. Chocó, Mesoamerica.

#### COMMELINACEAE

**Aneilema beniniense** (P. Beauv.) Kunth.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 19 Feb 1997, *J.L. Clark 3963* (MO, QCNE, US).

Terrestrial herb. 400-650 m. Introduced from Africa.

**Callisia cordifolia** (Sw.) E.S. Anderson & Woodson, Contr. Arnold Arbor. 9: 117. 1935.

Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 30 km S of Pedernales on coastal highway, 100 m, 15 Dec 1998, *D. Neill & QCNE botany interns 11527* (MO, QCNE, US).

Creeping terrestrial herb. 0-100 m. Mesoamerica.

**Commelina diffusa** Burm. f., Fl. Indica 9: 117. 1768.

Representative Specimen: Esmeraldas: Bilsa Biological Station, 600 m, 14 Sep 1994, *J.R. Abbott 15101* (BEREA, QCNE).

Terrestrial herb. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Dichorisandra hexandra** (Aubl.) Standl., Lista Pl. Salvador 48. 1925.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 5 Apr 1995, *J.L. Clark & Y. Troya 610* (MO, QCNE, US).

Common shrub in light gaps. 280-800 m. Amazonia, Chocó, Mesoamerica.

**Dichorisandra ulei** J.F. Macbr., Field Mus. Nat. Hist., Bot. Ser. 11(1): 8. 1931.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 5 Dec 1994, *N. Pitman & M.S. Bass 1004* (MO, QCNE).

Shrub. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Geogenanthus rhizanthus** (Ule) G. Brückn., Notizbl. Bot. Gart. Berlin-Dahlem 10(91): 56. 1927.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 5 May 1995, *J.L. Clark & C. Watt 752* (MO, QCNE).

Terrestrial herb. 400-600 m. Amazonia, Chocó.

**Tradescantia zanonía** (L.) Sw., Fl. Ind. Occid. 1: 604. 1797.

Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 16 Mar 1998, *J.L. Clark 4736* (MO, QCNE, US).

Terrestrial herb. 400-600 m. Amazonia, Chocó, Mesoamerica.

#### CONNARACEAE

**Connarus ecuadorensis** G. Schellenb., Pflanzen. IV. 127(Heft 103): 238. 1938. Type: Ecuador: Guayas: Balao, Feb 1892, *H. Eggers 14398* (HT: M).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 23 Jan 1995, *J.L. Clark 408* (COL, MO, NY, QCNE).

Rare tree, 3 m tall. 400-600 m. Endemic.

**Connarus nervatus** Cuatrec., Fieldiana, Bot. 27(2): 100-101. 1951. Type: Colombia: Valle: Costa del Pacifico, Río Cajambre,

quebrada de Guapecinto, 5 m, 16 May 1944,  
*Cuatrecasas 17713* (HT: F).

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station,  
Dogala trail, 400-600 m, 23 Jan 1995, *J.L.  
Clark & Y. Troya 572* (COL, MO, NY,  
QCNE).

Rare woody liana. 200-600 m. Amazonia,  
Chocó, Mesoamerica.

### CONVOLVULACEAE

#### **Dicranostyles sp.**

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 24 Mar 1997, *J.L. Clark & P. Nutt  
4130* (MO, QCNE).

Common canopy woody liana. 400-600 m, wet  
forest.

***Ipomoea batatas*** (L.) Lam., Tabl. Encycl. 1: 465.  
1793.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 2 Apr 1995, *J.L. Clark & Y. Troya  
583* (MO, QCNE).

Common terrestrial vine along sunny disturbed  
roadsides. 400-600 m. Amazonia, Chocó,  
Mesoamerica.

***Ipomoea phyllomega*** (Vell.) House, Ann. New  
York Acad. Sci. 18: 246. 1908.

Representative Specimen: Ecuador: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 27 May 1995, *J.L. Clark & C. Watt  
905* (MO, QCNE).

Common terrestrial vine along sunny disturbed  
roadsides. 400-600 m.

#### **Maripa sp.**

Representative Specimen: Ecuador: Ecuador:  
Esmeraldas: Fila de Bilsa, 7 km E of San  
Jose de Bilsa, 12 km SE of El Salto on  
Atacames-Muisne Road, 30 Jan 1991, *A.  
Gentry & C. Josse 72924* (MO).

Liana. 200-600 m, wet forest.

### COSTACEAE

***Costus guanaiensis*** Rusby, Bull. Torrey Bot. Club

29(12): 694. 1902.

Representative Specimen: Esmeraldas: Bilsa  
Biological Station, 400-600 m, 7 Dec 1994,  
*J.L. Clark 377* (MO, QCNE).

Terrestrial herb to 2 m tall. 250-600 m.  
Amazonia, Chocó, Mesoamerica.

Infrasp.: *Costus guanaiensis* var.  
*macrostrobilus* (K. Schum.) Maas, *Costus  
guanaiensis* var. *tarmicus* (Loes.) Maas.

***Costus laevis*** Ruiz & Pav., Fl. Peruv. 1: 3. 1798.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 650  
m, 19 Feb 1997, *J.L. Clark 3938* (MO,  
QCNE).

Terrestrial herb, ca. 1.5 m tall. 650 m.  
Amazonia, Chocó, Mesoamerica.

***Costus lima*** K. Schum., Pflanzenr. IV. 46(Heft 20):  
388-389. 1904.

Representative Specimen: Ecuador:  
Esmeraldas: Paraíso de Papagayos, 200 m,  
10 Oct 1996, *J.L. Clark 3045* (MO, QCNE).

Terrestrial herb to 3.5 m tall. 200-600 m.  
Amazonia, Chocó, Mesoamerica.

Infrasp.: *Costus lima* var. *scabremarginatus*  
Maas

***Costus longibracteolatus*** Maas, Fl. Neotrop. 8:  
72, f. 33. 1972.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 650  
m, 19 Feb 1997, *J.L. Clark 3967* (MO,  
QCNE).

Terrestrial herb, ca. 2 m tall. 650 m. Amazonia,  
Chocó.

***Costus pulverulentus*** C. Presl, Reliq. Haenk. 1(2):  
111. 1827.

Representative Specimen: Ecuador: Manabí:  
Cordillera de Jama, 600 m, 16 Dec 1998,  
*D. Neill & QCNE botany interns 11581*.

Terrestrial herb to 2 m tall. 10-700 m.  
Amazonia, Chocó, Mesoamerica.

### CUCURBITACEAE

***Cayaponia macrocalyx*** Harms, Notizbl. Bot.  
Gart. Berlin-Dahlem 9(89): 994. 1926.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-

- 600 m, 7 May 1995, *J.L. Clark & C. Watt* 791 (MO, NY, QCNE).  
Vine. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Cayaponia oppositifolia** Harms, Notizbl. Bot. Gart. Berlin-Dahlem 9: 994. 1926.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 5 Apr 1995, *J.L. Clark & Ivonne Troya* 621 (MO, QCNE).  
Herbaceous vine. 400-600 m. Amazonia.
- Gurania eriantha** (Poepp. & Endl.) Cogn., Diagn. Cucurb. Nouv. 1: 16. 1876.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 5 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan* 3720 (MO, NY, QCNE).  
Herbaceous vine. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Gurania lobata** (L.) Pruski, Brittonia 51(3): 329. 1999.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 2 Oct 1994, *N. Pitman & M.S. Bass* 788 (MO, QCNE).  
Herbaceous vine. 280-600 m. Chocó.
- Gurania pedata** Sprague, Trans. & Proc. Bot. Soc. Edinburgh 22: 433. 1905.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 9 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan* 3774 (MO, QCNE).  
Vine. 400-600 m. Amazonia.
- Gurania tubulosa** Cogn., Diagn. Cucurb. Nouv. 1: 17, 30-31. 1876. Type: Ecuador: at base of Mt. Chimborazo, 2600 ft, Aug 1860, *R. Spruce* 6150 (HT: K-HOOK).  
Synonym: *Gurania megistantha* J.D. Sm.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 16 Sep 1994, *J.L. Clark & B. Adnepos* 68 (MO, QCNE).  
Hemiepiphyte. 400-600 m. Mesoamerica.
- Melothria** sp.
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 8 Dec 1994, *N. Pitman & M.S. Bass* 1044 (MO, QCNE).  
Herbaceous vine. 400-600 m, wet forest.
- Momordica charantia** L., Sp. Pl. 2: 1009. 1753.  
Representative Specimen: Ecuador: Manabí: 45 km N of Pedernales along coastal highway, just above tidal estuary of Río Cojimiés, 28 Aug 1998, *D. Neill & QCNE botany interns* 11420 (MO, QCNE, US).  
Herbaceous vine in sunny disturbed sites. 0-20 m. Amazonia, Chocó, Mesoamerica.
- Psiguria** sp.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 15 Nov 1994, *N. Pitman & J.L. Clark* 937 (MO, QCNE).  
Vine. 400-600 m, wet forest.
- Selysia prunifera** (Poepp. & Endl.) Cogn., Monogr. Phan. 3: 736. 1881.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 15 Nov 1994, *R. Abbott* 15234 (MO, NY, QCNE).  
Herbaceous vine. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Sicydium** sp.  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 29 Jan 1991, *A. Gentry, R. Foster & C. Josse* 72896 (MO).  
Vine. 200-300 m, wet forest.

## CYCLANTHACEAE

- Asplundia vagans** Harling, Acta Horti Berg. 18(1): 170-172, f. 45H-M, t. 16. 1958. Type: Colombia: Chocó: Río San Juan, on the right side, Quebrada del Taparal, 5-20 m, 30 May 1946, *J. Cuatrecasas* 21440 (HT: VALLE).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 18 Nov 1994, *J.L. Clark, H. Lintz & S. Mora* 279 (MO, QCNE).

- Epiphyte. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Carludovica palmata** Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. 18(1): 170-172, f. 45H-M, t. 16. 1798.  
Representative Specimen: Ecuador: Manabí: 45 km al norte de Pedernales, 5 m, 28 Aug 1998, *D. Neill & QCNE botany interns 11428* (MO, QCNE).  
Terrestrial herb. 5-600 m. Common name: "Paja Toquilla." Amazonia, Chocó, Mesoamerica.
- Carludovica rotundifolia** H. Wendl. ex Hook. f., Bot. Mag. 115: t. 7083. 1889.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 26 Sep 1994, *N. Pitman 724* (MO, QCNE).  
Terrestrial herb. 400-600 m. Chocó, Mesoamerica.
- Cyclanthus bipartitus** Poit. ex A. Rich., Dict. Class. Hist. Nat. 5: 222. 1824.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 7 Apr 1995, *J.L. Clark & Y. Troya* (MO, QCNE).  
Common terrestrial herb. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Dianthoveus cremnophilus** Hammel & G. Wilder, Ann. Missouri Bot. Gard. 76(1): 113, f. 1-5, 7-9. 1989. Type: Ecuador: Pichicha: Quito to Sto Domingo de los Colroados, Río Pilatón valley, 44 km E of Sto Domingo, on steep wet slope along highway, 1200 m, *B. Hammel & G. Wilder 16058* (HT: MO; IT: COL, DUKE, F, GB, K, NY, QCA, PARIS, S, SEL, US).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 24 Sep 1994, *J.L. Clark & N. Pitman 110* (MO, QCNE).  
Common herb growing along streams. 400-600 m. Amazonia, Chocó.
- Dicranopygium cuatrecasanum** Harling, Acta Horti Berg. 18(1): 312, f. 4h, 80j, t. 73. 1958. Type: Colombia: Valle: Río Calima, region of Chocó, hills opposite Quebrada de la Brea, 30-50 m, 18 May 1946, *J. Cuatrecasas 21096* (HT: VALLE).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 27 Sep 1994, *J.L. Clark, B. Adnepos & J. Wolf 123* (MO, QCNE).  
Common herb growing along streams. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Evodianthus funifer** (Poit.) Lindm., Bih. Kongl. Svenska Vetensk.-Akad. Handl. 26(3/8): 8. 1900.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 12 Sep 1994, *R. Abbot 15025* (BEREA, QCNE).  
Hemiepiphyte. 400-600 m. Amazonia, Chocó, Mesoamerica.
- CYPERACEAE**
- Cyperus luzulae** (L.) Rottb. ex Retz., Observ. Bot. 4: 11. 1786.  
Representative Specimen: Ecuador: Esmeraldas: 50 km al norte de Pedernales 50 m, 19 Dec 1998, *D. Neill & QCNE botany interns 11712* (MO, QCNE).  
Terrestrial herb. 50-600 m. Amazonia, Chocó, Mesoamerica.
- Eleocharis elegans** (Kunth) Roem. & Schult., Syst. Veg. 2: 150. 1817.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 17 Nov 1996, *J.L. Clark, B. Neill & K. Zambrano 3425* (MO, QCNE, US).  
Terrestrial herb. 500 m. Amazonia, Chocó, Mesoamerica.
- Rhynchospora watsonii** (Britton) Davidse, Ann. Missouri Bot. Gard. 61(2): 529. 1974.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, along Río Cubé, 400-600 m, 26 Sep 1994, *R. Abbot 15320* (BEREA, QCNE).  
Terrestrial herb. 400-600 m. Amazonia, Chocó, Mesoamerica.
- DICHAPETALACEAE**
- Stephanopodium cuspidatum** Prance, Kew Bull. 50(2): 302, 304-305, f. 3. 1995. Type:

Ecuador: Esmeraldas: Río Lita, sector El Cristal, 20 Aug 1989, 1450 m, *W. Palacios* 4376 (HT: K; IT: MO).

Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 16 Mar 1998, *J.L. Clark* 4673 (K, MO, QCNE).

Understory tree. 250 m. Chocó.

### DILLENIACEAE

**Doliocarpus major** J.F. Gmel., Syst. Nat. 1: 805. 1791.

Representative Specimen: Ecuador: Manabí: Mache-Chindul, comunidad Ambache, 250 m, 25 Mar 1997, *J.L. Clark, E. Duna, T. Nuñez & C. Robles* 4210 (MO, QCNE).

Liana. 250 m. Amazonia, Chocó, Mesoamerica. Infrasp.: *Doliocarpus major* subsp. *major*.

**Doliocarpus multiflorus** Standl., J. Wash. Acad. Sci. 15(13): 285. 1925.

Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 28 Jan 1991, *A. Gentry & C. Josse* 72752 (MO).

Liana. 250 m. Amazonia, Chocó, Mesoamerica.

**Tetracera hydrophila** Triana & Planch., Ann. Sci. Nat., Bot., ser. 4, 17: 20-21. 1862.

Representative Specimen: Ecuador: Esmeraldas: Pariso de Papagayos, 200 m, 28 Mar 1998, *J.L. Clark & S. Nazzaro* 4948 (MO, QCNE).

Liana. 200 m. Amazonia, Chocó, Mesoamerica.

### DIOSCOREACEAE

**Dioscorea** sp.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 17 Nov 1996, *J.L. Clark, B. Neill & K. Zambrano* 3430 (MO, QCNE).

Herbaceous vine in disturbed sunny areas. 400-600 m..

### EBENACEAE

**Diospyros esmerg** B. Walln., Ann. Naturhist. Mus. Wien, Ser. B, Bot. Zool. 101(B): 568-570, f. 1. 1999. Type: Ecuador: Esmeraldas, Quinindé Cantón: Mache-Chindul

Ecological Reserve, Bilsa Biological Station, Mache Mtns, 35 km W of Quinindé, 500 m, 00°21'N, 79°44'W, *J.L. Clark* 3003 (HT: MO; IT: K, MO, QCNE, US). (Fig. 2C, p.129).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 12 May 1995, *J.L. Clark & C. Watt* 846 (MO, QCNE).

Rare canopy tree with yellow inner bark. 400-600 m. Common name: "Amagro." Endemic.

### ELAEOCARPACEAE

**Sloanea fragrans** Rusby, Mem. New York Bot. Gard. 7: 294. 1927.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 3 Apr 1996, *J.L. Clark & Karl Berg, J. Leffingwell* 2382 (MO, QCNE).

Common canopy tree. 400-600 m. Common name: "Catarata." Amazonia, Chocó.

**Sloanea stipitata** Spruce ex Benth., J. Proc. Linn. Soc., Bot. 5(Suppl. 2): 68-69. 1861.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 14 Nov 1994, *J.L. Clark, H. Lintz & S. Mora* 232 (MO, QCNE).

Subcanopy tree. 400-600 m. Common name: "Achiotillo." Amazonia, Chocó, Mesoamerica.

### ERICACEAE

**Anthopterus wardii** Ball, Hooker's Icon. Pl. 15(3): 51-52, t. 1465. 1884.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 2 Jan 1997, *John L. Clark, E. Austen, S. Bennett & D. Kapan* 3694 (MO, NY, QCNE).

Common subwoody vine. 400-600 m. Chocó, Mesoamerica.

**Disterigma utleyorum** Wilbur & Luteyn, Brittonia 29(3): 259-260. 1977.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500

- m, 21 Feb 1996, *John L. Clark 2125* (MO, NY, QCNE).  
Epiphyte. 400-600 m. Mesoamerica.
- Macleania subsessilis** Luteyn, Fl. Ecuador 54: 142. 1996. Type: Ecuador. Esmeraldas: Cantón San Lorenzo, 13.5 km S of Lita, property of Dr. Lalama, 1220-1350 m, 2 Nov 1992, *J. L. Luteyn, D. S. Sylva & C. Quelal 14729* (HT: NY; IT: AAU, CAS, E, GB, K, MEXU, MO, MSC, P, QCA, TEX, US).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 21 Sep 1994, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3664* (MO, NY, QCNE).  
Common woody vine. 400-600 m. Endemic.
- Psammisia aberrans** A.C. Sm., J. Arnold Arbor. 27: 95. 1946.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 23 Oct 1996, *J.L. Clark 3097* (MO, QCNE).  
Common woody vine. 400-800 m. Amazonia, Chocó.
- Psammisia debilis** Sleumer, Repert. Spec. Nov. Regni Veg. 42: 258. 1937. Type: Colombia: Cauca, *von Sneidern 914* (HT: S; photo: NY).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 11 Sep 1994, *J.L. Clark 6* (MO, QCNE).  
Common woody vine. 280-600 m. Amazonia, Chocó, Mesoamerica.  
Infrasp.: *Psammisia debilis* var. *debilis*.
- Psammisia ferruginea** A.C. Sm., Contr. U.S. Natl. Herb. 28(2): 391-392, t. 10. 1932.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 22 Oct 1996, *J.L. Clark 3078* (MO, NY, QCNE).  
Woody vine. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Psammisia sodiroi** Hoerold, Bot. Jahrb. Syst. 42: 306. 1909.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 22 Oct 1996, *J.L. Clark 3082* (MO, NY, QCNE).  
Woody vine. 300-700 m. Amazonia, Chocó.
- Sphyrropermum buxifolium** Poepp. & Endl., Nov. Gen. Sp. Pl. 1: 4-5, t. 8. 1835.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 19 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2633* (MO, NY, QCNE).  
Epiphyte. 300-700 m. Amazonia, Chocó, Mesoamerica.
- Sphyrropermum cordifolium** Benth., Pl. Hartw. 222. 1846.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 29 Mar 1995, *J.L. Clark & Ivonne Troya 531* (MO, NY, QCNE).  
Epiphyte. 400-700 m. Amazonia, Chocó, Mesoamerica.
- Thibaudia albiflora** A.C. Sm., Phytologia 1(6): 209-210. 1937. Type: Ecuador: [Cotopaxi] León: Cantón Pajili, Hda. Solento, near Santa Rosa, 1000 m, 17-20 Nov 1934 (fl), *Y. Mexia 6682* (HT: NY; IT: US).  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4293* (MO, NY, QCNE).  
Woody vine. 300-700 m. Amazonia, Chocó.
- Thibaudia litensis** Luteyn, Fl. Ecuador 54: 292. 1996. Type: Ecuador. Esmeraldas: Cantón San Lorenzo, El Cristal, near border with Imbabura, 1300 m, *W. A. Palacios 6913* (HT: QCNE; IT: NY). (Fig. 9C-D, p.136).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sep 1996, *J.L. Clark 2933* (MO, NY, QCNE).  
Woody vine. 500-600 m. Endemic.

## ERYTHROXYLACEAE

**Erythroxylon patens** Ruiz ex O.E. Schulz.

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 500 m, 26 Aug 1998,

*D. Neill & QCNE botany interns 11372*  
(MO, QCNE).

Shrub. 500 m. Amazonia.

### EUPHORBIACEAE

***Acalypha cuneata*** Poepp., Nov. Gen. Sp. Pl. 3:  
22. 1845.

Representative Specimen: Ecuador: Manabí:  
Cordillera de Jama, 600 m, 16 Dec 1998,  
*D. Neill & QCNE botany interns 11543*  
(MO, QCNE).

Shrub. 150-600 m. Amazonia, Chocó,  
Mesoamerica.

***Acalypha diversifolia*** Jacq., Pl. Hort. Schoenbr.  
2: 63, pl. 244. 1797.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, along  
Río Cubé, 600 m, 26 September 1994, *J.R.*  
*Abbott 15317* (BEREA, QCNE).

Shrub. 400-600 m. Amazonia, Mesoamerica

***Acalypha macrostachya*** Jacq., Pl. Hort. Schoenbr.  
2: 63, pl. 245. 1797.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 8 Jan 1997, *J.L. Clark, E. Austen, S.*  
*Bennett & D. Kapan 3766* (DAV, MO,  
QCNE).

Shrub. 500-600 m. Amazonia, Chocó,  
Mesoamerica.

***Acalypha villosa*** Jacq., Enum. Syst. Pl. 32. 1760.

Representative Specimen: Ecuador:  
Esmeraldas: Mache-Chindul, comunidad  
Caña Braval, 250 m, 16 Mar 1998, *J.L.*  
*Clark 4720* (DAV, MO, QCNE).

Shrub. 500-600 m. Chocó, Mesoamerica

***Alchornea latifolia*** Sw., Prodr. 98. 1788.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 650  
m, 12 Mar 1997, *J.L. Clark, A. Cousins, T.*  
*Nuñez & J. Richter 4021* (DAV, MO,  
QCNE).

Canopy tree. 500-650 m. Amazonia, Chocó,  
Mesoamerica.

***Cleidion castaneifolium*** Müll. Arg., Linnaea 34:  
184. 1865.

Representative Specimen: Ecuador:  
Esmeraldas: Paraíso de Papagayos, 200 m,  
28 Mar 1998, *J.L. Clark & S. Nazzaro 4934*  
(DAV, MO, QCNE).

Understory tree. 500-600 m. Mesoamerica

***Croton aequatoris*** Croizat, J. Arnold Arbor. 21:  
88. 1940. Type: Ecuador, Manabí, El Recreo,  
*H. Eggers 15498* (HT: B).

Representative Specimen: Ecuador: Manabí:  
Jama, 24 km S of Pedernales, N of Reserva  
de Lalo Loor, 7 Oct 1999, *T. Delinks & C.*  
*Robles 382* (MO, QCNE, WIS).

Shrub. 100-200 m. Endemic.

***Croton aff. pachypodus*** G.L. Webster, Notizbl.  
Bot. Gart. Berlin-Dahlem 9: 264. 1925.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 650  
m, 12 Mar 1997, *J.L. Clark, A. Cousins, T.*  
*Nuñez & J. Richter 4085* (DAV, MO,  
QCNE).

Subcanopy tree. 600-700 m. Amazonia, Chocó.

***Drypetes brownii*** Standl., Trop. Woods 20: 20-  
21. 1929.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 4 May 1995, *J.L. Clark & C. Watt*  
*728* (DAV, MO, QCNE).

Common understory tree, 5-12 m tall. 400-650  
m. Amazonia, Mesoamerica.

***Hieronyma alchorneoides*** Allemão, Hieronima  
alchorneoides 20: 20-21. 1848.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 20 Mar 1998, *J.L. Clark & C. Pallis 4882*  
(DAV, MO, QCNE).

Tree. 400-600 m. Common name: "Mascarey."  
Amazonia, Chocó, Mesoamerica.

***Mabea* sp.**

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 20 Mar 1998, *J.L. Clark & C. Pallis 4863*  
(DAV, MO, QCNE).

Tree, ca. 10 m tall. 400-600 m.

***Manihot brachyloba*** Müll. Arg., Fl. Bras. 11(2):  
451. 1874.



- Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 10 m, 9 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4379* (DAV, MO, QCNE).  
Herbaceous vine. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Margaritaria nobilis** L. f., Suppl. Pl. 428. 1781 [1782].  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4896* (DAV, MO, QCNE).  
Common subcanopy tree. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Omphalea diandra** L., Syst. Nat. (ed. 10) 428. 1759.  
Representative Specimen: Ecuador: Manabí: Recinto Hojas Blancas, Carretera Pedernales-Carmen Mandarinino, Entrada el Mono, 150 m, 12 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4388* (MO, QCNE).  
Woody vine. 150 m. Amazonia, Chocó, Mesoamerica.
- Pausandra trianae** (Müll. Arg.) Baill., *Adansonia* 11: 92. 1873.  
Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 10 Oct 1996, *J.L. Clark 3026* (MO, QCNE).  
Shrub. 200 m. Amazonia, Chocó, Mesoamerica.
- Phyllanthus anisolobus** Müll. Arg., Prodr. 15(2): 382. 1866.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, along Río Dogala, 400-600 m, 7 Dec 1994, *J.L. Clark 374* (MO, QCNE).  
Understory tree. 400-600 m. Common name: "Barbasco." Amazonia, Chocó, Mesoamerica.
- Phyllanthus stipulatus** (Raf.) G.L. Webster, Contr. Gray Herb. 176: 53. 1955.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 2 Apr 1995, *J.L. Clark & Y. Troya 584* (DAV, MO, QCNE).  
Terrestrial herb. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Plukenetia volubilis** L., Sp. Pl. 2: 1192. 1753.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 19 Feb 1997, *J.L. Clark 3953* (DAV, MO, QCNE).  
Vine. 650 m. Amazonia, Chocó, Mesoamerica.
- Ricinus communis** L., Sp. Pl. 2: 1007. 1753.  
Common terrestrial subshrub along roads. 0-800 m. Common name: "Higuerilla." Introduced and cultivated.
- Sapium glandulosum** (L.) Morong, Ann. New York Acad. Sci. 7: 227. 1893.  
Representative Specimen: Ecuador: Manabí: Jipijapa, 650 m, 10 Dec 1999, *D. Neill & botany interns 12252* (MO, QCNE).  
Subcanopy tree. 650. Amazonia, Chocó, Mesoamerica.
- Sapium laurifolium** (A. Rich.) Griseb., Fl. Brit. W. I. 49. 1859.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4890* (DAV, MO, QCNE).  
Subcanopy tree. 10-500 m. Amazonia, Chocó, Mesoamerica.
- Sapium marmieri** Huber, Bull. Soc. Bot. France 49: 49. 1902.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 9 May 1995, *J.L. Clark & C. Watt 807* (DAV, MO, QCNE).  
Canopy tree. 650 m. Amazonia.
- Tetrorchidium andinum** Müll. Arg., Flora 47(34): 538. 1864.  
Representative Specimen: Ecuador: Manabí: Mache-Chidul, comunidad Ambache, 250 m, 25 Mar 1997, *J.L. Clark R. Dunn, T. Nuñez & C. Robles 4151* (DAV, MO, QCNE).  
Understory tree. 650 m. Amazonia, Chocó.
- Tetrorchidium euryphyllum** Standl., Publ. Field Mus. Nat. Hist., Bot. Ser. 4(8): 219. 1929.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological

Station, 500 m, 18 Nov 1996, *J.L. Clark, F. Gurumendi & H. Weinert 3449* (DAV, MO, QCNE).

Understory tree. 500 m. Amazonia, Chocó, Mesoamerica.

**Tetrorchidium macrophyllum** Müll. Arg., *Prodr.* 15(2): 1133. 1866.

Representative Specimen: Ecuador: Esmeraldas: Reserva Ecológica Mache-Chindul, Comunidad Caña Braval, Cabaceras del Río Viche, estero Sabaleta, 250 m, 16 Mar 1998, *J.L. Clark 4664* (DAV, MO, QCNE).

Understory tree. 250-600 m. Amazonia, Chocó, Mesoamerica.

**Tragia volubilis** L., *Sp. Pl.* 2: 980. 1753.

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 700 m, 8 Mar 1997, *H. Vargas, X. Aguirre, R. Miranda & C. Robles 1248* (DAV, MO, QCNE).

Liana. 700 m. Chocó, Mesoamerica.

#### FABACEAE

**Abarema barbouriana** (Standl.) Barneby & J.W. Grimes, *Mem. New York Bot. Gard.* 74(1): 70. 1996.

Representative Specimen: Ecuador: Esmeraldas: 80 m, 20 - 29 Jul 1992, *C. Aulestia, G. Tipaz, L. Delgado & G. Lao 93* (MO, QCNE).

Tree. Common name: "Dormilon silvestre." Amazonia, Chocó, Mesoamerica.

**Acacia farnesiana** (L.) Willd., *Sp. Pl.* 4(2): 1083-1084. 1806.

Representative Specimen: Ecuador: Manabí: Cabins Punta Prieta, 32 km S of Pedernales, cliffside above beach, 25 m from seashore, 30 m, 9 Oct 1999, *T. Delinks 410* (MO, QCNE).

Tree, to 4 m tall. Chocó, Mesoamerica.

**Andira inermis** (Sw.) Kunth, *Nov. Gen. Sp.* (quarto ed.) 6: 385. 1824.

Representative Specimen: Ecuador: Esmeraldas: Mache-Chidul, comunidad Caña Braval, 250 m, 11 Mar 1998, *J.L. Clark 4645* (MO, QCNE).

Tree. Common name: "Chontillo." Amazonia,

Mesoamerica.

**Bauhinia aculeata** L., *Sp. Pl.* 1: 374. 1753.

Representative Specimen: Ecuador: Manabí: 25 km al sur de Pedernales, 5-30 m, 11 Oct 1999, *T. Delinks 440* (MO, QCNE).

Shrub or small tree. Chocó, Mesoamerica.

**Bauhinia guianensis** Aubl., *Hist. Pl. Guiane* 1: 377-378, pl. 145. 1775.

Representative Specimen: Ecuador: Esmeraldas: 80 m, 20 - 29 Jul 1992, *C. Aulestia, G. Tipaz, L. Delgado & G. Lao 270* (MO).

Liana Amazonia, Chocó, Mesoamerica.

**Bauhinia haughtii** Wunderlin, *Brittonia* 35(4):

337-338, f. 2. 1983. Type: Ecuador: Manabí: Bella Vista, SE of Santa Ana, 100 m, 5 September 1942, *O. Haught 3481* (HT: US; IT: NY).

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 21 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2711* 8MO, QCNE).

Rare understory shrub in wet forest; the only known extant population is on the slopes of Cerro Pata de Pájaro, and it is probably critically endangered. Endemic.

**Bauhinia seminarioi** Harms ex Eggers, *Bot. Centralbl.* 73: 69. 1898. Type: Ecuador: Manabí, *H. Eggers 14925* (HT: B).

Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 75-125 m, 6 Oct 1999, *T. Delinks & C. Robles 353* (MO, QCNE).

Understory shrub in moist to dry forest. Endemic.

**Brownea coccinea** Jacq., *Select. Stirp. Amer. Hist.* 73: 69. 1763.

Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 300 m, 16 Dec 1998, *D. Neill & QCNE botany interns 11551* (MO, QCNE).

Abundant understory tree 10 m tall, at the Reserva de Lalo Loor. Common name: "Clavellín." Amazonia, Mesoamerica.

Infrasp.: *Brownea coccinea* subsp. *angustiflora* (Little) Klitgaard.

- Browneopsis disepala** (Little) Klitgaard, Nordic J. Bot. 11(4): 444. 1991. *Brownea disepala* Little. Type: Ecuador: El Oro: Piedras, Hcda. Ingenio, 800 m, *E.L. Little 6677* (T: US).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 May 1995, *J.L. Clark & C. Watt 939* (K, MO, QCNE, US).  
Tree, in wet forest. Common name: "Clavellín." Endemic.
- Caesalpinia glabrata** Kunth, Nov. Gen. Sp. 6: 326-327. 1823.  
Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11615* (MO, QCNE).  
Shrub or small tree in dry forest. Amazonia.
- Cajanus cajan** (L.) Millsp., Publ. Field Columbian Mus., Bot. Ser. 2(1): 53. 1900.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 12 Oct 1994, *N. Pitman & M.S. Bass 814* (MO, QCNE).  
Introduced, cultivated shrub with edible beans. Common name: "Fréjol de Palo." Widely cultivated in tropics.
- Calliandra angustifolia** Spruce ex Benth., Trans. Linn. Soc. London 30(3): 539. 1875. 6.  
Representative Specimen: Ecuador: Esmeraldas: Muisne 25 m, 22 May 2000, *D. Neill & QCNE botany interns 12749* (MO, QCNE).  
Shrub, common along watercourses. Amazonia, Chocó, Mesoamerica.
- Centrolobium ochroxylum** Rose ex Rudd, J. Wash. Acad. Sci. 44(9): 287, f. 2. 1954. Type: Ecuador, *J. N. Rose & G. Rose 23370* (T: US).  
Representative Specimen: Ecuador: Manabí: Jama, 200 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11644* (MO, QCNE).  
Common canopy tree to 25 m, in dry to moist forest. Endemic, including coastal Tumbes and Piura, Peru.
- Chaetocalyx latisiliqua** (Poir.) Benth. ex Hemsl., Biol. Cent.-Amer., Bot. 1: 268. 1879.  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 100 m, 15 Dec 1998, *D. Neill & QCNE botany interns 11528* (MO, QCNE).  
Hebaceous vine. Amazonia, Mesoamerica.
- Cojoba rufescens** (Benth.) Britton & Rose, N. Amer. Fl. 23(1): 32. 1928.  
Representative Specimen: Ecuador: Manabí: Jama 400 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11681* (MO, QCNE).  
Understory shrub, in moist to dry forest. Chocó, Mesoamerica.
- Crotalaria retusa** L., Sp. Pl. 2: 715. 1753.  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11302* (MO, QCNE).  
Terrestrial herb. Amazonia, Chocó, Mesoamerica.
- Desmodium adscendens** (Sw.) DC., Prodr. 2: 332. 1825.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 14 September 1994, *J.R. Abbott 15089* (BEREA, QCNE).  
Terrestrial herb. Common name: "Pega pega." Amazonia, Chocó, Mesoamerica.
- Desmodium axillare** (Sw.) DC., Prodr. 2: 333. 1825.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 14 Sep 1994, *J.R. Abbott 15091*.  
Terrestrial herb. Common name: "Pega pega." Amazonia, Chocó, Mesoamerica.
- Desmodium intortum** (Mill.) Urb., Symb. Antill. 8(1): 292. 1920.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 14 Sep 1994, *J.R. Abbott 15110* (BEREA, QCNE).  
Terrestrial herb. Common name: "Pega pega." Amazonia, Chocó, Mesoamerica.
- Dussia lehmannii** Harms, Repert. Spec. Nov. Regni Veg. 19: 292. 1924.

- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 6 May 1995, *J.L. Clark & C. Watt 759* (MO, QCNE).  
Tree, common in wet forest. Common name: “Frejolito.” Chocó, Mesoamerica.
- Ecuadendron acosta-solisianum** D.A. Neill, *Novon* 8(1): 45–49, f. 1–2. 1998. Type: Ecuador: Azuay, Cantón Cuenca. Manta Real, at western base of Andes, 20 km SE of La Troncal, on lower slopes just above the village, primary forest remnants trees in cocoa plantation, 350 m, 2°34'S 79°21'W, 7 Nov 1995, *D.A. Neill, H. Vargas, T. Núñez & J.L. Clark 10437* (HT: QCNE; IT: AAU, COL, GB, GUAY, K, MEXU, MO, NY, QCA, US). (Fig. 2A–B, p.129; 11A–F, p.138).  
Representative Specimen: Ecuador: Esmeraldas: comunidad Chorrera Grande 300–750 m, 10–13 Jul 1996, *J.L. Clark, N. Binder & P. Hibbs 2838* (MO, QCNE).  
Canopy tree in wet forest; only three populations known from western Ecuador. Endemic.
- Entada gigas** (L.) Fawc. & Rendle, *Fl. Jamaica* 4: 124. 1920.  
Representative Specimen: Ecuador: Esmeraldas: Cotacachi-Cayapas 200 m, 1 Nov 1993 - 2 Nov 1993, *Milton Tirado & P. Asimbaya, M. Coroso, J. Arroyo 255* (MO, QCNE).  
Liana. Chocó, Mesoamerica.
- Erythrina megistophylla** Diels, *Biblioth. Bot.* 116: 96. 1937. Type: Ecuador: Guayas. Guayaquil, *Tafalla?* - (*FHD 267. L.538*) (HT: B).  
Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 600 m, 16 Dec 1998, *D. Neill & QCNE botany interns 11569* (MO).  
Tree, to 5 m tall, understory in wet forest. Endemic.
- Erythrina poeppigiana** (Walp.) O.F. Cook, *U.S.D.A. Div. Bot. Bull.* 25: 57. 1901.  
Representative Specimen: Ecuador: Esmeraldas: Quingüe, 250 m, 18 May 2000, *D. Neill & QCNE botany interns 1272* (MO, QCNE).  
Canopy tree, 25 m. Common name: “Mambla,” “Bombón.” Amazonia, Chocó, Mesoamerica.
- Erythrina smithiana** Krukoff, *Brittonia* 3(2): 323–325. 1939. Type: Ecuador: Chimborazo: vicinity of Huigra, 6 Sep 1918, *J. N. Rose & G. Rose 22563* (HT: NY; IT: GH, US).  
Representative Specimen: Ecuador: Manabí: Jama, 200 m, 18 Dec 1998, *D. Neill & QCNE botany interns 1163* (MO, QCNE).  
Tree. Common name: “Caraca.” Endemic, including coastal Piura and Tumbes in Peru.
- Geoffroea spinosa** Jacq., *Enum. Syst. Pl.* 28. 1760.  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11296* (MO, QCNE).  
Tree, in dry to moist forest. Amazonia.
- Gliricidia breningii** (Harms) Lavin, *Syst. Bot. Monogr.* 45: 83. 1996.  
Representative Specimen: Ecuador: Manabí: Carretera entre Pedernales y El Carmen, 300 m, 14 Mar 1997, *H. Vargas, X. Aguirre, R. Miranda & C. Robles 1363* (MO, QCNE).  
Tree, in wet to moist forest; often planted as living fencepost. Common name: “Yuca ratón.” Endemic, including coastal Tumbes and Piura, Peru.
- Indigofera suffruticosa** Mill., *Gard. Dict.* (ed. 8) Indigofera n. 2. 1768.  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11303* (MO, QCNE).  
Shrub. Amazonia, Chocó, Mesoamerica.
- Inga acreana** Harms, *Notizbl. Konigl. Bot. Gart. Berlin* 6: 298. 1915.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 500 m, 26 Aug 1998, *D. Neill & QCNE botany interns 11323* (MO, QCNE).  
Tree. Amazonia, Chocó.
- Inga acuminata** Benth., *London J. Bot.* 4: 600. 1845.  
Representative Specimen: Ecuador: Manabí:

- Jama 400 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11679* (MO, QCNE).  
Tree. Amazonia, Chocó, Mesoamerica.
- Inga carinata** T. D. Penn., The genus *Inga*: Botany 731-734, f. 232, map 90. 1997. Type: Ecuador: Pichincha, , Canton Pedro Vicente Maldonado, Rio Silanche Reserve (ENDESA), *T. D. Pennington et al. 13725* (HT: K; IT: QCNE)  
Representative Specimen: Ecuador: Esmeraldas: Bilsa, 500 m, 00.21N 79.44W, 1 Oct 1996, *John L. Clark 2967* (MO, QCNE).  
Tree, in wet forest. Common name: "Guaba silvestre." Endemic.
- Inga coruscans** Humb. & Bonpl. ex Willd., Sp. Pl. 4(2): 1017. 1806.  
Representative Specimen: Ecuador: Esmeraldas: Comunidad San Salvador, 200 m, 10-13 Jul 1996, *J.L. Clark, N. Binder & P. Hibbs 2857* (MO, QCNE).  
Tree. Amazonia, Chocó, Mesoamerica.
- Inga edulis** Mart.  
Representative Specimen: Ecuador: Esmeraldas: Comunidad San Salvador, 200 m, 10-13 Jul 1996, *J.L. Clark, N. Binder & P. Hibbs 2857* (MO, QCNE).  
Tree, commonly cultivated along roads. Common name: "Guaba de bejuco."
- Inga hayesii** Benth., Trans. Linn. Soc. London 30(3): 617. 1875.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 20 May 1995, *J.L. Clark & C. Watt 944* (MO, QCNE).  
Tree. Chocó, Mesoamerica.
- Inga jaunechensis** A.H. Gentry, Phytologia 54(7): 476-477. 1984. Type: Ecuador: Los Ríos: Jauneche Forest, Jauneche, km 70, Quevedo-Palenque via Mocache, Canton Vinces, 100 m, 24 Mar 1980, *C.H. Dodson & A.H. Gentry 9857* (HT: MO; IT: GUAY, RPSC, SEL).  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 1129* (MO, QCNE).
- Tree, in moist forest. Endemic.
- Inga laurina** (Sw.) Willd., Sp. Pl. 4(2): 1018. 1806.  
Representative Specimen: Ecuador: Manabí: Jama, 400 m, 18 Dec 1998, *D. Neill & QCNE botany interns 1169* (MO, QCNE).  
Tree. Amazonia, Chocó, Mesoamerica.
- Inga marginata** Willd., Sp. Pl. 4(2): 1015. 1806.  
Representative Specimen: Ecuador: Esmeraldas: Quingüe, 250 m, 18 May 2000, *D. Neill & QCNE botany interns 12724* (MO, QCNE).  
Tree. Common name: "Guaba." Amazonia, Chocó, Mesoamerica.
- Inga multicaulis** Spruce ex Benth., Trans. Linn. Soc. London 30(3): 624. 1875. Type: Ecuador, Chimborazo, base of Mt. Chimborazo, fl. Aug. 1860, *Spruce* s.n. (HT: K)  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 500 m, 26 Aug 1998, *D. Neill & QCNE botany interns 11311* (MO, QCNE).  
Tree, in wet forest Endemic; also on western slopes of Andes in Ecuador. Common name: "Guabilla."
- Inga nobilis** Willd., Enum. Pl. 2: 1047. 1809.  
Representative Specimen: Ecuador: Esmeraldas: Recinto Palma Junta, 100 m, 19 May 2000, *D. Neill & QCNE botany interns 12730* (MO, QCNE).  
Tree. Common name: "Guabilla." Amazonia, Chocó, Mesoamerica.  
Infraspp.: *Inga nobilis* subsp. *quaternata* (Poepp.) T.D. Penn
- Inga pruriens** Poepp., Nov. Gen. Sp. Pl. 3: 78. 1845.  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 28 Jan 1991, *A. Gentry & C. Josse 72833* (MO).  
Tree. Amazonia.
- Inga punctata** Willd., Sp. Pl. 4(2): 1016. 1806.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro 800 m, 10 Mar 1997, *H. Vargas 1301* (MO, QCNE).  
Tree. Amazonia, Chocó, Mesoamerica.

- Inga rusbyi** Pittier, Contr. U.S. Natl. Herb. 18(5): 179. 1916.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 17 May 1995, *J.L. Clark & C. Watt 913* (MO, QCNE).  
 Tree. Amazonia.
- Inga silanchensis** T.D. Penn., The genus *Inga*: Botany 364-367, f. 84, map 38. 1997. Type: Ecuador: Pichincha, Río Silanche, ENDESA Reserve, *T. D. Pennington et al. 13717* (HT: QCNE; IT: K).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 30 Mar 1996, *J.L. Clark, Karl Berg & J. Leffingwell 2348* (MO, QCNE).  
 Tree, in wet forest. Common name: “Silanchensis.” Endemic.
- Inga spectabilis** (Vahl) Willd., Sp. Pl. 4(2): 1017-1018. 1806.  
 Representative Specimen: Ecuador: Manabí: Pedernales, 300 m, 14 Mar 1997, *H. Vargas, X Aguirre, R. Miranda & C. Robles 1360* (MO, QCNE).  
 Tree. Common name: “Guaba machete.” Amazonia, Chocó, Mesoamerica.
- Leucaena trichodes** (Jacq.) Benth., J. Bot. (Hooker) 4(32): 417. 1842.  
 Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11631* (MO, QCNE).  
 Tree. Mesoamerica.
- Machaerium millei** Standl., Trop. Woods 42: 30. 1935. Type: Ecuador: El Oro: Portovelo, *J. N. Rose & G. Rose 23444* (T: US).  
 Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11630*.  
 Tree, in dry to moist forest. Endemic, including dry forest of coastal Tumbes and Piura, Peru.
- Macrolobium colombianum** (Britton ex Killip) Killip ex Uribe., Caldasia 4(18): 213. 1946.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 450 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4754*.  
 Common subcanopy tree, in wet forest. Amazonia, Chocó.
- Mimosa acantholoba** (Humb. & Bonpl. ex Willd.) Poir., Encycl., Suppl. 1(1): 83. 1810.  
 Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11620* (MO, QCNE).  
 Shrub, in dry forest. Mesoamerica.
- Mucuna rostrata** Benth., Fl. Bras. 15(1): 171, pl. 157. 1859.  
 Representative Specimen: Ecuador: Esmeraldas: Quingüe, 250 m, 18 May 2000, *D. Neill & QCNE botany interns 12708* (MO, QCNE).  
 Liana. Common name: “Pasquinque.” Amazonia, Chocó, Mesoamerica.
- Pithecellobium excelsum** (Kunth) Mart., Flora 20(2): Beibl. 115. 1837.  
 Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11610* (MO, QCNE).  
 Shrub.
- Prosopis juliflora** (Sw.) DC., Prodr. 2: 447. 1825.  
 Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11607* (MO, QCNE).  
 Tree, in dry forest. Chocó, Mesoamerica.
- Pueraria phaseoloides** (Roxb.) Benth., J. Linn. Soc., Bot. 9: 125. 1867.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 30 Oct 1994, *J.L. Clark & D. Neill 228* (MO, QCNE).  
 Introduced herbaceous vine. Amazonia, Chocó, Mesoamerica; widely naturalized in tropics.
- Rhynchosia calycosa** Hemsl., Diagn. Pl. Nov. Mexic. 3: 48. 1880.  
 Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11307* (MO, QCNE).

- Terrestrial herb. Chocó, Mesoamerica.
- Rhynchosia minima** (L.) DC., Prodr. 2: 385. 1825.  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11350* (MO, QCNE).  
Terrestrial herb. Chocó, Mesoamerica.
- Samanea saman** (Jacq.) Merr., J. Wash. Acad. Sci. 6(2): 47. 1916.  
Representative Specimen: Ecuador: Manabí: 4 km al sur de Pedernales, 0 m, 15 Dec 1998, *D. Neill & QCNE botany interns 11505* (MO, QCNE).  
Tree, in moist to dry forest and open areas. Common name: "Saman." Chocó, Mesoamerica.
- Senna dariensis** (Britton & Rose) H.S. Irwin & Barneby, Mem. New York Bot. Gard. 35: 128. 1982.  
Representative Specimen: Ecuador: Esmeraldas: Recinto Palma Junta, 100 m, 19 May 2000, *D. Neill & QCNE botany interns 12735* (MO, QCNE).  
Tree. Amazonia, Chocó, Mesoamerica.  
Infrasp.: *Senna dariensis* var. *smaragdina* H.S. Irwin & Barneby.
- Senna mollissima** (Humb. & Bonpl. ex Willd.) H.S. Irwin & Barneby, Mem. New York Bot. Gard. 35: 592. 1982. *Cassia mollissima* Humb. & Bonpl. ex Willd.  
Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11623* (MO, QCNE).  
Tree or shrub. Mesoamerica.
- Senna oxyphylla** (Kunth) H.S. Irwin & Barneby, Mem. New York Bot. Gard. 35: 117. 1982.  
Representative Specimen: Ecuador: Manabí: Jama 200 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11649* (MO, QCNE).  
Shrub. Chocó, Mesoamerica.  
Infrasp.: *Senna oxyphllya* var. *hartwegii* (Benth.) H.S. Irwin & Barneby
- Senna reticulata** (Willd.) H.S. Irwin & Barneby, Mem. New York Bot. Gard. 35: 458. 1982.
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 12 Oct 1994, *N. Pitman & M.S. Bass 813* (MO, QCNE).  
Shrub, in open areas. Amazonia, Chocó, Mesoamerica.
- Swartzia haughtii** R.S. Cowan, Fl. Neotrop. 1: 49, f. 6. 1968. Type: Ecuador: Manabí: hills south of Olmedo, Sep 1942, *Haught, O. 3491* (HT: US(4)).  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 500 m, 26 Aug 1998, *D. Neill & QCNE botany interns 11309* (MO, QCNE).  
Tree, common in moist to wet forest and secondary vegetation. Common name: "Frejolito." Endemic.
- Swartzia littlei** R.S. Cowan, Fl. Neotrop. 1: 165, f. 30, 40f-g. 1968. Type: Ecuador: Esmeraldas: 4 km W of Borbón, April 1943, *E.L. Little 6371* (HT: US(2); IT: F, NY).  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11269* (MO).  
Tree, locally common at Reserva de Lalo Loor. Endemic.
- Zygia longifolia** (Humb. & Bonpl. ex Willd.) Britton & Rose, N. Amer. Fl. 23(1): 40. 1928.  
Representative Specimen: Ecuador: Esmeraldas: Muisne 25 m, 22 May 2000, *D. Neill & QCNE botany interns 12730* (MO, QCNE).  
Tree, common along watercourses. Amazonia, Chocó, Mesoamerica.

## FLACOURTIACEAE

- Banara guianensis** Aubl., Hist. Pl. Guiane 1: 548-549, t. 217. 1775.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 30 Mar 1996, *J.L. Clark, Karl Berg & J. Leffingwell 2326* (AAU, GB, MEXU, MO, NY, QCNE, US).  
Tree. 540-650 m. Amazonia, Chocó, Mesoamerica.

- Carpotroche platyptera** Pittier, Contr. U.S. Natl. Herb. 12(5): 178-180, t. 19, f. 15-16. 1909.  
Representative Specimen: Ecuador: Esmeraldas: Reserva Ecológica Mache-Chindul, Comunidad Caña Braval, Cabeceras de Río Viche, estero Sabaleta, 11 Mar 1998, *J.L. Clark 4614* (MO, QCNE)  
Shrub. 250-600 m. Amazonia, Mesoamerica.
- Casearia aculeata** Jacq., Enum. Syst. Pl. 21. 1760.  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 100 m, 15 Dec 1998, *Davis Neill & QCNE botany interns 11525* (MO, QCNE).  
Shrub. 10-700 m. Amazonia, Chocó, Mesoamerica.
- Casearia arborea** (Rich.) Urb., Symb. Antill. 4(3): 421-422. 1910.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 3 Apr 1996, *J.L. Clark & Karl Berg, J. Leffingwell 2384* (AAU, F, GB, MEXU, MO, NY, US).  
Tree. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Casearia combaymensis** Tul., Ann. Sci. Nat., Bot., ser. 3. 7: 362. 1847. Type: Colombia: Tolima: near Ibague along the River Combayma (Combeima), *Goudot 106* (HT: P; IT: FI-Webb).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 17 Feb 1996, *J.L. Clark & N. Kerber, J. Plihal 2049* (MO, QCNE).  
Tree. 500 m. Amazonia, Chocó, Mesoamerica.
- Casearia mariquitensis** Kunth, Nov. Gen. Sp. (quarto ed.) 5: 363-364. 1821 [1823].  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 8 Apr 1995, *J.L. Clark & Y. Troya 658* (MO, QCNE).  
Tree. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Casearia prunifolia** Kunth, Nov. Gen. Sp. 5: 364. 1821 [1823].  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 1 Oct 1996, *J.L. Clark 2957* (MO, QCNE).  
Tree. 400-600 m. Amazonia.
- Casearia sylvestris** Sw., Fl. Ind. Occid. 2: 752-753. 1798.  
Representative Specimen: Ecuador: Manabí: Jama 400 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11685* (MO, QCNE).  
Tree. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Casearia ulmifolia** Vahl ex Vent., Choix Pl. 46. 1808.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 12 Feb 1996, *J.L. Clark & N. Kerber, J. Plihal 1950* (AAU, MO, QCNE).  
Tree. 500 m. Amazonia, Chocó.
- Lunania parviflora** Spruce ex Benth., J. Proc. Linn. Soc., Bot. 5(Suppl. 2): 90. 1861.  
Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 6 Jul 1996, *J.L. Clark 2739* (AAU, MEXU, MO, NY, QCNE, US).  
Subcanopy tree. 200 m. Amazonia, Chocó, Mesoamerica.
- Pleuranthodendron lindenii** (Turcz.) Sleumer, Blumea 24: 118. 1978.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 1 Oct 1996, *J.L. Clark 2960* (AAU, MO, QCNE, US).  
Understory tree. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Tetrathylacium macrophyllum** Poepp., Nov. Gen. Sp. Pl. 3: 34, t. 240. 1843.  
Representative Specimen: Ecuador: Manabí: 45 km al norte de Pedernales, 5 m, 28 Aug 1998, *D. Neill & QCNE botany interns 11413* (MO, QCNE).  
Understory tree. 0-200 m. Amazonia, Chocó, Mesoamerica.
- Xylosma digyna** Eichler, Fl. Bras. 13(1): 447. 1871.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 580-750 m, 23 Jul



1998, *T. Delinks 15* (MO, QCNE).

Tree. 580-750 m. Amazonia.

**Xylosma oligandra** Donn. Sm., Bot. Gaz. 23(4): 235. 1897.

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 700 m, 8 Mar 1997, *H. Vargas, X. Aguirre, R. Miranda & C. Robles 1246* (MO, QCNE).

Shrub. 700 m. Amazonia, Chocó, Mesoamerica.

**Xylosma tessmannii** Sleumer, Notizbl. Bot. Gart. Berlin-Dahlem 12: 477. 1935.

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 21 Jul 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2696* (MO, QCNE).

Tree. 300-700 m. Amazonia, Chocó.

### GENTIANACEAE

**Chelonanthus alatus** (Aubl.) Pulle, Enum. Vasc. Pl. Surinam 376. 1906.

Synonym: *Irlbachia alata* (Aubl.) Maas and *Irlbachia alata* subsp. *alata*.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 17 Oct 1994, *J.L. Clark & B. Adnepos 198* (MO, QCNE).

Common terrestrial herb along sunny roads. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Voyria** sp.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 19 Sep 1994, *N. Pitman & M.S. Bass 656* (MO, QCNE).

Saprophytic herb. 400-600 m.

### GESNERIACEAE

**Besleria tambensis** C.V. Morton, Contr. U.S. Natl. Herb. 26(9): 428. 1939. Type: Colombia: El Cauca: collected at La Costa, District of La Tambo, 1200 m, 26 Jul 1936, *K. von Sneidern 850* (HT: S).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 19 Aug 2003, *J.L. Clark, C. Aulestia, J. Bermingham & I. Salinas 8803* (MO,

QCNE, US).

Common unbranched subshrub, 1-2 m tall. Chocó, Mesoamerica.

**Chrysothemis friedrichsthaliana** (Hanst.) H.E. Moore, *Baileya* 2(3): 87. 1954.

Representative Specimen: Ecuador: Esmeraldas: Mache-Chidul, comunidad Caña Braval, 250 m, 16 Mar 1998, *J.L. Clark 4651* (AAU, COL, E, MO, QCA, QCNE, US).

Lowland terrestrial herb, 40-70 cm tall. 200-300. Amazonia, Chocó, Mesoamerica.

**Codonanthe crassifolia** (H. Focke) C.V. Morton, Publ. Field Mus. Nat. Hist., Bot. Ser. 18(4): 1159. 1938.

Representative Specimen: Ecuador: Esmeraldas: Comunidad Piedrita, 10 km SW of Cube (via pircuta), 400-750 m, 10-13 Jul 1996, *J.L. Clark, N. Binder & P. Hibbs 2819* (MO, QCNE, US).

Epiphyte. 400-750. Amazonia, Chocó, Mesoamerica.

**Codonanthe uleana** Fritsch, Bot. Jahrb. Syst. 37(5): 492. 1906.

Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 28 Mar 1998, *J.L. Clark & S. Nazzaro 4950B* (MO, QCNE, US).

Epiphyte. 200 m. Amazonia, Chocó, Mesoamerica.

**Columnea angustata** (Wiehler) L.E. Skog, Ann. Missouri Bot. Gard. 65(3): 844. 1978 [1979]. *Pentadenia angustata* Wiehler. Type: Colombia: El Valle: old road from Cali to Buenaventura, 8 km past La Elsa, Epiphyte. calyx maroon-pink, corolla orange, 30 Apr 1972, *H. Wiehler, Dressler & Williams 7276* (HT: SEL; IT: COL, K, MO, NY, US).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4747* (MO, QCA, QCNE, US).

Common scandent herbaceous epiphyte. 250-750 m. Amazonia, Chocó, Mesoamerica.

**Columnea asteroloma** (Wiehler) L.E. Skog,

- Taxon 30(2): 506. 1981. *Dalbergaria asteroloma* Wiehler. Type: Ecuador: Pichincha: Montañas de Ila, at km 12 on road from Patricia Pilar to village of 24 de Mayo, La Centinella, cloud forest on western slope, 540 m, *H. Wiehler 77109* (HT: SEL; IT: K, NY, QCA, RPSC, US).  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 700 m, 26 Aug 1998, *D. Neill & QCNE botany interns 11365* (MO, QCNE, US).  
 Rare epiphyte. 700 m. Endemic.
- Columnnea eburnea** (Wiehler) L.P. Kvist & L.E. Skog, *Allertonia* 6(5): 354. 1993. *Dalbergaria eburnea* Wiehler. Type: Ecuador: Pichincha: old road Quito-Santo Domingo, below Chiriboga, leaves with red apices below, 27 April 1779, *Wiehler & Masterson 79108* (HT: SEL; IT: to be distributed).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 13 May 1998, *J.L. Clark & C. Pallis 5552* (AAU, COL, QCA, QCNE, US).  
 Common terrestrial or epiphytic subshrub with dorsiventral shoots. 400-700 m. Amazonia, Chocó, Mesoamerica.
- Columnnea kalbreyeriana** Mast., *Gard. Chron.*, n.s., 17(420): 44. 1882.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 19 Feb 1997, *J.L. Clark 3965* (MO, QCNE, US).  
 Rare herbaceous epiphyte. 650 m. Chocó, Mesoamerica.
- Columnnea kienastiana** Regel, *Trudy Imp. S.-Peterburgsk. Bot. Sada* 8: 274. 1883.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 8 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3765* (MO, QCNE).  
 Rare pendent herbaceous epiphyte. 250-500 m. Chocó.
- Columnnea medicinalis** (Wiehler) L.E. Skog & L.P. Kvist, *Novon* 7(4): 414. 1997 [1998]. *Dalbergaria medicinalis* Wiehler. Type: Ecuador: Pichincha: above Chiriboga, on old road from Quito to Santo Domingo, *H. Wiehler & GRF Expedition 88215* (HT: GES; IT: K, MO, NY, QCA, SEL, US).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 15 Jul 1996, *J.L. Clark, C. Aulestia, J. Kellermann, and F. Vetel 2873* (AAU, COL, MO, QCNE, US).  
 Common terrestrial or epiphytic subshrub with dorsiventral shoots. 300-700 m. Amazonia, Chocó.
- Columnnea minor** (Hook.) Hanst., *Linnaea* 34(4): 387-388. 1865.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sep 1996, *J.L. Clark 2934* (AAU, COL, E, MO, QCNE, US).  
 Pendent epiphyte. 400-600 m. Chocó.
- Columnnea minutiflora** L.P. Kvist & L.E. Skog, *Allertonia* 6(5): 379. 1993. Type: Ecuador: Carchi: 12 km W of Maldonado, Chical, wet montane forest along Río San Juan, 1200 m, 29 May 1978, *M.T. Madison, T.C. Plowman, H.A. Kennedy, & L. Besse 4755* (HT: AAU; IT: F, SEL).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 21 Feb 1996, *J.L. Clark 2119* (GB, MO, QCNE, US).  
 Common epiphyte. 400-650 m. Chocó.
- Columnnea picta** H. Karst., *Fl. Columb.* 2: 105, t. 154. 1865.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 20 Sep 1994, *J.L. Clark & B. Adnepos 80* (MO, QCNE, SEL, US).  
 Common terrestrial or epiphytic subshrub. 250-600 m. Amazonia, Chocó.
- Columnnea rubriacuta** (Wiehler) L.P. Kvist & L.E. Skog, *Allertonia* 6(5): 367. 1993. *Dalbergaria rubriacuta* Wiehler. Type: Ecuador: Los Rios, 200 m, 19 Jul 1971, *H. Wiehler & C.H. Dodson 7102* (HT: SEL; IT: K, NY, QCA, S, US).  
 Synonym: *Dalbergaria rubriacuta* Wiehler.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-

- 600 m, 20 Sep 1994, *J.L. Clark & B. Adnepos 5586* (AAU, COL, MO, QCA, QCNE, US).  
Common terrestrial or epiphytic subshrub with dorsiventral shoots. 250-600 m. Amazonia, Chocó.
- Columnnea spathulata** Mansf., Notizbl. Bot. Gart. Berlin-Dahlem 14(121): 37. 1938. Type: Ecuador: Pichincha: Santo Domingo de los Colorados, Centinella, Mts. de Ila, 12 km from Patricia Pilar, virgin rain forest, 575 m, 10 Jul 1979, *B. Løjtman & U. Molau 15811* (NT: AAU).  
Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 11 Mar 1998, *J.L. Clark & C. Pallis, J. West 4644* (AAU, COL, MO, QCA, QCNE, US).  
Common and widespread epiphyte with dorsiventral shoots. 100-750. Amazonia, Chocó.
- Creosperma** aff. **castroanum** C.V. Morton, J. Wash. Acad. Sci. 25(6): 289. 1935. Type: Colombia: Chocó: 20 km N of Quibdó, Tutunendo, 80 m, *Archer 2151* (HT: US).  
Representative Specimen: Ecuador: Manabí: Pedernales Cantón, Mache-Chindul, comunidad Ambache, 250 m, 5 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4197* (AAU, MO, QCNE, US).  
Common terrestrial herb, 15-25 cm tall. 250-600 m. Amazonia, Chocó.
- Diastema affine** Fritsch, Bot. Jahrb. Syst. 50(4): 409. 1913.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 27 Sep 1996, *J.L. Clark 2930* (AAU, COL, E, MO, NY, QCNE, SRP, US).  
Common succulent terrestrial herb. 250-600 m. Amazonia, Chocó, Mesoamerica.
- Diastema racemiferum** Benth., Bot. Voy. Sulphur 132. 1845.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 24 Sep 1996, *J.L. Clark 2897* (AAU, COL, E, F, GB, MO, NY, QCA, QCNE, US).
- Common succulent terrestrial herb. 10-700 m. Amazonia, Mesoamerica.
- Diastema scabrum** (Poepp.) Benth. ex Walp., Repert. Bot. Syst. 6: 401, 403. 1847.  
Representative Specimen: Ecuador: Esmeraldas: comunidad Chorrera Grande 300-750 m, 10-13 Jul 1996, *J.L. Clark, N. Binder & P. Hibbs 2817* (AAU, COL, E, MO, QCNE, US).  
Terrestrial herb. 100-750 m. Amazonia, Mesoamerica.
- Drymonia allopectoides** Hanst., Linnaea 34(3): 358-359. 1865.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 15 Oct 1994, *M.S. Bass, L. Kueppers & N. Pitman 143* (MO, QCNE).  
Rare vine. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Drymonia brochidodroma** Wiehler, Gesneriana 1(1): 53. 1995.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 22 Nov 1995, *J.L. Clark, K. Cunningham & C. Roberts 1636* (MO, QCNE, US).  
Common terrestrial herb, 1-2 m tall. 400-600 m. Amazonia, Chocó.
- Drymonia dodsonii** (Wiehler) J.L. Clark, Selbyana 2(1): 67-70, t. 19A. 1977.  
*Drymonia dodsonii* Wiehler. Type: Ecuador: Los Ríos: Río Palenque Science Center, km 56 between Quevedo and Santo Domingo, tropical wet forest, ca 200 m, 19 July 1971, *H. Wiehler & C.H. Dodson 7105* (HT: SEL; IT: BR, K, MO, NY, QCA, S, US).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, Invader trail to N and NE boundary of reserve, 400-600 m, 28 Sep 1994, *P. Mendoza T., J.L. Clark, L.P. Kvist & L.E. Skog 579* (MO, QCA, QCNE).  
Terrestrial or epiphytic herb. 60-400 m. Endemic.
- Drymonia ecuadorensis** Wiehler, Selbyana 2(1): 74-, t. 22A. 1977. Type: Ecuador: Los Ríos:

- Río Palenque Science Center, km 56 between Quevedo and Santo Domingo, tropical wet forest, ca 200 m, epiphyte on fallen tree trunk, 19 Jul 1971, *Wiehler 7106* (HT: SEL; IT: K, NY, QCA, S, US).  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300–700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4275* (AAU, MO, QCNE, US).  
 Herbaceous vine. 300–700 m. Endemic. Amazonia.
- Drymonia killipii** Wiehler, *Selbyana* 2(1): 106–109, t. 31B. 1977. Type: Colombia: El Valle: old road Cali-Buenaventura, near Río Sabaletas, on path above creek, 2 May 1972, *Wiehler, Dressler, & Williams 72142* (HT: SEL; IT: COL, K, MO, NY, US).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 25 Nov 1999, *D. Neill & QCNE botany interns 12208* (MO, QCNE, US).  
 Terrestrial or epiphytic subshrub. 200–500 m. Chocó.
- Drymonia laciniosa** Wiehler, *Selbyana* 2(1): 77, t. 22B. 1977. Type: Ecuador: Los Ríos: Río Palenque Science Center, km 56 between Quevedo and Santo Domingo, tropical wet forest, ca 200 m, shrub along creek, 24 Jul 1971, *H. Wiehler & C.H. Dodson 71309* (HT: SEL; IT: K, NY, QCA, S, US).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 13 May 1998, *J.L. Clark & C. Pallis 5589* (AAU, COL, E, MO, QCA, QCNE, US).  
 Scandent epiphyte. 250–600 m. Endemic.
- Drymonia macrophylla** (Oerst.) H.E. Moore, *Baileya* 3(3): 112, f. 43. 1955.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4914* (AAU, COL, E, GB, MO, NY, QCA, QCNE, SRP, US).  
 Terrestrial or epiphytic herb. 280–600 m. Amazonia, Chocó, Mesoamerica.
- Drymonia rhodoloma** Wiehler, *Selbyana* 2(1): 77, t. 22D. 1977. Type: Ecuador: Los Ríos: Río Palenque Science Center, km 56 between Quevedo and Santo Domingo, tropical wet forest, ca 200 m alt, 24 Jul 1971, *H. Wiehler & C.H. Dodson 71311* (HT: SEL; IT: K, MO, NY, QCA, S, US).  
 Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 16 Mar 1998, *J.L. Clark 4701* (AAU, CAS, COL, E, MO, QCA, QCNE, SRP, US, USM).  
 Herbaceous epiphyte. 250–500 m. Endemic.
- Drymonia serrulata** (Jacq.) Mart., *Nov. Gen. Sp.* Pl. 3: 192. 1832.  
 Representative Specimen: Ecuador: Manabí: Mache-Chindul, comunidad Ambache, 250 m, 4 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4165* (MO, QCNE, US).  
 Scandent terrestrial or epiphytic subshrub. 10–600 m. Amazonia, Chocó, Mesoamerica.
- Drymonia teuscheri** (Raymond) J.L. Clark, *Selbyana* 25(2): 182–209. 2005. *Hypocyrtia teuscheri* Raymod. Type: Ecuador; described from cultivated material.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 24 Sep 1996, *J.L. Clark 2894* (AAU, COL, MO, QCNE, US).  
 Common terrestrial or epiphytic herb. Chocó.
- Drymonia turrialvae** Hanst., *Linnaea* 34(3): 359–360. 1865.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 19 Feb 1997, *J.L. Clark 3949* (MO, QCNE, US).  
 Rare terrestrial herb. 650 m. Amazonia, Chocó, Mesoamerica.
- Drymonia warszewicziana** Hanst., *Linnaea* 34(3): 352. 1865.  
 Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 16 Mar 1998, *J.L. Clark 4693* (MO, QCNE, US).  
 Common herbaceous vine. 200–600 m. Amazonia, Chocó, Mesoamerica.
- Gasteranthus bilsaensis** L.E. Skog & L.P. Kvist, *Syst. Bot. Monogr.* 59: 41–42, f. 7D, 17, 22.

2000. Type: Ecuador: Esmeraldas: Montañas de Mache, 35 km W of Quinindé, Bilsa Biological Station, Rana Roja trail, 550-560 m, 25 Oct 1995, *P. Mendoza T., J.L. Clark, L.E. Skog & L.P. Kvist*. 561 (HT: QCNE; IT: AAU, COL, K, MO, NY, QCA, SEL, UC, US). (Fig. 15A-F, p.142).
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 26 Oct 1994, *J.L. Clark, C. Bienkowski & C. Clark* 213 (COL, E, MO, QCNE, US).
- Terrestrial herb in mature forest. 300-700 m. Endemic.
- Gasteranthus calcaratus** (Kunth) Wiehler, *Selbyana* 1(2): 154. 1975. *Besleria calcarata* Kunth.
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 1 Oct 1996, *J.L. Clark* 2964 (AAU, COL, E, MO, NY, QCNE, SRP, US, USM).
- Infrasp.: *Gasteranthus calcaratus* subsp. *oncogastrus* (Hanst.) L.E. Skog & L.P. Kvist, *Gasteranthus calcaratus* subsp. *calcaratus*.
- Common terrestrial herb. 60-600 m. Amazonia, Chocó.
- Gasteranthus crispus** (Mansf.) Wiehler, *Selbyana* 1(2): 154. 1975. *Halpophyllum crispum* Mansf. Type: Ecuador: Los Ríos: S. Carlos de los Colorados, 150 m, *A. Schultze-Rhönhof* 2031 (HT: B).
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 16 Sep 1994, *J.L. Clark & B. Adnepos* 58 (MO, QCNE, US).
- Understory terrestrial herb. 280-600 m. Endemic.
- Gasteranthus tenellus** L.E. Skog & L.P. Kvist, *Syst. Bot. Monogr.* 59: 96-98, f. 3C, 24, 37. 2000. Type: Ecuador: Esmeraldas: Quinindé, Community Piedrita, 10 km SW of Cube (via Pircuta), 400-750 m, 00°20'N 79°41'W, 11 Jul 1996, *J.L. Clark & P. Hibbs* 2815 (HT: QCNE; IT: AAU, COL, E, MO, NY, QCA, SRP, US, VEN). (Fig. 6B,D, p.133; 16A-H, p.143).
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 13 May 1998, *J.L. Clark & C. Pallis* 5573 (AAU, COL, MO, QCA, QCNE, SRP, US).
- Understory terrestrial herb. 250-750 m. Endemic.
- Gasteranthus villosus** L.E. Skog & L.P. Kvist, *Syst. Bot. Monogr.* 59: 101-102, f. 9D, 13G-H, 15, 38. 2000. Type: Ecuador: Esmeraldas: 35 km W of Quinindé, Mache Mountains, Bilsa Biological Station, 400-600 m, 26 Oct 1995, *Mendoza-T. et al.* 594 (HT: QCNE; IT: AAU, COL, E, GH, MO, NY, P, QCA, US). (Fig. 6A, C,E, p.133; 17A-H, p.144).
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 11 Mar 1998, *J.L. Clark, C. Pallis & J. West* 4610 (AAU, COL, E, MO, NY, QCA, QCNE, SRP, US).
- Understory terrestrial herb. 250-750 m. Endemic.
- Glossoloma** sp.
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 15 Jul 1996, *J.L. Clark, C. Aulestia, J. Kellermann, & F. Vetel* 2867 (MO, QCNE, SEL, US).
- Unbranched understory subshrub, 1-2 m tall. 400-600 m.
- Gloxinia dodsonii** Wiehler, *Selbyana* 2(1): 80, t. 24D. 1977. Type: Ecuador: Pichincha: along Río Baba (=Río Quevedo), 28 km S of Santo Domingo de los Colorados, 350 m, 3 Nov 1961, *C.H. Dodson & L.B. Thien* 1173 (HT: SEL; IT: BH, K, UC, US, WIS).
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 5 Dec 1994, *J.L. Clark & K. Chamberlain* 367 (MO, QCNE, SEL, US).
- Common terrestrial herb in understory of mature forest, 10-20 cm tall. 200-600 m. Endemic.
- Kohleria inaequalis** (Benth.) Wiehler, *Selbyana* 5(1): 62. 1976.
- Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 700 m, 26 Aug 1998,

*D. Neill & QCNE botany interns 11358*  
(MO, QCNE).

Terrestrial herb. 300-700 m. Chocó.

Infrasp.: *Kohleria inaequalis* var. *inaequalis*.

**Kohleria spicata** (Kunth) Oerst., Centralamer.  
Gesner. 5(1): 62. 1858.

Representative Specimen: Ecuador  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 21 Aug 2003, *J.L. Clark, R. Fleiss*  
& *F. Gurumendi 8840* (MO, QCNE, US).

Terrestrial herb in sunny disturbed sites. 400-  
600 m. Amazonia, Chocó, Mesoamerica.

**Kohleria villosa** (Fritsch) Wiehler, Selbyana 5(1):  
63. 1978.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 6 Apr 1995, *J.L. Clark & Y. Troya*  
*628* (MO, QCNE).

Terrestrial herb in understory of mature forest.  
400-600 m. Amazonia, Chocó.

Infrasp.: *Kohleria villosa* var. *villosa*.

**Monopyle macrocarpa** Benth., Icon. Pl. 12: 85-  
86, t. 1198, f. 1-5. 1876.

Representative Specimen: Ecuador: Manabí:  
Cerro Pata de Pájaro, 700 m, *D. Neill &*  
*QCNE botany interns 11362* (MO, QCNE).

Terrestrial herb in understory of mature forest.  
300-700 m. Amazonia, Chocó,  
Mesoamerica.

**Napeanthus robustus** Fritsch, Akad. Wiss. Wien  
Sitzungsber., Math.-Naturwiss. Kl., Abt. 1,  
134(3-4): 122-124, f. 1. 1925. Type:  
Ecuador: In silvis tropicis prope S.  
Domingo, 360 m, Aug 1875, *Sodiolo 119/58*  
(HT: B).

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 600,  
27 Sep 1996, *J.L. Clark 2942* (AAU, COL,  
MO, QCNE, US).

Terrestrial herb in understory of mature forest,  
10-15 cm tall with inflorescence to 70 cm  
long; occasionally growing on rocks. 400-  
600 m. Amazonia, Chocó, Mesoamerica.

**Paradrymonia binata** Wiehler, Phytologia 73(3):  
231. 1992. Type: Ecuador. Esmeraldas: ca  
5 km W of Lita, dense, wet forest near Río

Chuchubí, down the slope towards Río  
Mira, 800 m altitude, *H. Wiehler 9205* (HT:  
GES; IT: NY, QCA, US).

Representative Specimen: Ecuador:  
Esmeraldas: Fila de Bilsa, 280 m, 30 Jan  
1991, *A. Gentry, R. Foster & C. Josse 72948*  
(MO, US).

Terrestrial or epiphytic herb. 280 m. Endemic.

**Paradrymonia hypocyrta** Wiehler, Selbyana 2(1):  
82, t. 25C. 1977. Type: Ecuador: Los Ríos:  
Montaña de Ila, km io2, road from Patricia  
Pilar to 24 de Mayo, 540 m, cloud forest  
on western slopes, 30 May 1976, *C.H.*  
*Dodson 6092* (HT: SEL; IT: K, NY, QCA,  
S, US).

Representative Specimen: Ecuador:  
Esmeraldas: Comunidad Piedrita, 400-750  
m, 10-13 Jul 1996, *J.L. Clark, N. Binder &*  
*P. Hibbs 2821* (MO, QCNE).

Common terrestrial or epiphytic herb. 400-750  
m. Endemic.

#### **Reldia** sp.

Representative Specimen: Ecuador  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 21 Aug 2003, *J.L. Clark, R. Fleiss*  
& *F. Gurumendi 8835* (MO, QCNE, US).  
Rare terrestrial understory herb, 20-50 cm tall.  
400-600 m.

### **HAEMODORACEAE**

**Xiphidium caeruleum** Aubl., Hist. Pl. Guiane 1:  
33, t. 11. 1775.

Representative Specimen: Ecuador: Manabí:  
Cerro Pata de Pájaro, 300-700 m, 21 Jun  
1996, *J.L. Clark, E. Arroyo & P. Hibbs 2726*  
(MO, QCNE).

Common terrestrial herb. 75-700 m. Amazonia,  
Chocó, Mesoamerica.

### **HELICONIACEAE**

**Heliconia harlingii** L. Andersson, Fl. Ecuador 22:  
66. 1985. Type: Ecuador: Los Ríos: Río  
Palenque Science Center, about halfway  
between Quevedo and Santo Domingo, c.  
200 m, 7 Jun 1981, *L. Andersson 1326* (HT:  
S; IT: GB, QCA).

Representative Specimen: Ecuador: Manabí: 45  
km al norte de Pedernales, 5 m, 28 Aug

- 1998, *D. Neill & QCNE botany interns 11426* (MO, QCNE).  
Terrestrial herb. 5-600 m. Common name: "Platanillo." Endemic.
- Heliconia longa*** (Griggs) H.J.P. Winkl., Nat. Pflanzenfam. (ed. 2) 15a: 536. 1930. *Bihai longa* Griggs.  
Representative Specimen: Ecuador: Manabí: 45 km al norte de Pedernales, 5 m, 28 Aug 1998, *D. Neill & QCNE botany interns 11430* (MO, QCNE).  
Terrestrial herb. 0-50 m. Common name: "Platanillo." Amazonia, Chocó, Mesoamerica.
- Heliconia longiflora*** R.R. Sm., *Phytologia* 36(3): 255-256, f. 1. 1977.  
Representative Specimen: Ecuador: Manabí: Jama 400 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11661* (MO, QCNE).  
Terrestrial herb. 400 m. Common name: "Platanillo." Chocó, Mesoamerica.  
Infrasp.: *Heliconia longiflora* subsp. *ecuadoriensis* L. Andersson.
- Heliconia metallica*** Planch. & Linden ex Hook., *Bot. Mag.* 88: t. 5315. 1862.  
Representative Specimen: Ecuador: Manabí: Reserva Ecologica Mache-Chindul, Comunidad Ambache (vía marginal de la costa-Chindul), 250 m, 6 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4221* (MO, QCNE).  
Terrestrial herb. 250-500 m. Common name: "Platanillo." Amazonia, Chocó, Mesoamerica.
- Heliconia nigripraefixa*** Dodson & A.H. Gentry, *Selbyana* 2(2-3): 296-297, t. 2D. 1978.  
Type: Ecuador: Los Ríos: Río Palenque Science Center, km 56 Quevedo to Santo Domingo, 220 m., 15 Oct. 1972, *C.H. Dodson 5188* (HT: SEL; IT: MO (fragm.), RPSC).  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry, R. Foster & C. Josse 72937* (MO).  
Terrestrial herb. 280 m. Common name: "Platanillo." Chocó, Mesoamerica.
- Heliconia reticulata*** (Griggs) Winkl., Nat. Pflanzenfam. (ed. 2) 15a: 536. 1930.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 2 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3960* (GB, MO, QCNE).  
Terrestrial herb. 280-600 m. Common name: "Platanillo." Chocó, Mesoamerica.
- Heliconia spathocircinata*** Aristeg., Bol. Soc. Venez. Ci. Nat. 22(98-99): 18, 20, t. 1961.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 25 Mar 1995, *J.L. Clark & Y. Troya 497* (GB, MO, QCNE).  
Terrestrial herb. 400-600 m. Common name: "Platanillo." Amazonia, Chocó, Mesoamerica.
- Heliconia stricta*** Huber, Bol. Mus. Paraense Hist. Nat. 4: 543. 1906.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 14 Nov 1994, *J.L. Clark, H. Lintz & S. Mora 240* (MO, QCNE).  
Terrestrial herb. 400-600 m. Common name: "Platanillo." Amazonia, Chocó.

## HERNANDIACEAE

- Hernandia didymantha*** Donn. Sm., *Bot. Gaz.* 31(2): 120. 1901.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 17 Feb 1996, *J.L. Clark, N. Kerber & J. Plihal 2056* (MO, QCNE).  
Common subcanopy tree. 400-600 m. Chocó, Mesoamerica.

## HIPPOCASTANACEAE

- Billia rosea*** (Planch. & Linden) C. Ulloa & P. Jørg., *Novon* 11(2): 287. 2001.  
Synonym: *Billia columbiana* Planch. & Linden.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 19 Feb 1996, *J.L. Clark 2095* (MO, QCNE).  
Common subcanopy tree. 400-650 m. Amazonia, Chocó, Mesoamerica.

**HIPPOCRATEACEAE****Cheiloclinium** sp.

Representative Specimen: Ecuador:  
Esmeraldas: Fila de Bilsa, 280 m, 28 Jan  
1991, *A. Gentry & C. Josse 72773* (MO).  
Tree. 280 m. Common name: "Comida de  
Loro."

**Peritassa** sp.

Representative Specimen: Ecuador Ecuador:  
Manabí: Cerro Pata de Pájaro, 380-450 m,  
12 Nov 1998, *T. Delinks & C. Robles 150*  
(MO, QCNE).  
Liana. 380-450 m.

**Salacia macrantha** A.C. Sm., Bull. Torrey Bot.  
Club 66(4): 245-246. 1939.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 17 Feb 1996, *J.L. Clark, N. Kerber*  
& *J. Plihal 2043* (MO, QCNE).

Common tree. 100-600 m. Common name:  
"Chupa chupa." Amazonia, Chocó,  
Mesoamerica.

**Salacia spectabilis** A.C. Sm., Brittonia 3(3): 436-  
438. 1940.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 16 Nov 1994, *J.L. Clark 403* (MO,  
QCNE).

Common tree. 100-600 m. Amazonia, Chocó.

**Tontelea mauritioides** (A.C. Sm.) A.C. Sm.,  
Brittonia 3(3): 481, f. 10t-v. 1940.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 8 Feb 1996, *J.L. Clark & N. Kerber, J.*  
*Plihal 1944* (MO, QCNE).

Woody liana. 500-650 m. Amazonia.

**HYDRANGEACEAE**

**Hydrangea peruviana** Moric., Prodr. 4: 14. 1830.

Type: In Peruvia prope Huyaquaquil, *Pavón*  
*s.n.* (HT: herb. Moricand).

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 9 Dec 1994, *M.S. Bass & N. Pitman*  
*320* (MO, QCNE).

Infrasp.: *Hydrangea peruviana* var. *oerstedii*  
(Briq.) Freire-Fierro.

Woody liana from subcanopy. 400-600 m.  
Amazonia, Chocó, Mesoamerica.

**ICACINACEAE**

**Calatola columbiana** Sleumer, Notizbl. Bot. Gart.  
Berlin-Dahlem 15: 247. 1940.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 4-5 Oct 1996, *J.L. Clark 2987* (MO,  
QCNE).

Tree. 300-700 m. Amazonia, Chocó.

**Calatola costaricensis** Standl., J. Wash. Acad. Sci.  
16(15): 416-418. 1926.

Representative Specimen: Ecuador: Pedernales  
Cantón, Reserva Ecologica Mache-Chindul,  
Cerro Pata de Pájaro, Cabaceras de Río Vite,  
estero Nuquepe, 300-700 m, 7 Apr 1997,  
*J.L. Clark, T. Nuñez & C. Robles 4313* (MO,  
QCNE).

Tree. 300-700 m. Amazonia, Chocó,  
Mesoamerica.

**Citronella incarum** (J.F. Macbr.) R.A. Howard,  
J. Arnold Arbor. 21: 472. 1940.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 8 May 1996, *J.L. Clark 2565* (MO,  
QCNE).

Tree. 400-600 m. Amazonia, Chocó.

**Citronella melliodora** (Sleumer) R.A. Howard,  
Contr. Gray Herb. 142: 77. 1942.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 3 Apr 1996, *J.L. Clark, K. Berg & J.*  
*Leffingwell 2385* (MO, QCNE).

Common subcanopy tree. 400-600 m.  
Amazonia.

**Dendrobangia boliviana** Rusby, Mem. Torrey  
Bot. Club 6(1): 19-20. 1896.

Representative Specimen: Ecuador:  
Esmeraldas: Fila de Bilsa, 280 m, 28 Jan  
1991, *A. Gentry & C. Josse 72762* (MO).

Tree. 280 m. Amazonia, Chocó, Mesoamerica.

**LAMIACEAE**

**Hyptis atrorubens** Poit., Ann. Mus. Natl. Hist.



Nat. 7: 466-467, t. 27, f. 3. 1806.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 14 Sep 1994, *J.R. Abbott 15099* (BEREA, QCNE).

Prostrate herb. 400-600 m. Amazonia, Chocó, Mesoamerica.

### **Salvia** sp.

Representative Specimen: Ecuador: Manabí: Cordillera de Jama (coastal range), Cerro Nueve, 15 km E of Jama, N of Río Jama, 600 m, 17 Dec 1998, *D. Neill & QCNE botany interns* (MO, QCNE).

Terrestrial herb. 400-600 m.

## LAURACEAE

### **Aniba** sp.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 19 Feb 1996, *J.L. Clark 2102* (MO, QCNE).

Subcanopy tree. 400-600 m.. Common name: "Jigua."

**Beilschmiedia alloiophylla** (Rusby) Kosterm., *Recueil Trav. Bot. Neerl.* 35: 849. 1938.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sep 1996, *J.L. Clark 2943* (MO, QCNE).

Common subcanopy tree. 100-850 m. Amazonia, Chocó, Mesoamerica.

**Caryodaphnopsis theobromifolia** (A.H. Gentry) van der Werff & H.G. Richt., *Syst. Bot.* 10(2): 167. 1985. *Persea theobromifolia* A.H. Gentry. Type: Ecuador: Los Ríos: Quevedo-Sto. Domingo, Río Palenque Science Center, tropical wet forest, 150-220 m, Mar 1973, *C. H. Dodson 5243* (HT: SEL; IT: MO, US, RPSC).

Representative Specimen: Ecuador: Manabí: Mache-Chindul, comunidad Ambache, 250 m, 4 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4148* (MO, QCNE).

Common canopy tree at low elevations, rare tree at higher elevations. 100-850 m. Common name: "Caoba." Endemic.

**Chlorocardium** aff. **venenosum** (Kosterm. & Pinkley) Rohwer, H.G. Richt. & van der Werff, *Ann. Missouri Bot. Gard.* 78(2): 390-392. 1991. (Fig. 4C).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 5 May 1996, *J.L. Clark, S. Bollendorff & P. Smith 2540* (MO, QCNE).

Common canopy tree. 400-600 m. Amazonia, Chocó [The tree in coastal Ecuador and the Chocó may not be conspecific with Amazonian *C. venenosum*, but more comparative fertile material is needed].

**Cinnamomum triplinerve** (Ruiz & Pav.) Kosterm., *Reinwardtia* 6: 24. 1961.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 20 May 1995, *J.L. Clark & C. Watt 936* (MO, QCNE).

Common understory shrub. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Endlicheria browniana** Mez, *Jahrb. Konigl. Bot. Gart. Berlin* 5: 115. 1889.

Representative Specimen: Ecuador: Esmeraldas: Muisne, Sitio San Salvador, orillas del Río Sucio, 100-150 m, Mar 1995, *W. Palacios 13750* (MO, QCNE).

Understory tree. 100-150 m. Chocó, Mesoamerica.

**Endlicheria ruforamula** Chanderbali, *Fl. Neotrop.* 91: 102-105, f. 36,37. 2004.

Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 100-300 m, 7 Jul 1996, *J.L. Clark, N. Binder & W. Naranjo 2784* (MO, QCNE).

Subcanopy tree. 100-150 m. Amazonia, Chocó.

**Nectandra bartlettiana** Lasser, *Bol. Tecn. Minist. Agric.* 3: 14. 1942.

Representative Specimen: Ecuador: Manabí: 15 km al norte de Pedernales 20 m, 28 Aug 1998, *D. Neill & QCNE botany interns 11405* (QCNE).

Understory tree. 0-50 m.

**Nectandra hihua** (Ruiz & Pav.) Rohwer, *Fl. Neotrop.* 60: 196. 1993. *Laurus hihua* Ruiz & Pav. Type: Ecuador. Guayas: "in

- Huayaquilensibus nemoribus"., *Ruiz & Pavón s.n.* (HT: MA; IT: B, G, fragm. F).  
 Representative Specimen: Ecuador: Manabí: Recinto Hojas Blancas, Carretera Pedernales-Carmen Mandarino, Entrada el Mono, 150 m, 12 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4381* (MO, QCNE).  
 Understory tree. 100-300 m. Amazonia, Chocó, Mesoamerica.
- Nectandra lineata** (Kunth) Rohwer, *Fl. Neotrop.* 60: 209. 1993.  
 Representative Specimen: Ecuador: Manabí: Jipijapa, 650 m, 10 Dec 1999, *D. Neill & QCNE botany interns 12251* (MO, QCNE).  
 Understory tree. 650 m. Amazonia, Chocó, Mesoamerica.
- Nectandra membranacea** (Sw.) Griseb., *Fl. Brit. W. I.* 282. 1860.  
 Representative Specimen: Ecuador: Esmeraldas: Quigüe 250 M, 18 May 2000, *D. Neill & QCNE botany interns 12707* (MO, QCNE).  
 Subcanopy tree. 250 m. Amazonia, Chocó, Mesoamerica.
- Nectandra purpurea** (Ruiz & Pav.) Mez, *Jahrb. Konigl. Bot. Gart. Berlin* 5: 443. 1889  
 Representative Specimen: Ecuador: Esmeraldas: Quingüe, 250 m, 18 May 2000, *D. Neill & QCNE botany interns 12711* (MO, QCNE).  
 Tree. 200-400 m. Amazonia, Chocó, Mesoamerica.
- Ocotea cernua** (Nees) Mez, *Mitt. Bot. Vereins Kreis Freiburg* 47/48: 422. 1888.  
 Representative Specimen: Ecuador: Manabí: Jama 400 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11669* (MO, QCNE).  
 Tree. 400 m. Amazonia, Chocó, Mesoamerica.
- Ocotea insularis** (Meisn.) Mez, *Jahrb. Konigl. Bot. Gart. Berlin* 5: 271. 1889.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 1 Apr 1995, *J.L. Clark & Y. Troya 555* (MO, QCNE).  
 Tree. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Ocotea oblonga** (Meisn.) Mez, *Jahrb. Konigl. Bot. Gart. Berlin* 5: 367. 1889.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 12 Mar 1997, *J.L. Clark, A. Cousins, T. Nuñez & J. Richter 4005* (MO, QCNE).  
 Tree. 400-650 m. Amazonia, Chocó, Mesoamerica.
- Ocotea sodiroana** Mez, *Bull. Herb. Boissier* 5(3): 240. 1905. Type: Ecuador. Cotopaxi: "in silvis ad Angamarca, Riofrio", *Sodiro 147/7b* (B).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 18 Feb 1996, *J.L. Clark 2138* (MO, QCNE).  
 Common canopy tree. 400-750 m. Common name: "Catangal," "Catangare." Chocó.
- Ocotea stenoneura** Mez & Pittier, *Bull. Herb. Boissier, ser. 2, 3:* 233. 1903.  
 Representative Specimen: Ecuador: Esmeraldas: road to the Bilsa Biological Station, between La "Y" de La Laguna and Viche, 500 m, 11 Mar 1998, *J.L. Clark, C. Pallis & J. West 4604* (MO, QCNE).  
 Canopy tree. 500 m. Common name: "Jigua Pequeqa." Chocó, Mesoamerica.
- Persea americana** Mill., *Gard. Dict.* (ed. 8) 3: 233. 1768.  
 Representative Specimen: Ecuador: Manabí: 50 km al norte de Pedernales 50 m, 19 Dec 1998, *D. Neill & QCNE botany interns 11708* (MO, QCNE).  
 Common cultivated tree. 0-200 m.. Common name: "Aguacate."
- Persea povedae** W.C. Burger, *Fieldiana, Bot., n.s.* 23: 105, f. 12. 1990.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 18 Nov 1996, *J.L. Clark, F. Gurumendi & H. Weinert 3455* (COL, MO, QCNE).  
 Common canopy tree. 300-700 m. Mesoamerica.
- Pleurothyrium cinereum** van der Werff, *Ann. Missouri Bot. Gard.* 80(1): 61, f. 13, 15. 1993. Type: Ecuador: Esmeraldas:

Panadero, 5 km from the river, *C. Játiva* & *C. Epling* 2039 (HT: MO; IT: NY, US).

Representative Specimen: Ecuador: Bilsa Biological Station, Mache Mountains, 35 km W of Quinindé, 5 km W of Santa Isabel, 400-600 m, 24 Nov 1995, *J.L. Clark, K. Cunningham & C. Roberts* 1659 (COL, MO, QCNE).

Canopy tree. 25-600 m. Amazonia.

**Pleurothyrium giganthum** van der Werff, Ann. Missouri Bot. Gard. 80(1): 72, f. 18, 21. 1993. Type: Ecuador: Los Ríos: Río Palenque Science Center, km 56 Quevedo-Sto. Domingo, *Dodson* 18217 (HT: QCNE).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis* 4886 (MO, QCNE).

Common canopy tree. 400-600 m. Common name: "Jigua." Endemic.

**Rhodostemonodaphne kunthiana** (Nees) Rohwer, Mitt. Inst. Allg. Bot. Hamburg 20: 84. 1986. *Acrodiclidium kunthianum* Nees.

Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 600 m, 16 Dec 1998, *D. Neill & QCNE botany interns* 11565 (MO, QCNE).

Canopy tree. 600 m. Amazonia, Chocó, Mesoamerica.

### LECYTHIDACEAE

**Eschweilera caudiculata** R. Knuth, Pflanzenr. IV. 219a(Heft 105): 95. 1939.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 23 Oct 1996, *J.L. Clark* 3095 (MO, NY, QCNE).

Common canopy tree. 300-850 m. Amazonia, Chocó, Mesoamerica.

**Eschweilera integrifolia** (Ruiz & Pav. ex Miers) R. Knuth, Pflanzenr. IV. 219a(Heft 105): 97. 1939.

Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 27 Oct 1996, *J.L. Clark & C. Brame* 3111 (MO, NY, QCNE, US).

Subcanopy tree. 100-500 m. Chocó,

Mesoamerica.

**Eschweilera rimbachii** Standl., Trop. Woods 42: 31. 1935.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 8 Feb 1996, *J.L. Clark, N. Kerber & J. Plihal* 1945 (MO, NY, QCNE).

Common shrub, 2-5 m tall. 250-700 m. Common name: "Maté." Amazonia, Chocó.

**Grias longirachis** S.A. Mori & J.L. Clark, Brittonia 52(2): 145-148, f. 1. 2000. Type: Ecuador: Esmeraldas: Reserva Ecológica Mache-Chindul, Bilsa Biological Station, 35 km W of Quinindé, 5 km W of Santa Isabel, 00°12'N, 79°14'W, 400-600 m, 10 Apr 1995, *J.L. Clark & Y. Troya* 684 (HT: QCNE; IT: GB, MO, NY, US). (Fig. 2D-E, p.129; 18A-H, p.145).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 23 Nov 1995, *J.L. Clark & K. Cunningham & C. Roberts* 1641 (MO, NY, QCNE).

Common tree, 10-20 m tall. 400-600 m. Common name: "Pitón." Endemic.

**Grias peruviana** Miers, Trans. Linn. Soc. London 30(2): 301. 1874.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 5 Apr 1995, *J.L. Clark & Y. Troya* 567 (AAU, MEXU, MO, NY, QCNE).

Common tree, 3-15 m tall. 400-600 m. Common name: "Jagua de Choque." Amazonia.

**Gustavia angustifolia** Benth., Bot. Voy. Sulphur 99. 1845.

Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 100 m, 15 Dec 1998, *D. Neill & QCNE botany interns* 11510 (MO, QCNE).

Tree, 4-8 m tall. 5-100 m. Chocó.

**Gustavia dodsonii** S.A. Mori, Selbyana 2(1): 37-38, pl. 11. 1977. Type: Ecuador: Los Ríos: Río Palenque Science Center, km 56 between Quevedo and Santo Domingo de los Colorados, tropical wet forest, alt, ca

200 m., *A.H. A. Gentry & C. Dodson 12048* (HT: MO; IT: NY, QCA).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 26 Mar 1995, *J.L. Clark & Y. Troya 513* (AAU, GB, MEXU, MO, NY, QCNE).  
Common canopy tree. 60-650 m. Common name: "Membrillo." Endemic.

***Gustavia serrata*** S.A. Mori, Fl. Neotrop. 21(1): 180, f. 53. 1979. Type: Ecuador: Manabí: road from Chone to Pichincha, km 82, 450 m, 29 Dec 1961, flowers, *Dodson & Thien 1766* (HT: WIS).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 22 Oct 1996, *J.L. Clark 3066* (AAU, GB, MEXU, MO, NY, QCNE).  
Tree, 5-20 m tall. 100-700 m. Endemic.

***Gustavia speciosa*** (Kunth) DC., Prodr. 3: 289. 1828. *Pirigara speciosa* Kunth.

Representative Specimen: Ecuador: Esmeraldas: Recinto Palma Junta, 10 km E of Muisne near road to Tonchigüe, ridge above Estero La Pedorrera, 100 m, 19 May 2000, *D. Neill & QCNE botany interns 12739* (MO, QCNE).

Tree, 4-10 m tall. 100-550 m. Chocó.

Infrasp.: *Gustavia speciosa* subsp. *speciosa*.

***Lecythis tuyrana*** Pittier, Contr. U.S. Natl. Herb. 26(1): 9, t. 7. 1927.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 4 Apr 1996, *J.L. Clark, K. Berg & J. Leffingwell 2405* (MO, QCNE).

Canopy tree. 400-600 m. Common name: "Sabroso." Chocó, Mesoamerica.

#### LEMNACEAE

***Spirodela polyrhiza*** (L.) Schleid., Linnaea 13: 392. 1839.

Representative Specimen: Ecuador: Esmeraldas: Herrera. Lake near "La Y de la Laguna." 400 m, 15 Feb 1998 *J.L. Clark 5513* (MO, QCNE).

Emergent aquatic herb. 400 m. Mesoamerica.

#### LENTIBULARIACEAE

***Utricularia jamesoniana*** Oliv., J. Proc. Linn. Soc., Bot. 4: 169-170, t. 1, f. 1. 1860. Type: Ecuador: ad fluvium Cosanga, prov. Ecuador, *Jameson s.n.*

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 22 Oct 1996, *J.L. Clark 3070* (MO, QCNE).

Saprophyte. 500-650 m. Amazonia, Chocó, Mesoamerica.

#### LOASACEAE

***Klaprothia fasciculata*** (C. Presl) Poston, Syst. Bot. 15: 677. 1990.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 26 Sep 1994, *J.R. Abbott 15294* (BEREA, QCNE).

Small herb to subshrub in disturbed areas. 600 m. Amazonia, Chocó, Mesoamerica.

#### LOGANIACEAE

***Spigelia multispica*** Steud., Flora 26(45): 764. 1843.

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 700 m, 26 Aug 1998, *D. Neill & QCNE botany interns 11337* (MO, QCNE).

Terrestrial herb. 60-700 m. Common name: "Hierba de Lombrise." Amazonia, Chocó, Mesoamerica.

***Strychnos mattogrossensis*** S. Moore, Trans. Linn. Soc. London, Bot. 4: 392. 1895.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 13 May 1995, *J.L. Clark & C. Watt 852* (MO, QCNE).

Woody canopy liana. 400-600 m. Amazonia, Chocó.

***Strychnos pachycarpa*** Ducke, Bol. Tecn. Inst. Agron. N. 3: 15. 1945.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 4 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3710* (MO, QCNE).

Woody canopy liana. 500 m. Amazonia.

**Strychnos ramentifera** Ducke, Bull. Mus. Natl. Hist. Nat., ser. 2, 4: 745. 1932.

Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry, R. Foster & C. Josse 72971* (MO).

Woody canopy liana. 280 m. Amazonia, Chocó, Mesoamerica.

**Strychnos schultesiana** Krukoff, Mem. New York Bot. Gard. 12(1): 78. 1965.

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro 300-700 m, 7 April 1997, *J.L. Clark, T. Nuñez & C. Robles 4273* (MO, QCNE).

Woody canopy liana. 300-700 m. Chocó.

**Strychnos tarapotensis** Sprague & Sandwith, Bull. Misc. Inform. Kew 1927(3): 131. 1927.

Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry & C. Josse 72922* (MO).

Woody canopy liana. 280 m. Common name: "Cacho de venado." Amazonia, Chocó.

**Strychnos toxifera** R.H. Schomb. ex Benth., J. Bot. (Hooker) 3: 240-241. 1841.

Representative Specimen: Ecuador: Esmeraldas: Reserva Ecológica Mache-Chindul, Comunidad Caña Braval, Cabeceras de Río Viche, estero Sabaleta., 250 m, 11 Mar 1998, *J.L. Clark 4635* (MO, QCNE).

Woody canopy liana. 250 m. Amazonia, Chocó, Mesoamerica.

### LORANTHACEAE

**Cladocolea archeri** (A.C. Sm.) Kuijt, J. Arnold Arbor. 56(3): 277. 1975.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600, 27 Sep 1996, *J.L. Clark 2931* (MO, QCNE).

Parasitic scandent subshrub. 600 m. Amazonia, Chocó.

**Oryctanthus alveolatus** (Kunth) Kuijt, Bot. Jahrb. Syst. 95(4): 504-511. 1976. *Loranthus*

*alveolatus* Kunth Nov. Gen. Sp. (quarto ed.) 3: 444. 1818 [1820]. Type. Colombia: Crescit prope Carthago Popayanensium, *Humboldt & Bonpland s.n.* (HT: P).

Representative Specimen: Ecuador: Esmeraldas: Quininde, Fundacion Paraiso de Papagayos, Km 2 via Esmeraldas, 7 Jul 1996, *J.L. Clark 2813* (MO, QCNE).

Parasitic subshrub. 200 m. Amazonia, Chocó, Mesoamerica.

**Oryctanthus florulentus** (Rich.) Tiegh., Bull. Mus. Hist. Nat. (Paris) 2: 339. 1896.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 5 Dec 1994, *J.L. Clark & K. Chamberlain 357* (MO, QCNE).

Parasitic subshrub. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Oryctanthus occidentalis** (L.) Eichler, Fl. Bras. 5(2): 89. 1868.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 7 Oct 1994, *J.L. Clark, M.S. Bass & N. Pitman 156* (MO, QCNE).

Parasitic subshrub. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Oryctanthus spicatus** (Jacq.) Eichler, Fl. Bras. 5(2): 89. 1868.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 5 Dec 1994, *J.L. Clark & K. Chamberlain 356* (MO, QCNE).

Parasitic subshrub. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Psittacanthus cucullaris** (Lam.) Blume, Syst. Veg. 7(2): 1730. 1830.

Representative Specimen: Ecuador: Manabí: Pedernales, 300 m, 14 Mar 1997, *H. Vargas, X. Aguirre, R. Miranda & C. Robles 1366* (MO, QCNE).

Parasitic subshrub. Amazonia, Chocó, Mesoamerica.

### LYTHRACEAE

**Cuphea bombonasae** Sprague, Ann. Bot. (Rome) 17: 161, t. 11: 17-21. 1903.

- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 24 Sep 1994, *J.L. Clark & N. Pitman 108* (MO, QCNE).  
Shrub. 400–600 m. Amazonia, Chocó.
- Cuphea racemosa** (L. f.) Spreng., Syst. Veg. 2: 455. 1825.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 13 Sep 1994, *J.R. Abbott 15073* (BEREA, QCNE).  
Herb or subshrub. 600 m. Amazonia, Chocó, Mesoamerica.
- Cuphea strigulosa** Kunth, Nov. Gen. Sp. 6: 204. 1823 [1824].  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 13 Sep 1994, *J.R. Abbott 15067* (BEREA, QCNE).  
Herb or subshrub. 600 m. Common name: “Yerba de toro.” Amazonia.
- Cuphea tetrapetala** Koehne, Fl. Bras. 13(2): 223. 1877.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 18 Sep 1994, *N. Pitman, M.S. Bass & J.L. Clark 653* (MO, QCNE).  
Low subshrub common along rivers. 400–600 m. Amazonia, Chocó, Mesoamerica.
- Lagerstroemia indica** L., Syst. Nat. (ed. 10) 2: 1076. 1759.  
Representative Specimen: Ecuador: Manabí: Chone, Recinto, Hojas Blanca, Carretera Pedernales-Carmen Mandarinino, Entrada el Mono, Río Mongolla, 12 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4406* (MO, QCNE).  
Introduced, cultivated ornamental tree. 150 m..
- MALPIGHIACEAE**
- Banisteriopsis martiniana** (A. Juss.) Cuatrec., Webbia 13: 498. 1958. *Banisteria martiniana* A. Juss., *Ann. Sci. Nat., Bot., ser. 2*, 13: 284. 1840.  
Representative Specimen: Ecuador: Esmeraldas: Muisne, San Salvador, orillas del Río Sucio, Mar 1995, *W. Palacios 13749* (MICH, MO, QCNE).  
Woody liana from subcanopy. 100–150 m. Chocó.  
Infrasp.: *Banisteriopsis martiniana* var. *subenervia* Cuatrec.
- Bunchosia argentea** (Jacq.) DC., Prodr. 1: 582. 1824. *Malpighia argentea* Jacq. *Fragm. Bot.* 57, t. 83. 1809.  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 100 m, 15 Dec 1998, *D. Neill & QCNE botany interns 11516* (MO, QCNE).  
Subcanopy tree. 100–400 m. Amazonia, Chocó, Mesoamerica.
- Bunchosia hookeriana** A. Juss., *Ann. Sci. Nat., Bot.* 13: 324. 1840.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 6 Apr 1995, *J.L. Clark & Y. Troya 637* (MO, QCNE).  
Tree, ca. 2 m tall. 400–600 m. Amazonia.
- Heteropterys aequatorialis** W.R. Anderson, *Contr. Univ. Michigan Herb.* 23: 72, f. 4. 2001. Type: Ecuador: Guayas: Capeira, 22 km N of Guayaquil, 2 ° S, 79 °58' W, disturbed dry forest, 20–150 m, 15 Jul 1986, *A. Gentry & C. Dodson 54847* (HT: MICH; IT: MO).  
Representative Specimen: Ecuador: Manabí: Jama, Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11634* (MO, QCNE).  
Woody vine. 100 m.
- Heteropterys berteriana** A. Juss., *Ann. Sci. Nat., Bot., ser. 2*, 13: 278. 1840.  
Synonym: *Heteropterys occidentalis* Cuatrec.  
Specimen: Ecuador: Manabí: Jama, Reserva de Lalo Loor, 9 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4354* (MICH, MO, QCNE)..  
Woody liana. 0–350 m.
- Hiraea cephalotes** Triana & Planch., *Ann. Sci. Nat., Bot., ser. 4*, 18: 331. 1862. Type: Nouvelle-Grenade: Prov. de Pasto, 1000 m, 1851–1857, *Triana s.n.* (HT: P).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–

600 m, 14 Oct 1994, *J.L. Clark 190* (MICH, MO, QCNE).

Woody liana. 400-600 m. Amazonia, Chocó.

**Mascagnia hippocrateoides** (Triana & Planch.)

Nied., Arbeiten Bot. Inst. Konigl. Lyceums Hosianum Braunsberg 3: 24. 1908. *Hiraea hippocrateoides* Triana & Planch., Ann. Sci. Nat., Bot., ser. 4, 18: 328. 1862. Type: Colombia: Anapoima, entre Anapoima et les bords du Magdalena, 700 m, Triana & Planchon s.n. (COL, US)

Representative Specimen: Ecuador: Esmeraldas, Quinindé, Fundacion Paraiso de Papagayos, 2 via Esmeraldas, 200 m, 10 Oct 1996, *J.L. Clark 3021* (MICH, MO, QCNE, US).

Woody liana. 0-500 m. Chocó, Mesoamerica.

**Tetrapterys glabrifolia** (Griseb.) Small, N. Amer.

Fl. 25(2): 126. 1910. *Tetrapterys calophylla* var. *glabrifolia* Griseb. Fl. Bras. 12(1): 77-78. 1858.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3789* (MICH, MO, QCNE).

Terrestrial subshrub or woody liana. 400-600 m. Amazonia, Chocó, Mesoamerica.

## MALVACEAE

**Hibiscus acetosella** Welw. ex Hiern, Cat. Afr. Pl.

1: 73. 1896.

Representative Specimen: Esmeraldas: Muisne, island of Muisne, 2 Dec 1995, *J.L. Clark & K. Cunningham 1718* (MO, QCNE, TEX).

Common cultivated herb. 0-50 m. Introduced.

**Hibiscus schizopetalus** (Dyer) Hook. f., Bot. Mag.

106: pl. 6524. 1880.

Representative Specimen: Ecuador: Manabí: Recinto Hojas Blancas, Carretera Pedernales-Carmen Mandarino, Entrada el Mono, 150 m, 12 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4405* (MO, QCNE, TEX).

Scandent subshrub. 150 m. Mesoamerica.

**Malvastrum tomentosum** (L.) S.R. Hill, Brittonia

32: 466. 1980. *Malva tomentosa* L., Sp. Pl. 2: 687. 1753.

Representative Specimen: Ecuador: Manabí: Cerro del Matal, 3 km NW of Jama, 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11609* (MO, QCNE, TEX).

Shrub. 100 m. Amazonia.

**Malvaviscus concinnus** Kunth, Nov. Gen. Sp. 5:

286. 1821 [1822]. Type: Ecuador: Loja, 1802, *Humboldt & Bonpland s.n.* (HT: B (photo F, GH); IT: P).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 5 Apr 1995, *J.L. Clark & Y. Troya 614* (MO, QCNE, TEX).

Woody liana or subshrub. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Pavonia castaneifolia** A. St.-Hil. & Naudin, Ann. Sci. Nat., Bot., ser. 2, 18: 44. 1842.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 4-5 Oct 1996, *J.L. Clark 2995* (MO, QCNE, TEX).

Terrestrial herb or subshrub. 250-650 m. Amazonia, Chocó, Mesoamerica.

**Pavonia pseudotyphalaea** Planch. & Linden ex

Triana & Planch., Ann. Sci. Nat., Bot., ser. 4, 17: 160. 1862. Type: Colombia: Mariqueta, forests of las Juntas, 1836, *Linden 936* (LT: F; ILT: BR, CTES (fragm), G, OXF, P).

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 700 m, 8 Mar 1997, *H. Vargas, X. Aguirre, R. Miranda & C. Robles 1256* (MO, QCNE, TEX).

Terrestrial herb. 700 m. Amazonia, Chocó.

**Sida setosa** Mart. ex Colla, Herb. Pedem. 1: 416. 1833.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 9 Dec 1994, *N. Pitman & M.S. Bass 1061* (MO, QCNE, TEX).

Common terrestrial herb in disturbed areas. 400-600 m. Common name: "Escoba verde." Amazonia, Chocó, Mesoamerica.

**Urena lobata** L., Sp. Pl. 2: 692. 1753.

Common terrestrial herb in disturbed areas. 0-2000 m. Common name: "Amonan." Amazonia, Chocó, Mesoamerica.

- Wissadula excelsior** (Cav.) C. Presl, Reliq. Haenk. 2(2): 118, t. 69. 1835. *Sida excelsior* Cav., Diss. 1: 27, pl. 5, f. 3. 1785. Type: Peru, *J. de Jussieu s.n.* (HT: MA; IT: P-JU).  
Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 6 Jul 1996, *J.L. Clark 2744* (MO, QCNE).  
Common shrub in disturbed areas. 400-600 m. Amazonia, Chocó, Mesoamerica.
- MARANTACEAE**
- Calathea crotalifera** S. Watson, Proc. Amer. Acad. Arts 24: 86. 1889.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 20 May 1995, *J.L. Clark & C. Watt 948* (MO, QCNE).  
Common terrestrial herb. 200-600 m. Amazonia, Chocó, Mesoamerica.
- Calathea guzmanioides** L.B. Sm. & Idrobo, *Caldasia* 5(21): 47-48, f. 1948. Type: Colombia: Valle: Sabaletas, Km 29 carretera Buenaventura-Cali, 25 m, 4 May 1944, *E.P. Killip & J. Cuatrecasas 38748* (HT: US; IT: COL).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 16 Jan 1997, *J.L. Clark, L. Chatrou, C. Repetir & P. Maas 3806* (MO, QCNE).  
Common terrestrial herb. 280-600 m. Chocó, Mesoamerica.
- Calathea lutea** Schult., Mant. 1: 8. 1822.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 7 Dec 1994, *J.L. Clark 378* (MO, QCNE, UBC).  
Common terrestrial herb. 60-600 m. Common name: "Bijao," "Hoja blanca." Amazonia, Chocó, Mesoamerica.
- Calathea marantifolia** Standl., J. Wash. Acad. Sci. 17(10): 250. 1927.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 24 Nov 1994, *J.L. Clark & S. Mora 342* (MO, QCNE).  
Terrestrial herb. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Calathea metallica** Planch. & Linden, Cat. General 10: 2. 1855.  
Representative Specimen: Ecuador: Manabí: Jama 400 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11656* (MO, QCNE).  
Terrestrial herb. 60-400 m. Chocó.
- Calathea micans** (L. Mathieu) Körn., Gartenflora 7: 87. 1858.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 9 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3777* (MO, QCNE).  
Terrestrial herb. 500 m. Amazonia, Chocó, Mesoamerica.
- Calathea pachystachya** (Poepp. & Endl.) Körn., Bull. Soc. Imp. Naturalistes Moscou 35(1): 142. 1862. Nov. Gen. Sp. Pl. 2: 19 t. 127. 1838. Type: Ecuador, *Poeppig s.n.* (NT: LE).  
Representative Specimen: Ecuador: Esmeraldas: Sta. Isabel 500 m, 17 Jan 1997, *J.L. Clark 3818* (MO, QCNE).  
Terrestrial herb. 500 m. Amazonia.
- Calathea roseobracteata** H. Kenn., Nordic J. Bot. 6: 459. 1986. Type: Ecuador: Pichincha: 600 m, *C.H. Dodson & P.M. Dodson 6803* (HT: MO; IT: F, SEL).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 24 Sep 1996, *J.L. Clark 2891* (MO, QCNE).  
Terrestrial herb. 400-700 m. Endemic.
- Calathea selbyana** H. Kenn., Fl. Ecuador 32: 63. 1988. Type: Ecuador: Carchi: Environs of Chical, 12 km below Maldonado on Río San Juan, 1200 m, *Madison, Plowman, Kennedy & Besse 4545* (HT: SEL; IT: F).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 12 May 1995, *J.L. Clark & C. Watt 849* (MO, QCNE).  
Terrestrial herb. 400-600 m. Chocó.
- Calathea variegata** Linden ex Körn., Mitt. Russ. Grbr. St. Petersburg 2: 93. 1860.  
Representative Specimen: Ecuador: Manabí:



Cordillera de Jama, 300 m, 16 Dec 1998,  
*D. Neill & QCNE botany interns 11559*  
(MO, QCNE).

Terrestrial herb. 300-400 m. Amazonia.

**Ischnosiphon leucophaeus** (Poepp. & Endl.)  
Körn., Bull. Soc. Imp. Naturalistes Moscou  
35(1): 91-93. 1862. *Calathea leucophaea*  
Poepp. & Endl. Nov. Gen. Sp. Pl. 2: 21-22,  
t. 129. 1838.

Representative Specimen: Ecuador: Manabí:  
Reserva de Lalo Loor, 100 m, 15 Dec 1998,  
*D. Neill & QCNE botany interns 11518*  
(GB, MO, QCNE).

Terrestrial herb. 100 m. Amazonia, Chocó,  
Mesoamerica.

Infrasp.: *Ischnosiphon leucophaeus* subsp.  
*leucophaeus*.

**Pleiochachya pruinosa** (Regel) K. Schum.,  
Pflanzenr. IV. 48(Heft 11): 165. 1902.  
*Maranta pruinosa* Regel, Gartenflora 27:  
104. 1878

Representative Specimen: Ecuador:  
Esmeraldas: Quinindé, Fundacion Paraiso  
de Papagayos, Km 2 via Esmeraldas, 250  
m, 20 Oct 1996, *J.L. Clark 3062* (MO,  
QCNE).

Terrestrial herb. 250 m. Chocó, Mesoamerica.

### MARCGRAVIACEAE

**Marcgravia atropunctata** de Roon, Acta Bot.  
Neerl. 18(1): 197-200, pl. 2. 1969.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 8 Apr 1995, *J.L. Clark & Y. Troya*  
*664* (MO, QCNE, U).

Common woody liana. 400-850 m. Amazonia,  
Chocó, Mesoamerica.

**Marcgravia brownei** (Triana & Planch.) Krug &  
Urb., Symb. Antill. 1: 367. 1899.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 5 May 1995, *J.L. Clark & C. Watt*  
*747* (MO, QCNE, U).

Woody liana. 280-600 m. Amazonia, Chocó,  
Mesoamerica.

**Marcgravia caudata** Triana & Planch., Ann. Sci.

Nat., Bot., ser. 4, 17: 362-363. 1862. Type:  
Nouvelle-Grenade: Province de Barbacoas,  
800 m, *Triana s.n.*

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 16 Sep 1994, *J.L. Clark & B.*  
*Adnepos 59* (MO, QCNE, U).

Woody liana growing in canopy. 400-600 m.  
Amazonia, Chocó, Mesoamerica.

**Marcgravia nervosa** Triana & Planch., Ann. Sci.  
Nat., Bot., ser. 4, 17: 363-364. 1862. Type:  
Nouvelle-Grenade: Province de Barbacoas,  
1000 m, *Triana & Planchon s.n.*

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 11 Oct 1994, *J.L. Clark 182* (MO,  
QCNE, U).

Woody liana. 400-600 m. Amazonia, Chocó,  
Mesoamerica.

**Marcgravia roonii** S. Dressler, Novon 6(3): 258-  
261, f. 2. 1996. Type: Colombia: El Valle:  
Río Digua Valley, Río Blanco, 600 m, 2-5  
Apr 1939, *E.P. Killip 34790* (HT: BM; IT:  
US).

Representative Specimen: Ecuador:  
Esmeraldas: Mache-Chindul, comunidad  
Caña Braval, 250 m, 11 Mar 1998, *J.L.*  
*Clark 4615* (MO, QCNE, U).

Common woody liana growing in subcanopy.  
250-700 m. Amazonia, Chocó,  
Mesoamerica.

**Marcgraviastrum sodiroi** (Gilg) Bedell ex S.  
Dressler, Monogr. Syst. Bot. Missouri Bot.  
Gard. 75: 955. 1999. *Norantea sodiroi* Gilg,  
*Bot. Jahrb. Syst.* 34(Beibl. 78): 14. 1904.  
Type: Ecuador: Pichincha: along the river  
Pilatón and near Consacoto, *Sodiro 149* (LT:  
P; ILT: G).

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 22 Oct 1996, *J.L. Clark 3065* (MO,  
QCNE, U).

Common woody liana growing in subcanopy.  
400-600 m. Chocó.

**Sarcopera anomala** (Kunth) Bedell, Bot. Jahrb.  
Syst. 119(3): 329. 1997

- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 15 Sep 1994, *J.L. Clark & B. Adnepos 33* (MO, QCNE, U).  
Common woody liana growing in subcanopy. 400–600 m. Amazonia, Chocó.
- Sarcopera cordachida** (Ruiz & Pav. ex G. Don) Bedell ex S. Dressler, Monogr. Syst. Bot. Missouri Bot. Gard. 75: 955. 1999. *Norantea cordachida* Ruiz & Pav. ex G. Don. Type: Ecuador: Guayas, *Tafalla s.n.* (HT: W!; IT: BM, F, G, MA; photo: F, MICH, all of MA).  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 700 m, 26 Aug 1998, *D. Neill & QCNE botany interns 11364* (MO, QCNE).  
Epiphytic shrub. 700 m. Chocó.
- Schwartzia lozania** Giraldo-Cañas, *Caldasia* 23(2): 384–387, f. 1. 2001. Type: Colombia: Nariño: Junín-Tumaco road, 6–11 km W of Junín, roadside thickets 850–1030 m, 27 Feb 1979, *J.L. Luteyn & M. Lebron-Luteyn 6880* (HT: COL, IT: MO, NY).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 12 Mar 1997, *J.L. Clark, A. Cousins, T. Nuñez & J. Richter 3974* (COL, MO, QCNE).  
Rare woody liana growing in subcanopy. 650 m. Chocó.
- MELASTOMATACEAE**
- Aciotis caulialata** (Ruiz & Pav.) Triana, Trans. Linn. Soc. London 28(1): 52. 1871 [1872].  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 1 Oct 1994, *L. Kueppers 71* (MO, QCNE).  
Common terrestrial roadside herb. 400–600 m. Amazonia, Chocó, Mesoamerica.
- Adelobotrys adscendens** (Sw.) Triana, J. Bot. 5: 210. 1867.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sep 1996, *J.L. Clark 2940* (MO, QCNE, US).
- Common woody vine. 400–600 m. Amazonia, Chocó, Mesoamerica.
- Arthrostemma ciliatum** Pav. ex D. Don, Mem. Wern. Nat. Hist. Soc. 4: 299. 1823.  
Representative Specimen: Ecuador: Esmeraldas: Muisne 60 m, Mar 1995, *W. Palacios 13725* (MO, QCNE).  
Scandent subshrub. 60 m. Amazonia, Chocó, Mesoamerica.
- Blakea jativae** Wurdack, *Phytologia* 43(4): 343–344. 1979. Type: Ecuador: Esmeraldas: Near Tobar Donoso, *C. Jativa & C.C. Epling 1128* (HT: US; IT: NY).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 10 Apr 1995, *J.L. Clark & Y. Troya 675* (MO, QCNE, US).  
Woody hemiepiphyte. 400–600 m. Endemic.
- Blakea punctulata** (Triana) Wurdack, *Phytologia* 43(4): 354. 1979.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 13 Sep 1994, *J.L. Clark & B. Adnepos 16* (MO, QCNE, US).  
Common shrub or woody hemiepiphyte. 400–600 m. Amazonia, Chocó.
- Blakea subconnata** O. Berg ex Triana, Trans. Linn. Soc. London 28(1): 148. 1871.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 10 Apr 1995, *J.L. Clark & Y. Troya 674* (MO, QCNE, US).  
Common shrub or woody hemiepiphyte. 400–850 m. Amazonia, Chocó.
- Clidemia acostae** Wurdack, *Phytologia* 38(4): 299–300. 1978. Type: *M. Acosta-Solis 12722*.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 12 Feb 1996, *J.L. Clark & N. Kerber, J. Plihal 1954* (MO, QCNE, US).  
Common terrestrial subshrub to 2 m tall. 400–600 m. Endemic.
- Clidemia densiflora** (Standl.) Gleason, *Phytologia* 3(7): 346. 1950.  
Representative Specimen: Ecuador: Manabí:

Cerro Pata de Pájaro 850 m, 11 Mar 1997, H. Vargas, X. Aguirre, R. Miranda & C. Robles 1334 (AAU, MO, QCNE).

Shrub to 2 m tall. 850 m. Amazonia, Chocó, Mesoamerica.

**Clidemia dentata** Pav. ex D. Don, Mem. Wern. Nat. Hist. Soc. 4(2): 308-309. 1823. Type: Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 8 Dec 1994, N. Pitman & M.S. Bass 1052 (MO, QCNE).

Shrub to 3 m tall. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Clidemia discolor** (Triana) Cogn., Monogr. Phan. 7: 1025. 1891. *Sagraea discolor* Triana. Type: In Novo Granata, *Triana s.n.*

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 30 Mar 1995, J.L. Clark & Y. Troya 540 (MO, QCNE, US).

Subshrub to 1 m tall. 400-600 m. Chocó, Mesoamerica.

**Clidemia epiphytica** (Triana) Cogn., Monogr. Phan. 7: 1025. 1891. *Sagraea epiphytica* Triana. Type: In Nova Granata prope Cieneguita, prov. Choco, *Triana s.n.*

Representative Specimen: Ecuador: Manabí: Mache-Chindul, comunidad Ambache, 250 m, 5 Apr 1997, J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4175 (MO, QCNE, US).

Common woody vine. 250-600 m. Amazonia, Chocó, Mesoamerica.

Infrasp.: *Clidemia epiphytica* var. *epiphytica*.

**Clidemia purpurea** Pav. ex D. Don, Mem. Wern. Nat. Hist. Soc. 4: 308. 1823. Type: Habitat in Peruvia, *Pavón s.n.* (HT: BM).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 6 Jan 1997, J.L. Clark, E. Austen, S. Bennett & D. Kapan 3749 (MO, QCNE, US).

Understory subshrub. 500 m. Chocó, Mesoamerica.

**Clidemia radicans** Cogn., Bot. Gaz. 20(7): 288-289. 1895.

Representative Specimen: Ecuador:

Esmeraldas: Bilsa Biological Station, 400-600 m, 10 May 1995, J.L. Clark & C. Watt 821 (MO, QCNE, US).

Common shrub along shady streams. 400-600 m. Mesoamerica.

**Clidemia septuplinervia** Cogn., Fl. Bras. 14(4): 506-507. 1888.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 24 Jan 1995, J.L. Clark 410 (MO, QCNE, US).

Understory shrub to 2 m tall. 250-600 m. Amazonia, Chocó, Mesoamerica.

**Conostegia centronioides** Markgr., Notizbl. Bot. Gart. Berlin-Dahlem 14: 33. 1938. Type: Ecuador: Pichincha, *Schultze-Rhnhof* 1898.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 6 May 1995, J.L. Clark & C. Watt 755 (MO, QCNE, US).

Common understory tree to 13 m tall. 250-700 m. Amazonia.

**Conostegia cuatrecasii** Gleason, Bull. Torrey Bot. Club 72(5): 473-474. 1945. Type: Colombia: Collected on the Río Cajambre, coast of El Valle, 5-80 m, *J. Cuatrecasas* 17612.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 10 Apr 1995, J.L. Clark & Y. Troya 680 (MO, QCNE, US).

Understory tree to 8 m tall. 25-600 m. Chocó, Mesoamerica.

**Conostegia montana** (Sw.) D. Don ex DC., Prodr. 3: 175. 1828.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 22 Oct 1996, J.L. Clark 3088 (AAU, MO, QCNE, US).

Common understory tree to 10 m tall. 250-850 m. Chocó, Mesoamerica.

**Conostegia superba** D. Don ex Naudin, Ann. Sci. Nat., Bot., ser. 3. 16: 108. 1850.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500

- m, 8 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3773* (MO, QCNE, US).  
Tree to 2 m tall. Common in light gaps. 500 m. Amazonia, Mesoamerica.
- Leandra dichotoma** (Pav. ex D. Don) Cogn., Fl. Bras. 14(4): 200-201. 1886.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 8 Oct 1996, *J.L. Clark 3008* (MO, QCNE, US).  
Shrub, 2 m tall. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Leandra granatensis** Gleason, Brittonia 2(4): 319. 1937. Type: Colombia: Dept Sur de Santander: from the vicinity of Branea Bermeja, Magdalena Valley, *Haught 1311* (HT: NY).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 26 Feb 1996, *J.L. Clark 2167* (MO, QCNE, US).  
Understory tree to 2 m tall. Chocó, Mesoamerica.
- Leandra longicoma** Cogn., Fl. Bras. 14(4): 202-203, t. 43. 1886.  
Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 18 Mar 1998, *J.L. Clark & S. Nazzaro 4929* (MO, QCNE, US).  
Understory shrub. 200 m. Amazonia, Chocó, Mesoamerica.
- Miconia andersonii** Fawcett & Rendle, J. Bot. 64: 104. 1926.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 50 m, 8 Oct 1996, *J.L. Clark 3005* (MO, QCNE, US).  
Shrub or tree. 500 m. Amazonia.
- Miconia brevitheca** Gleason, Brittonia 2(4): 322. 1937. Type: Ecuador: León: collected on the border of forest, near Santa Rosa, Cantón Pujilí, 1000 m, *Mexía 6730* (HT: NY).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 31 Mar 1996, *J.L. Clark, K. Berg & J. Leffingwell 2368* (MO, QCNE, US).  
Tree, 5-12 m tall. 300-700 m. Endemic.
- Miconia explicita** Wurdack, Phytologia 26(1): 3-4. 1973. Type: Ecuador. Pichincha, 300 m, *G. Harling 4475* (HT: S).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 6 May 1996, *J.L. Clark, S. Bollendorff & P. Smith 2553* (MO, QCNE, US).  
Common understory tree, 3-8 m tall. 400-600 m. Endemic.
- Miconia goniostigma** Triana, Trans. Linn. Soc. London 28(1): 124. 1871 [1872]. Type: Prope Ingara provinciae Chocoensis Reipublicae Novo-Granatensis, *Triana 3968*.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 15 Sep 1994, *J.L. Clark & B. Adnepos 47* (MO, QCNE, US).  
Woody vine or scandent subshrub. 400-700 m. Amazonia, Chocó, Mesoamerica.
- Miconia lamprophylla** Triana, Trans. Linn. Soc. London 28(1): 108. 1871 [1872]. Type: Colombia: Pastoensis, prope Chutucal, *Triana 1033*.  
Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos 250 m, 20 Oct 1996, *J.L. Clark B. Shlenker & H. Shlenker 3061* (MO, QCNE, US).  
Shrub to 2 m tall. 250 m. Amazonia, Mesoamerica.
- Miconia loreyoides** Triana, Trans. Linn. Soc. London 28(1): 121. 1871 [1872].  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 580-750 m, 23 Jul 1998, *T. Delinks 18* (MO, QCNE).  
Liana. 580-750 m. Amazonia, Chocó, Mesoamerica.
- Miconia minuta** Gleason, Bull. Torrey Bot. Club 52: 450. 1925.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 17 Nov 1994, *J.L. Clark & S. Mora 261* (MO, QCNE, US).  
Woody hemiepiphyte. 400-600 m. Amazonia.

- Miconia nervosa** (Sm.) Triana, Trans. Linn. Soc. London 28(1): 111. 1871 [1872].  
 Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 28 Mar 1998, *J.L. Clark & S. Nazzaro 4930* (MO, QCNE, US).  
 Woody hemiepiphyte. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Miconia porphyrotricha** (Markgr.) Wurdack, Phytologia 22(5): 404. 1972. *Heterotrichum porphyrotrichum* Markgr. Type: Ecuador. Pastaza: 1150-1200 m, *Schimpff 1077* (HT: B destr.).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 17 Nov 1996, *J.L. Clark, B. Neill & K. Zambrano 3423* (MO, QCNE, US).  
 Scandent subshrub. 400-500 m. Amazonia, Chocó
- Miconia theaezans** (Bonpl.) Cogn., Fl. Bras. 14(4): 419. 1888. *Melastoma theaezans* Bonpl. Type: Habitat, una cum *Rhexia speciosa*, juxta urbem Popayan, *Humboldt & Bonpland s.n.*  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 8 Dec 1994, *N. Pitman & M.S. Bass 1053* (MO, QCNE, US).  
 Tree, 4 m tall. 400-500 m. Amazonia, Chocó.
- Monolena primuliflora** Hook. f., Bot. Mag. 96: 5818. 1870.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sep 1996, *J.L. Clark 2924* (MO, QCNE, US).  
 Common succulent epiphyte. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Ossaea boekei** Wurdack, Phytologia 41(1): 9-10. 1978. Type: Ecuador: Azuay: road Jesus Maria-Molleturo, 10 km from Guayas border, *J.D. Boeke & H. Loyola 2171* (HT: US; IT: NY).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 22 Oct 1996, *J.L. Clark 3076* (MO, QCNE, US).  
 Understory shrub or tree, 1.5 to 5 m tall. 400-
- 600 m. Endemic.
- Ossaea brenesii** Standl., Publ. Field Mus. Nat. Hist., Bot. Ser. 18(3): 835. 1938.  
 Representative Specimen: Ecuador: Esmeraldas: Carretera Herrera-El Páramo (Sta. Isabel) 580 m, 18 Feb 1995, *W. Palacios, J.L. Clark & N. Jaramillo 13507* (MO, QCNE).  
 Shrub, ca. 1 m tall. 400-580 m. Chocó, Mesoamerica.
- Ossaea incerta** Wurdack, Phytologia 38(4): 302-303. 1978. Type: Ecuador, *M. Acosta-Solis 12274* (HT: F).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 30 Dec 1994, *N. Pitman & D. Marsh 1130* (MO, QCNE).  
 Shrub, ca. 1 m tall. 400-600 m. Endemic.
- Ossaea micrantha** (Sw.) Macfad. ex Cogn., Monogr. Phan. 7: 1066. 1891  
 Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 600 m, 16 Dec 1998, *D. Neill & QCNE botany interns 11585* (MO, QCNE).  
 Shrub, ca. 2 m tall. 600 m. Amazonia, Chocó, Mesoamerica.
- Ossaea palenquensis** Wurdack, Phytologia 38(4): 302. 1978. Type: Ecuador: Los Ríos: Río Palenque Biological Station, *C.H. Dodson & A.H. Gentry 6553* (HT: US; IT: MO).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 2 Jan 1995, *N. Pitman 1158* (MO, QCNE).  
 Understory shrub, ca. 1.5 m tall. 400-600 m. Endemic.
- Ossaea quinquenervia** (Mill.) Cogn., Monogr. Phan. 7: 1064. 1891.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 8 Oct 1996, *J.L. Clark 3006* (MO, QCNE, US).  
 Common understory tree to 2 m tall. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Tibouchina longifolia** (Vahl) Baill., Adansonia 12: 74. 1877.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 600  
m, 14 Sep 1994, *J.R. Abbott 15083*  
(BEREA, QCNE).  
Shrub. 600 m. Amazonia, Chocó, Mesoamerica.

**Topobea dodsonorum** Wurdack, *Phytologia*  
38(4): 304-305. 1978. Type: Ecuador: Los  
Rios/Pichincha: collected in cloud forest  
along ridge line near La Centinella at 12  
km on road from Patricia Pilar to Flor de  
Mayo, Montañas de Ila, 600 m, 16 Jul-11  
Aug 1977, *C.H. Dodson & H.C. Dodson*  
6752 (HT: US-2781998; IT: SEL).

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 21 Nov 1994, *J.L. Clark & C.*  
*Bergman 317* (MO, QCNE, US).  
Common woody hemiepiphyte. 250-600 m.  
Endemic.

**Triolena barbeyana** Cogn., *Monogr. Phan.* 7: 542.  
1891.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 27 Sep 1994, *J.L. Clark, B. Adnepos*  
*& J. Wolf 119* (MO, QCNE, US).  
Common terrestrial herb in light gaps. 60-800  
m. Chocó, Mesoamerica.

**Triolena hirsuta** (Benth.) Triana, *J. Bot.* 5: 211.  
1867. *Bertolonia hirsuta* Benth. Type:  
Guayaquil,

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 8 Oct 1996, *J.L. Clark 3018* (AAU, MO,  
QCNE).

Common terrestrial herb in mature forest. 60-  
800 m. Amazonia, Chocó, Mesoamerica.

**Triolena pedemontana** Wurdack, *Phytologia*  
35(3): 243-244. 1977. Type: Ecuador:  
Pichincha: 20 km West of Santo Domingo  
de Los Colorados, 300 m, *P.C.D. Cazalet*  
*& T.D. Pennington 5195* (HT: K; IT: NY,  
US).

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 8 Oct 1996, *J.L. Clark 3019* (AAU, MO,  
QCNE).

Terrestrial herb in mature forest. 500-580 m.

Endemic. Amazonia.

**Triolena pustulata** Triana, *Trans. Linn. Soc.*  
*London* 28(1): 81. 1871. Type: In *Andibus*  
*Ecuadorensibus ad flum. de Guayaquil,*  
prope Ventanas, *R. Spruce 6235*.

Representative Specimen: Ecuador:  
Esmeraldas: Mache-Chindul, Comunidad  
Caña Braval, 250 m, 11 Mar 1998, *J.L.*  
*Clark 4632* (AAU, MO, QCNE).

Terrestrial herb. 250-600 m. Endemic.

## MELIACEAE

**Carapa guianensis** Aubl., *Hist. Pl. Guiane*  
2(Suppl.): 32, t. 387. 1775.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 20 Nov 1995, *J.L. Clark, K. Cunningham*  
*& C. Roberts 1601* (K, MO, QCNE).

Common canopy tree. 0-650 m. Common  
names: "Tangare," "Figeoia." Chocó,  
Mesoamerica.

**Carapa megistocarpa** A.H. Gentry & Dodson,  
*Ann. Missouri Bot. Gard.* 75(4): 1434-1436,  
f. 2. 1988 [1989]. Type: Ecuador. Pichincha:  
Centinela, km 12 carretera Patricia Pilar-  
24 de Mayo, cima de las Montañas de Ila,  
650 m, *C.H. Dodson, A. H. Gentry, W.*  
*Palacios & J. Zaruma 14492* (HT: MO; IT:  
MO, QCNE).

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 24 Jan 1995, *J.L. Clark 411* (K, MO,  
QCNE).

Common understory tree. 50-500 m. Chocó.

**Cedrela odorata** L., *Syst. Nat.* (ed. 10) 2: 940.  
1759. Type: *Brown. jam.* 158, t. 10, f. 1.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 10 May 1995, *J.L. Clark & C. Watt*  
826 (MO, QCNE).

Canopy tree. 400-600 m. Common name:  
"Cedro castillo." Amazonia, Chocó,  
Mesoamerica.

**Guarea glabra** Vahl, *Eclog. Amer.* 3: 8-9. 1807.  
Type: Habitat in Montserrat, *Ryan s.n.*

Representative Specimen: Ecuador: Manabí:

- Jama 400 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11672* (MO, QCNE). Understory tree, 10 m tall. 400 m. Amazonia, Chocó, Mesoamerica.
- Guarea kunthiana** A. Juss., Bull. Sci. Nat. Geol. 23: 240. 1830.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 31 Mar 1996, *J.L. Clark, K. Berg & J. Leffingwell 2378* (MO, QCNE).  
Common canopy tree. 250-600 m. Common name: "Colombiano," "Manzana Colorado." Amazonia, Chocó, Mesoamerica.
- Ruagea glabra** Triana & Planch., Ann. Sci. Nat., Bot., ser. 5, 15: 368. 1872. Type: Colombia: Entre la Mesa et Junca, sur le versant occidental des Andes de Bogota, 1200 m, *Triana s.n.*  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 21 Jan 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2724* (K, MO, QCNE, US).  
Common canopy tree. 300-700 m. Amazonia, Chocó, Mesoamerica.
- Ruagea insignis** (C. DC.) T.D. Penn., Fl. Neotrop. 28: 249-251, f. 52, map 49. 1981. *Cabralea insignis* C. DC.  
Representative Specimen: Ecuador: Esmeraldas: Camino Vecinal Herrera-Los Monos, 550 m, 24-26 Feb 1995, *W. Palacios 13681* (MO, QCNE).  
Tree. 100-600 m. Amazonia, Chocó, Mesoamerica.
- Trichilia elegans** A. Juss., Fl. Bras. Merid. 2: 79, pl. 98. 1829.  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11271* (MO, QCNE).  
Subcanopy tree. 50 m. Amazonia, Chocó.
- Trichilia elsae** Harms, Nat. Pflanzenfam. (ed. 2) 19b1: 115, 117. 1940.  
Representative Specimen: Ecuador: Manabí: Jama, Reserva de Lalo Loor, 24 km S of Pedernales, SE off coastal highway; 100 m, 15 Dec 1998, *D. Neill & QCNE botany interns 11515* (MO, QCNE).  
Subcanopy tree. 50-150 m. Amazonia.
- Trichilia martiana** C. DC., Fl. Bras. 11(1): 205. 1878.  
Representative Specimen: Ecuador: Manabí: Mache-Chindul, comunidad Ambache, 250 m, 6 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4249* (K, MO, QCNE).  
Subcanopy tree. 250-580 m. Chocó, Mesoamerica.
- Trichilia maynasiana** C. DC., Monogr. Phan. 1: 700. 1878.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4764* (MO, QCNE).  
Understory tree, ca. 8 m tall. 500 m. Amazonia.
- Trichilia obovata** W. Palacios, Novon 4(2): 157-158, f. 2. 1994. Type: Ecuador: Pastaza: Pozo Petrolero Danta 2, 50 km al suroeste del Curaray, 1.47°S, 76.48°W, 365 m, 1-19 Oct 1990, *D. Rubio & T. Coba 855* (HT: QCNE; IT: K, MO).  
Representative Specimen: Ecuador: Manabí: 28 km S of Pedernales, 3.5 km SW of the town Reserva de Lalo Loor, 500-550 m, 27 Nov 1999, *T. Delinks 485* (MO, QCNE).  
Tree, ca. 4 m tall. 500-550 m. Amazonia.
- Trichilia pallida** Sw., Prodr. 67. 1788. Type: Hispaniola, *Swartz s.n.*  
Representative Specimen: Ecuador: Manabí: Chone, Recint, Hojas Blanca, Carretera Pedernales-Carmen Mandarino, Entrada el Mono, Río Mongolla, 12 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4387* (K, MO, QCNE).  
Common understory tree. 50-700 m. Amazonia, Chocó, Mesoamerica.
- Trichilia quadrijuga** Kunth, Nov. Gen. Sp. (quarto ed.) 5: 215. 1821 [1822].  
Representative Specimen: Ecuador: Manabí: Jama Cantón, Reserva de Lalo Loor, 30 km S of Pedernales, 9 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4330* (MO, QCNE).  
Common tree, ca. 3 m tall. 10-100 m.

Amazonia, Chocó, Mesoamerica.

**Trichilia septentrionalis** C. DC., Fl. Bras. 11(1): 220. 1878.

Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry, R. Foster & C. Josse 72938* (MO).

Subcanopy tree. 280 m. Amazonia, Chocó, Mesoamerica.

**Trichilia surinamensis** (Miq.) C. DC., Monogr. Phan. 1: 679-680. 1878

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 2 Oct 1996, *J.L. Clark 2976* (MO, QCNE).

Common tree, 5-15 m tall. 60-600 m. Amazonia.

#### MENISPERMACEAE

**Abuta fluminum** Krukoff & Barneby, Phytologia 25(1): 38. 1972.

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4267* (MO, QCNE).

Woody vine. 300-700 m. Amazonia.

**Anomospermum chloranthum** Diels, Notizbl. Konigl. Bot. Gart. Berlin 6(54): 132-133. 1914.

Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 28 Jan 1991, *A. Gentry & C. Josse 72751* (MO).

Subcanopy tree. 280 m. Amazonia, Chocó, Mesoamerica.

**Cissampelos fasciculata** Benth., London J. Bot. 2: 361-362. 1843.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 4 Apr 1995, *J.L. Clark & Y. Troya 598* (MO, QCNE).

Woody liana growing in canopy. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Cissampelos pareira** L., Sp. Pl. 2: 1031-1032. 1753.

Representative Specimen: Ecuador:

Esmeraldas: Bilsa Biological Station, 400 m, 27 Feb 1996, *J.L. Clark 2173* (MO, QCNE).

Common herbaceous vine along roads. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Disciphania tricaudata** Barneby, Brittonia 42(3): 180-181, f. 1G-J. 1990. Type: Ecuador: Napo: en bosque muy húmedo premontana, Via Hollin-Loreto, entre río Guamani and río Pucuno, km 40, 1200 m, 12 Dec 1987, *W. Palacios 2269* (HT: MO; IT: F, K, NY, US).

Representative Specimen: Ecuador: Manabí: Cantón Pedernales, Cerro Pata de Pájaro, 10 km E of Pedernales, 800 m, 10 Mar 1997, *H. Vargas 1313* (MO, QCNE).

Vine. 800 m. Amazonia.

**Odontocarya perforata** Barneby, Selbyana 2(1): 47, t. 13B. 1977. Type: Ecuador: Los Ríos: along trail 2, Río Palenque Science Station, km 56 road Quevedo-Sto Domingo, 1 Mar 1976, 150-220 m, *C.H. Dodson 5992* (HT: MO; CST (drupa): NY; IT: QCA, RPSC, SEL).

Representative Specimen: Ecuador: Manabí: 34 km al norte de Pedernales 60 m, 28 Aug 1998, *D. Neill & QCNE botany interns 11453* (MO, QCNE).

Liana. 60-800 m. Endemic.

#### MONIMIACEAE

**Siparuna aspera** (Ruiz & Pav.) A. DC., Prodr. 16(2.2): 645-646. 1868.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 21 Nov 1994, *J.L. Clark & C. Bergman 300* (MO, QCNE).

Common shrub in disturbed areas. 400-600 m. Amazonia, Chocó.

**Siparuna conica** S.S. Renner & Hausner, Novon 6(1): 108-111, f. 5. 1996. Type: Ecuador: Carchi: Reserva Etnica Awá, Comunidad de Gualpi Medio, 900 m, female, 21 May 1992 (fl), *Quelal, C. 685* (HT: QCNE; IT: MJG, MO).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-



600 m, 11 Dec 1994, *M.S. Bass & N. Pitman* 334 (MO, QCNE).

Tree. 400-600 m. Chocó, Mesoamerica.

**Siparuna eggersii** Hieron., Bot. Jahrb. Syst. 20: Beibl. 49: 17. 1895. Type: Ecuador: Guayas: Near Balao, *H. Eggers 14081* (HT: B destr., (Macbride photo neg. 13497); IT: L, M, NY-3 sheets, US-2 sheets, WU).

Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 600 m, 16 Dec 1998, *D. Neill & QCNE botany interns 11583* (AAU, GB, MEXU, MO, NY, QCNE).

Small tree or scandent shrub. 400-600 m. Endemic.

**Siparuna gentryana** S.S. Renner, Novon 10(2): 134-138, f. 1-3. 2000. Type: Ecuador: Carchi: Tulcán, Reserva Etnica Awá, Centro Gualpi Medio, Río Canumbí, 1150 m, 19-28 Feb 1993, *A. Grijalva, C. Aulestia & J. Taicuz 606* (HT: QCNE; IT: AAU, MO, NY, QCA, QCNE).

Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 28 Jan 1991, *A. Gentry & C. Josse 72777* (MO).

Tree, ca. 7 m tall. 280 m. Common name: "Comida de Mono." Chocó, Mesoamerica.

**Siparuna laurifolia** (Kunth) A. DC., Prodr. 16(2.2): 651. 1868.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400 m, 28 Oct 1994, *M.S. Bass & N. Pitman 198* (MO, QCNE).

Shrub. 400 m. Amazonia, Chocó, Mesoamerica.

**Siparuna multiflora** S.S. Renner & Hausner, Novon 6(1): 108, f. 4, 9C, D. 1996. Type: Ecuador. Carchi: Canton Tulcán, Paroquia Tobar Donoso, Reserva Indígena Awá, 500 m, male, 19 Jun 1992, *G. Tipaz 1337* (HT: QCNE; IT: MJG, MO).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sep 1996, *J.L. Clark 2941* (MO, QCNE).

Tree, 2-8 m tall. 400-600 m. Endemic.

**Siparuna palenquensis** S.S. Renner & Hausner,

Novon 5(1): 63, f. 1K-N, 3. 1995. Type: Ecuador: Pichincha: Hcda. Covadonga on Río Pioatón, 1000 m 2 July 1955, *Asplund 16764* (HT: S; IT: MJG, QCA).

Representative Specimen: Ecuador: Esmeraldas: Muisne 25 m, 22 May 2000, *D. Neill & QCNE botany interns 12769* (MO, QCNE).

Tree, ca. 7 m tall. 25-200 m. Endemic.

## MORACEAE

**Brosimum guianense** (Aubl.) Huber, Bol. Mus. Paraense Hist. Nat. 5: 337. 1909.

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4276* (MO, QCNE).

Tree, ca. 7 m tall. 300-700 m. Common name: "Sande." Amazonia, Chocó, Mesoamerica.

**Brosimum utile** (Kunth) Oken ex J. Presl, Wseobecný Rostl. 2: 1379. 1846

Representative Specimen: Ecuador: Esmeraldas: Muisne, Sitio San Salvador, orillas del Río Sucio, 100-150 m, Mar 1995, *W. Palacios 13767* (MO, QCNE).

Subcanopy tree. 100-280 m. Amazonia, Chocó. Infrasp.: *Brosimum utile* subsp. *occidentale* C.C. Berg.

**Castilla elastica** Sessé ex Cerv., Gaz. Lit. Mexico 3: 7. 1794.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 17 Nov 1994, *J.L. Clark & S. Mora 274* (MO, QCNE).

Tree, ca. 10 m tall. 300-700 m. Common name: "Caucho." Chocó, Mesoamerica.

Infrasp.: *Castilla elastica* subsp. *gummifera* (Miq.) C.C. Berg.

**Castilla tunu** Hemsl., Hooker's Icon. Pl. 27: t. 2651. 1900.

Representative Specimen: Ecuador: Manabí: Canton: Pedernales, Cerro Pata de Pájaro, 10 km E of Pedernales, 21 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2717* (MO, QCNE).

Canopy tree. 300-700 m. Chocó, Mesoamerica.

- Clarisia biflora** Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. 255. 1798.  
 Representative Specimen: Ecuador: Esmeraldas: Camino vecinal Herrera-Los Monos, 550 m, 24–26 Feb 1995, *W. Palacios 13678* (MO, QCNE).  
 Subcanopy tree. 550 m. Amazonia, Chocó, Mesoamerica.
- Clarisia racemosa** Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. 255. 1798.  
 Representative Specimen: Ecuador: Manabí: Pedernales 100 m, 6 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4256* (MO, QCNE).  
 Canopy tree. 100 m. Common name: "Moral bobo." Amazonia, Chocó, Mesoamerica.
- Ficus brevibracteata** W.C. Burger, Phytologia 26(6): 423-424. 1973.  
 Representative Specimen: Ecuador: Manabí: Pedernales, Reserva Ecologica Mache-Chindul, Comunidad Ambache (vía marginal de la costa-Chindul), 250 m, 25 Mar 1997, *J.L. Clark, T. Nuñez & C. Robles 4248* (BG, MO, QCNE).  
 Subcanopy or canopy tree. 250-700 m. Chocó, Mesoamerica.
- Ficus caldasiana** Dugand, Caldasia 4: 33. 1942.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 19 Feb 1996, *J.L. Clark 2085* (BG, MO, QCNE).  
 Canopy tree. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Ficus citrifolia** Mill., Gard. Dict. (ed. 8) 4: 33. 1768.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 8 Apr 1995, *J.L. Clark & Y. Troya 665* (BG, MO, QCNE).  
 Tree, 6-10 m tall. 100-600 m. Amazonia, Chocó, Mesoamerica.
- Ficus crassiuscula** Warb. ex Standl., Contr. U.S. Natl. Herb. 20(1): 12. 1917.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 13 May 1995, *J.L. Clark & C. Watt* 855 (BG, MO, QCNE).  
 Common emergent canopy tree. 400-600 m. Chocó, Mesoamerica.
- Ficus cuatrecasasiana** Dugand, Caldasia 1(4): 36, f. 1. 1942.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 19 Feb 1996, *J.L. Clark 2100* (BG, MO, QCNE).  
 Free standing strangler reaching canopy. 250-600 m. Amazonia, Chocó, Mesoamerica.
- Ficus insipida** Willd., Sp. Pl. 4: 1143. 1806.  
 Representative Specimen: Ecuador: Manabí: Recinto Hojas Blancas, Carretera Pedernales-Carmen Mandarin, Entrada el Mono, 150 m, 12 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4412* (BG, MO, QCNE).  
 Tree, 20-25 m tall. 150 m. Amazonia, Chocó, Mesoamerica.
- Ficus macbridei** Standl., Field Mus. Nat. Hist., Bot. Ser. 13(2/2): 305. 1937.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 18 Nov 1996, *J.L. Clark, F. Gurumendi & H. Weinert 3445* (BG, MO, QCNE).  
 Tree, ca. 12 m tall. 280-500 m. Amazonia, Chocó, Mesoamerica.
- Ficus maxima** Mill., Gard. Dict. (ed. 8) Ficus no. 6. 1768.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 1 Jan 1997, *J.L. Clark, S. Bennett & D. Kapan 3679* (BG, MO, QCNE).  
 Subcanopy tree. 60-500 m. Common name: "Higuerón." Amazonia, Chocó, Mesoamerica.
- Ficus obtusifolia** Kunth, Nov. Gen. Sp. (quarto ed.) 2: 49. 1817.  
 Representative Specimen: Ecuador: Esmeraldas: Herrera (La Y de la Laguna) 450 m, 26 Mar 1998, *J.L. Clark 4915* (BG, MO, QCNE).  
 Tree, ca. 2 m tall. 450 m. Amazonia, Chocó, Mesoamerica.
- Ficus paraensis** (Miq.) Miq., Ann. Mus. Bot.

Lugduno-Batavum 3: 298. 1867.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 25 Nov 1995, *J.L. Clark & K. Cunningham, C. Roberts 1671* (BG, MO, QCNE).

Hemiepiphyte. 500 m. Amazonia, Chocó, Mesoamerica.

**Ficus pertusa** L. f., Suppl. Pl. 442. 1781 [1782].

Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 11 Mar 1998, *J.L. Clark 4647* (BG, MO, QCNE).

Hemiepiphyte strangler. 250 m. Amazonia, Chocó, Mesoamerica.

**Ficus petenensis** Lundell, *Wrightia* 3(8): 167. 1966.

Representative Specimen: Ecuador: Esmeraldas: Muisne 180 m, 23 May 2000, *D. Neill & QCNE botany interns 12763* (MO, QCNE).

Tree, ca. 20 m tall. 180 m. Amazonia, Mesoamerica.

**Ficus rieberiana** C.C. Berg, *Novon* 6(3): 234, f. 4. 1996. Type: Ecuador: Carchi: Reserva Awa, 1500 m, 16–30 Nov. 1990, *Rubio et al. 1068* (HT: QCNE; IT: BG, MO).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 12 Mar 1997, *J.L. Clark, A. Cousins, T. Nuñez & J. Richter 4102* (BG, MO, QCNE).

Tree, ca. 5 m tall. 650 m. Endemic.

**Ficus schippii** Standl., *Publ. Field Columbian Mus., Bot. Ser.* 8(1): 7. 1930.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 1 Oct 1996, *J.L. Clark 2966* (BG, MO, QCNE).

Common woody vine. 200–600 m. Amazonia, Chocó, Mesoamerica.

**Ficus sibundoya** Dugand, *Caldasia* 4: 65, f. 12. 1942.

Representative Specimen: Ecuador: Esmeraldas: Carretera Herrera-El Páramo (Sta. Isabel) 580 m, 18 Feb 1995, *W. Palacios, J.L. Clark & N. Jaramillo 13533*

(MO, QCNE).

Canopy tree. 580 m. Amazonia.

**Ficus tonduzii** Standl., *Contr. U.S. Natl. Herb.* 20(1): 8. 1917.

Representative Specimen: Ecuador: Esmeraldas: Reserva Ecológica Mache-Chindul, Comunidad Caña Braval, Cabaceras del Río Viche, estero Sabaleta, 250 m, 16 Mar 1998, *J.L. Clark 4743* (BG, MO, QCNE).

Tree, 3–15 m tall. 25–500 m. Amazonia, Chocó, Mesoamerica.

**Ficus trianae** Dugand, *Caldasia* 1(4): 70. 1942. Type: Colombia: Barbacoas, 700 m [Narino: Costa del Pacifico], *May 1853, J.J. Triana s.n.* (HT: COL).

Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 29 Jan 1991, *A. Gentry, R. Foster & C. Josse 72875* (MO).

Hemiepiphytic strangler. 280 m. Chocó.

**Ficus yaponensis** Desv.

Representative Specimen: Ecuador: Esmeraldas: Pedernales Cantón, Reserva Ecológica Mache-Chindul, Hacienda la Siberia, ca. 20 km SE of Cojimíes, 100 m, 6 April 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4263* (BG, MO, QCNE).

Tree, ca. 13 m tall. 100 m. Amazonia.

**Maclura tinctoria** (L.) D. Don ex Steud., *Nomencl. Bot.* (ed. 2) 2: 87. 1841. *Morus tinctoria* L.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4779* (BG, MO, QCNE).

Tree, 10–20 m tall. 250–500 m. Amazonia, Chocó.

Infrasp.: *Maclura tinctoria* subsp. *tinctoria*.

**Maquira guianensis** Aubl., *Hist. Pl. Guiane* 2(Suppl.): 36, t. 389. 1775.

Representative Specimen: Ecuador: Manabí Canton, Cerro Pata de Pájaro, 10 km E of Pedernales, 21 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2718* (BG, MO, QCNE).

Canopy tree. 100–700 m. Amazonia, Chocó,

- Mesoamerica.  
Infrasp.: *Maquira guianensis* subsp. *costaricana* (Standl.) C.C. Berg.
- Perebea angustifolia** (Poepp. & Endl.) C.C. Berg, Acta Bot. Neerl. 18(3): 463. 1969.  
Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, *J.L. Clark 4675* (BG, MO, QCNE).  
Tree, 3-7 m tall. 100-580 m. Amazonia, Chocó, Mesoamerica.
- Perebea xanthochyma** H. Karst., Fl. Columb. 2: 23, t. 112. 1862.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 15 Feb 1996, *J.L. Clark, N. Kerber & J. Plihal 2011* (BG, MO, QCNE).  
Common tree, 2-12 m tall. 180-600 m. Amazonia, Chocó, Mesoamerica.
- Poulsenia armata** (Miq.) Standl., Trop. Woods 33: 4. 1933. .  
Representative Specimen: Ecuador: Esmeraldas: Quinindé, Paraíso de Papagayos, 200 m, 6 Jul 1996, *J.L. Clark 2756* (BG, MO, QCNE).  
Tree, 3-8 m tall. 200-500 m. Common names: "Majagua," "Damagua." Amazonia, Chocó, Mesoamerica.
- Pseudolmedia macrophylla** Trécul, Ann. Sci. Nat., Bot., ser. 3. 3(8): 132. 1847.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 16 Feb 1998, *J.L. Clark 4536* (BG, MO, QCNE).  
Tree, ca. 15 m tall. 500 m. Amazonia.
- Pseudolmedia rigida** (Klotzsch & H. Karst.) Cuatrec., Fieldiana, Bot., n.s. 28: 215. 1951.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 4 Apr 1996, *J.L. Clark & Karl Berg, J. Leffingwell 2404* (BG, MO, QCNE).  
Common canopy tree. 100-700 m. Common name: "Guión." Amazonia, Chocó, Mesoamerica.  
Infrasp.: *Pseudolmedia rigida* subsp. *eggersii* (Standl.) C.C. Berg.
- Sorocea jaramilloi** C.C. Berg, Novon 6(3): 241, f. 9. 1996. Type: Ecuador: Pichincha: road Quito-Puerto Quito, km 113, 10 km N of road, Reserva Forestal ENDESA, 22 Aug 1984, *J. Jaramillo 7055* (HT: QCA; IT: AAU, GB, MO, QCA).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 28 Mar 1995, *J.L. Clark & Y. Troya 524* (BG, MO, QCNE).  
Common canopy tree. 400-600 m. Chocó.
- Sorocea sarcocarpa** Lanj. & Wess. Boer, Acta Bot. Neerl. 11: 452. 1962. Type: Ecuador: Esmeraldas, 4 km W of Borbón, *Little 6375* (HT: F; IT: K).  
Representative Specimen: Ecuador: Manabí, Reserva Ecológica Mache-Chindul, Comunidad Ambache (vía marginal de la costa-Chindul), 250 m, 25 Mar 1997, *J.L. Clark, T. Nuñez & C. Robles 4150* (BG, MO, QCNE).  
Tree, 8-14 m tall. 100-250 m. Endemic.
- Trophis caucana** (Pittier) C.C. Berg, Proc. Kon. Ned. Akad. Wetensch., C 91(4): 354. 1988. *Olmedia caucana* Pittier. Type: Colombia: Cauca Valley, La Manuelita near Palmira, *Pittier 803*, 5 Dec 1904-6 Jan 1905 (US; IT: NY).  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4285* (BG, MO, QCNE).  
Canopy tree. 300-700 m. Amazonia, Chocó, Mesoamerica.

## MUSACEAE

- Musa acuminata** Colla, *Mem. Reale Accad. Sci. Torino* 25: 394-395. 1820.  
Common introduced and cultivated herb. 0-700 m. Cultivated throughout the tropics.

## MYRISTICACEAE

- Compsonura mutisii** A.C. Sm., Brittonia 2(5): 415-416. 1937 [1938]. Type: Colombia: without locality, collected between 1760-1808, *J.C. Mutis 3486* (HT: US).  
Representative Specimen: Ecuador: Manabí: 31

km al norte de Pedernales 60 m, 27 Aug 1998, *D. Neill & QCNE botany interns 11389* (MO, QCNE).

Subcanopy tree. 60-300 m. Common name, "Coco." Chocó.

**Otoba gordoniiifolia** (A. DC.) A.H. Gentry, *Taxon* 28(4): 417. 1979. *Myristica gordoniiifolia* A. DC. Type: In peruvia prope Guayaquil, *Pavón s.n.* (HT: G-BOIS).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 14 Feb 1996, *J.L. Clark, N. Kerber & J. Plihal 1986* (MO, QCNE).

Very common canopy tree. 400-600 m. Common name: "Sangre de gallina." Chocó.

**Otoba novogranatensis** Moldenke, *Bull. Torrey Bot. Club* 59(3): 156. 1932.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 550 m, 24 Nov 1999, *D. Neill & QCNE botany interns 12236* (MO, QCNE).

Canopy tree. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Virola aequatorialis** Muriel & Balslev, *Nordic J. Bot.* 20(4): 443-445, f. 1. 2000 [2001]. Type: Ecuador, Esmeraldas, Anchayacu, Eloy Alfaro, Mayronga, 100-250 m, *Pennington et al. 14498* (HT: K; IT: K, NY).

Representative Specimen: Ecuador: Manabí: Pedernales Cantón, Hacienda la Siberia (vía la carretera marginal de la costa), ca. 20 km SE of Cojimíes., 100 m, 6 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4258* (AAU, MO, QCNE).

Canopy tree. 100-250 m. Endemic.

**Virola dixonii** Little, *Phytologia* 19: 255. 1970. Type: Ecuador: Esmeraldas: San Antonio, South of Borbón at río Cayapas, 60 m, *E.L. Little & R.G. Dixon 21092* (HT: US; IT: US).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 18 Nov 1994, *J.L. Clark, H. Lintz & S. Mora 276* (MO, QCNE, UPCB).

Common canopy tree. 5-600 m. Common name: "Coco." Amazonia, Chocó.

**Virola theiodora** (Spruce ex Benth.) Warb., *Nova Acta Acad. Caes. Leop.-Carol. German. Nat. Cur.* 68: 187. 1897.

Representative Specimen: Ecuador: Esmeraldas: Quinindé, Paraíso de Papagayos, 200 m, 27 Feb 1996, *J.L. Clark & C. Brame 3109* (MO, QCNE).

Canopy tree. 200 m. Amazonia.

## MYRSINACEAE

### **Ardisia** sp.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 25 Nov 1995, *J.L. Clark et al. 1677* (MO, QCNE).

Shrub. 400-600 m. Several undetermined species of *Ardisia* have been collected from the region.

**Cybianthus kayapii** (Lundell) Pipoly, *Sida* 18(1): 84. 1998.

Representative Specimen: Ecuador: Esmeraldas: Carretera vecinal Herrera-Los Monos, Cabecera del Río Aguacatal, 550 m, 24-26 Feb 1995, *W. Palacios 13677* (MO, QCNE).

Shrub, ca. 1 m tall. 550 m. Amazonia, Chocó.

**Cybianthus simplex** (Hook. f.) G. Agostini, *Acta Biol. Venez.* 10(2): 163. 1980. *Comomyrsine simplex* Hook. f. Type: Ecuador: Chimborazo, *R. Spruce 6143* (HT: K).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 29 Mar 1995, *J.L. Clark & Y. Troya 527* (MO, QCNE).

Common unbranched pachycaul subshrub, ca. 1 m tall. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Cybianthus sprucei** (Hook. f.) G. Agostini, *Acta Biol. Venez.* 10(2): 164. 1980.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 25 Feb 1996, *J.L. Clark 2148* (MO, QCNE).

Unbranched subshrub, ca. 50 cm tall. 500 m. Amazonia, Chocó.

- Geissanthus longistamineus** (A.C. Sm.) Pipoly, *Novon* 3(4): 472. 1993.  
 Representative Specimen: Ecuador: Esmeraldas: Carretera Herrera-El Páramo (Sta. Isabel) 580 m, 18 Feb–5 Mar 1995, *W. Palacios, J.L. Clark & N. Jaramillo 13509* (MO, QCNE).  
 Common subcanopy tree, 10 m tall. 500–580 m. Amazonia, Chocó.
- Geissanthus mezianus** G. Agostini, *Phytologia* 20(7): 403. 1970.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 12 March 1997, *J.L. Clark, A. Cousins, T. Nuñez & J. Richter 4007* (MO, QCNE).  
 Tree, 8–10 m tall. 400–600 m. Chocó.
- Stylogyne turbacensis** (Kunth) Mez, *Pflanzenr.* IV. 236(Heft 9): 270. 1902. *Ardisia turbacensis* Kunth. Type: *Crescit prope pagum Turbaco Novo-Granatensium, in humidis, Humboldt & Bonpland s.n.*  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300–700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4282* (MO, QCNE).  
 Tree, 7 m tall. 300–700 m. Chocó, Mesoamerica.  
 Infrasp.: *Stylogyne turbacensis* subsp. *turbacensis*.
- MYRTACEAE**
- Campomanesia lineatifolia** Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.* 128. 1798.  
 Representative Specimen: Ecuador: Manabí: Chone, Recinto, Hojas Blanca, Carretera Pedernales-Carmen Mandarino, Entrada el Mono, Río Mongolla, 150 m, 12 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4408* (MO, QCNE).  
 Common cultivated tree. 0–150 m. Common name: “Guayabilla.” Amazonia, Chocó.
- Eugenia multiramosa** McVaugh, *Fieldiana, Bot.* 29(3): 213. 1956. Type: Peru: Loreto: Yurimaguas, along lower Río Huallaga, 135 m, dense forest, 23 Aug–7 Sep 1929, *Killip & Smith 29019* (HT: US: IT:NY).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 24 Sep 1994, *J.L. Clark & N. Pitman 106* (F, MO, QCNE).  
 Common understory tree, 6–10 m tall. 400–600 m. Amazonia, Chocó.
- Eugenia oerstediana** O. Berg, *Linnaea* 27(2-3): 285–286. 1854 [1856].  
 Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos 250 m, 20 Oct 1996, *J.L. Clark, B. Shlenker & H. Shlenker 3059* (MO, QCNE).  
 Tree, 4–14 m tall. 60–250 m. Amazonia, Chocó, Mesoamerica.
- Myrcia splendens** (Sw.) DC., *Prodr.* 3: 244. 1828.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 30 Mar 1995, *J.L. Clark & Y. Troya 541* (MO, QCNE, SEL).  
 Common tree along disturbed roadsides above 400 m. Amazonia, Chocó, Mesoamerica.
- Psidium acutangulum** DC., *Prodr.* 3: 233. 1828.  
 Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 100 m, 15 Dec 1998, *D. Neill & QCNE botany interns 11535* (MO, QCNE).  
 Subcanopy tree. 100 m. Amazonia, Chocó.
- Syzygium jambos** (L.) Alston, *Handb. Fl. Ceylon* 6: 115. 1931.  
 Representative Specimen: Ecuador: Manabí: Chone, Recinto, Hojas Blanca, Carretera Pedernales-Carmen Mandarino, Entrada el Mono, Río Mongolla, 150 m, 12 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4409* (MO, QCNE).  
 Introduced and cultivated tree. Common name: “Poma Rosa.”
- NYCTAGINACEAE**
- Mirabilis jalapa** L., *Sp. Pl.* 1: 177. 1753.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 20 May 1995, *J.L. Clark & C. Watt 959* (AAU, MO, QCNE).  
 Common terrestrial herb in disturbed areas. 400–600 m. Amazonia, Chocó, Mesoamerica.

***Neea* sp.**

Representative Specimen: Ecuador: Esmeraldas: 2km E of Quingüe, 250 m, 18 May 2000, *D. Neill & QCNE botany interns 12722* (MO, QCNE).

Treelet, ca. 3 m tall. 250 m. Several undetermined species of *Neea* have been collected in the region.

**OCHNACEAE*****Ouratea werdermannii*** Sleumer, Notizbl. Bot. Gart. Berlin-Dahlem 13: 356. 1936.

Representative Specimen: Ecuador: Manabí: 250 m, 25 March 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4166* (MO, QCNE).

Tree, ca. 3 m tall. 250 m. Amazonia. [The material from coastal Ecuador may be a distinct, undescribed species]

**OLACACEAE*****Heisteria acuminata*** (Humb. & Bonpl.) Engl., Fl. Bras. 12(2): 14. 1872.

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300–700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4288* (MO, QCNE).

Uncommon tree, 4–6 m tall. 100–700 m. Amazonia, Chocó.

Infrasp.: *Heisteria acuminata* subsp. *acuminata*, *Heisteria acuminata* subsp. *angustifolia* P. Jørg.

***Heisteria cyathiformis*** Little, J. Wash. Acad. Sci. 38(3): 87, f. 7. 1948. Type: Ecuador: Esmeraldas: Quinindé, *E.L. Little 6263A* (HT: US).

Representative Specimen: Ecuador: Esmeraldas: Quininde, Fundacion Paraiso de Papagayos, Km 2 via Esmeraldas, 200 m, 28 Mar 1998, *J.L. Clark & S. Nazzaro 4928* (MO, QCNE).

Common tree, 2–7 m tall. 60–300 m. Endemic.

***Heisteria erythrocarpa*** P. Jørg. & C. Ulloa, Fl. Ecuador 69: 82, f. 18. 2002. Type: Ecuador: Cotopaxi: Tenefuerte, Río Pilaló, Quevedo-Latancunga road, km 52–53, 750–900 m, *Dodson & Dodson 12919* (HT: QCNE; IT: MO, SEL).

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300–700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4321* (MO, QCNE).

Uncommon shrub, 2–4 m tall. 60–300 m. Endemic.

***Heisteria pacifica*** P. Jørg. & C. Ulloa, Fl. Ecuador 69: 72, f. 16. 2002. Type: Ecuador: Esmeraldas: Cantón Quinindé, the Mache-Chindul Ecological Reserve, Bilsa Biological Station, 35 km W of Quinindé, 500 m, *J.L. Clark & C. Pallis 4796* (HT: QCNE; IT: MO).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 16 Feb 1996, *J.L. Clark & N. Kerber, J. Plihal 2023* (MO, QCNE).

Very common understory tree, 3–12 m tall. 280–600 m. Chocó.

**ONAGRACEAE*****Ludwigia octovalvis*** (Jacq.) P.H. Raven, Kew Bull. 15: 476, f. 6d–e, 8h. 1962. *Oenothera octovalvis* Jacq.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station 600 m, 14 September 1994, *J.R. Abbott 15107* (BEREA, QCNE).

Common herb or subshrub in disturbed areas. 400–600 m. Amazonia, Chocó, Mesoamerica.

**ORCHIDACEAE*****Cyclopogon epiphytica*** (Dodson) Dodson, Icon. Pl. Trop., ser. 2 5: pl. 430. 1989. *Beadlea epiphytica* Dodson. Type: Ecuador: Los Ríos: Río Palenque Science Center, km 47 Sto. Domingo-Quevedo, 220 m, 12 Sep 1972, *Dodson 5139* (HT: SEL; IT: QCA, RPSC).

Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry, R. Foster & C. Josse 72989* (MO, RPSC).  
Epiphyte. Mesoamerica

***Dichaea angustisegmenta*** Dodson, Icon. Pl. Trop. 1: pl. 40. 1980. Type: Ecuador: Los Ríos:

- Río Palenque Science Center, km 56 Quevedo-Santo Domingo, 220 m, 17 Apr 1973, *Dodson & Luer 5252* (HT: SEL).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sep 1996, *J.L. Clark 2950* (MO, QCNE).  
 Epiphyte. Endemic.
- Dichaea chasei** Dodson, *Orquideologia* 19(1): 101. 1993.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 26 Feb 1996, *J.L. Clark 2171* (MO, QCNE).  
 Epiphyte. Amazonia.
- Dichaea hystricina** Rchb. f., *Flora* 48: 279. 1865.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 15 Jul 1996, *J.L. Clark, C. Aulestia, J. Kellermann & F. Vetel 2863* (MO, QCNE).  
 Epiphyte. Amazonia, Mesoamerica.
- Dichaea panamensis** Lindl., *Gen. Sp. Orchid. Pl.* 209. 1833.  
 Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 100–300 m, *J.L. Clark, N. Binder & W. Naranjo 2799* (MO, QCNE).  
 Epiphyte. Chocó, Mesoamerica.
- Dichaea richii** Dodson, *Selbyana* 2(1): 49, t. 13C. 1977. Type: Ecuador: Los Ríos: Río Palenque Science Center, km 56 Quevedo-Santo Domingo, 150–220 m, 5 Mar 1976, *C.H. Dodson & E.R. Rich 6000* (HT: SEL; IT: RPSC).  
 Representative Specimen: Ecuador: Esmeraldas: Lita-San Lorenzo 230 m, 11 Jul 1990, *Dodson et al. 18520A* (MO).  
 Epiphyte. Amazonia, Chocó.
- Dimerandra rimbachii** (Schltr.) Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 17: 44. 1922. *Epidendrum rimbachii* Schltr. Type: Ecuador. Guayas: Häufig auf Kakaobäumen im Küstentiefland bei Ventanas, Apr 1920, *A. Rimbach 2* (HT: B destr.).  
 Representative Specimen: Ecuador: Manabí: Pto. Viejo-Quevedo 400 m, 8 May 1985, *Harling & Andersson 25000* (GB, QCA).  
 Epiphyte. Endemic.
- Dressleria fragrans** Dodson, *Orquideologia* 21(1): 3. 1998. Type: Ecuador. Bolívar: Babahoyo to Guaranda, above Balzapamba, 1400 m 6 June 1960, *C. H. Dodson d100* (HT: SEL; IT: QCA).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 8 May 1995, *J.L. Clark & C. Watt 805* (MO, QCNE).  
 Epiphyte. Endemic.
- Elleanthus aristatus** Garay, *Fl. Ecuador* 9: 63. 1978. Type: Ecuador: Los Ríos: ca 3 km E of Quevedo-Latacunga, 70 m, 10 June 1960, *Dodson 88* (HT: SEL).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 26 Jan 1995, *J.L. Clark 428* (MO, QCNE).  
 Epiphyte. Endemic.
- Elleanthus capitatus** (Poepp. & Endl.) Rchb. f., *Ann. Bot. Syst.* 6: 475. 1862.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 24 Nov 1995, *J.L. Clark, K. Cunningham & C. Roberts 1668* (MO, QCNE).  
 Epiphyte. 500 m. Amazonia, Chocó, Mesoamerica.
- Elleanthus ecuadorensis** Garay, *Fl. Ecuador* 9: 77. 1978. Type: Ecuador: Pichincha: between Chiriboga and Guajalito, 2000 m, *Asplund 20515* (HT: S).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 11 May 1995, *J.L. Clark & C. Watt 841* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Elleanthus fractiflexus** Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 8: 35. 1921. Type: Ecuador. Pichincha: In valle Nanegal, epiphyticus et terrestri, *A. Sodiro 35* (HT: B destr.; LT: BR; IT: QPLS).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 18 Nov 1994, *J.L. Clark, H. Lintz &*



*S. Mora 284* (MO, QCNE).

Epiphyte. Amazonia, Chocó, Mesoamerica.

**Elleanthus graminifolius** (Barb. Rodr.) Løjtnant,  
Bot. Not. 129: 447. 1977

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 24 Sep 1996, *J.L. Clark 2906* (MO,  
QCNE).

Epiphyte. Amazonia, Chocó, Mesoamerica.

**Elleanthus robustus** (Rchb. f.) Rchb. f., Ann. Bot.  
Syst. 6: 474. 1862

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 21 Nov 1994, *J.L. Clark & C.  
Bergman 305* (MO, QCNE).

Epiphyte. Amazonia, Mesoamerica.

**Encyelia fragrans** (Sw.) Lemée, Fl. Guayane  
Franc. 1: 418. 1955. .

Representative Specimen: Ecuador:  
Esmeraldas: Paraíso de Papagayos, 100–  
300 m, 8 Jul 1996, *J.L. Clark, N. Binder &  
W. Naranjo 2794* (MO, QCNE).

Epiphyte.

**Encyelia vespa** (Vell.) Dressler, Phytologia 21(7):  
441. 1971.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 27 Oct 1995, *J.L. Clark, L. Kvist, P.  
Mendoza & L. Skog 1516* (MO, QCNE).

Epiphyte. Amazonia, Chocó, Mesoamerica.

**Epidendrum borchsenii** Hágsater & Dodson,  
Icon. Orchid. (Mexico) 4: pl. 418. 2001.  
Type: Ecuador: Pichincha: Road valle  
Hermoso-Los Banos, km 7 (turn off at km  
24 on rd. to Sto. Domingo-Quinidé), 450  
m, 25 May 1994, *Borchsenius et al. 265*  
(HT: QCA; IT: AMO).

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 15 Jul 1996, *J.L. Clark 2872* (MO,  
QCNE).

Epiphyte. Endemic.

**Epidendrum difforme** Jacq., Enum. Syst. Pl. 29.  
1760.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–

600 m, 25 Nov 1995, *J.L. Clark, K.  
Cunningham, & Catherine Roberts 1681*  
(MO, QCNE).

Epiphyte. Amazonia, Chocó, Mesoamerica.

**Epidendrum echinatum** Løjtnant, Bot. Not. 130:  
324, f. 2. 1977. Type: Ecuador. Cotopaxi:  
Quevedo-Latacunga road, rocky slopes with  
rain forest, c. 800–950 m, (79 °110W, 00  
°15'S), 5 April 1973, *Holm-Nielsen,  
Jeppesen, Løjtnant & Øllgaard 3001* (HT:  
AAU; IT: AMES, K, MO, SEL).

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 11 May 1995, *J.L. Clark & C. Watt  
839* (MO, QCNE)

Epiphyte. Endemic

**Epidendrum gentryi** Dodson, Icon. Pl. Trop. 5:  
pl. 427. 1982. Type: Ecuador: Pastaza:  
Tarqui, 13 km west of Puyo, 1000 m, 12  
Aug 1978, *Dodson et al. 7262* (HT: SEL).

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 21 Nov 1994, *J.L. Clark & C.  
Bergman 309* (MO, QCNE).

Epiphyte. Amazonia, Chocó.

**Epidendrum jejunum** Rchb. f., Otia Bot.  
Hamburg. 12. 1982.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 27 Oct 1995, *J.L. Clark, L.P. Kvist,  
P. Mendoza & L.E. Skog 1521* (MO,  
QCNE).

Epiphyte. Amazonia.

**Epidendrum littorale** Hágsater & Dodson, Icon.  
Orchid. (Mexico) 2: pl. 153. 1993. Type:  
Ecuador: Pichincha: Centinela, km 12  
Patricia Pilar to 24 (de) Mayo, at crest of  
ridge of Montañas Ila, 600 m, 7 Jul 1985,  
*C. H. Dodson & T. A. Dodson 15869A* (HT:  
RPSC).

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400–  
600 m, 8 May 1995, *J.L. Clark & C. Watt  
802* (MO, QCNE).

Epiphyte. Chocó.

**Epidendrum miniocturnum** Dodson, Selbyana

- 2(1): 53, f. 14D. 1977. Type: Ecuador. Los Ríos: Río Palenque Science Center, km 56 Quevedo-Santo Domingo, 150-220 m, 10 Mar 1977, in fruit, *C.H. Dodson 6654* (HT: SEL).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 25 Nov 1995, *J.L. Clark 1682* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó.
- Epidendrum myodes** Rchb. f., Beitr. Orchid.-K. C. Amer. 86. 1866.  
 Representative Specimen: \* Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sept 1996, *J.L. Clark 2947* (MO, QCNE).  
 Epiphyte. Mesoamerica.
- Epidendrum repens** Cogn., Repert. Spec. Nov. Regni Veg. 7: 122. 1909.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, *J.L. Clark & C. Watt 942* (MO, QCNE).  
 Epiphyte. Amazonia, Mesoamerica.
- Epidendrum rigidum** Jacq., Enum. Syst. Pl. 29. 1760.  
 Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 100-300 m, 7 Jul 1996, *J.L. Clark, N. Binder & W. Naranjo 2779* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Epidendrum secundum** Jacq., Enum. Syst. Pl. 29. 1760.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 15 Mar 1998, *Christopher Pallis 4* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Erythroides ecuadorensis** Garay, Fl. Ecuador 9: 279. 1978. Type: Ecuador. Los Ríos: Río Palenque Biological Station., *Dodson & McMahon 5074* (HT: SEL; IT: RPSC).  
 Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry, R. Foster & C. Josse 72991* (MO, QCNE).
- Terrestrial herb. Endemic.
- Gongora aceras** Dressler, Orquideologia 6: 70, f. 1971. Type: Ecuador: Pichincha: Río Chihuilpe, SW of Santo Domingo de los Colorados, *Dressler, R.L. s.n.* (HT: US).  
 Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, *A. Gentry, R. Foster & C. Josse 72870* (MO, QCNE).  
 Epiphyte. Chocó.
- Gongora ilense** Whitten & Jenny, Orchidee (Hamburg) 43(6): 270. 1992. Type: Ecuador: Los Ríos: Centinela, forested hills near Río Bimbe on E side of Río Baba, E of Río Palenque S. C., ca 3 km from Patricia Pilar, 0.30S 79.28W, 400 m, Nov. 1988, *M. Whitten & C. H. Dodson 88062* (HT: QCNE; IT: AMES, FLAS, MO, SEL).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 17 Feb 1996, *J.L. Clark & N. Kerber, J. Plihal 2051* (MO, QCNE).  
 Epiphyte. Endemic.
- Helleriella punctulata** (Rchb. f.) Garay & H.R. Sweet, Fl. Lesser Antilles 167. 1974.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sept 1996, *J.L. Clark 2948* (MO, QCNE).  
 Epiphyte. Mesoamerica.
- Huntleya fasciata** Fowlie, Orchid Digest 30: 281. 1966.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 23 Oct 1996, *J.L. Clark 3100* (MO, QCNE).  
 Epiphyte. Mesoamerica.
- Lepanthes calodictyon** Hook., Bot. Mag. t. 5259. 1861.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 12 Mar 1997, *J.L. Clark, A. Cousins, T. Nuñez & J. Richter 4037*  
 Epiphyte. Chocó.
- Lepanthes clarkii** Luer, Monogr. Syst. Bot. Missouri Bot. Gard. 61(3): 58, f. 50. 1996.

Type: Ecuador: Bilsa Biological Station, Mache Mountains, west of Santa Isabel, 400-600 m, 14 November 1994., *J.L. Clark & N. Pitman 254* (HT: MO; IT: QCNE). (Fig. 19, p.146).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 15 Nov 1994, *J.L. Clark & N. Pitman 254* (MO, QCNE).  
Epiphyte. Endemic.

**Lepanthes maccolmiana** Luer, Monogr. Syst. Bot. Missouri Bot. Gard. 61(3): 112, f. 144. 1996. Type: Ecuador. Esmeraldas, *J. L. Clark & C. Watt 838* (HT: MO; IT: QCNE). (Fig.20, p.147).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 11 May 1995, *J.L. Clark & C. Watt 838* (MO, QCNE).  
Epiphyte. Endemic.

**Lepanthes pecunialis** Luer, Orchidee (Hamburg) 37(5): 219. 1986. Type: Ecuador. Pichincha: epiphytic in citrus trees above Tandapi, 1500 m, 31 Mar 1985, *C. Luer, J. Luer, A. Hirtz & X. Hirtz 11016* (HT: MO).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 27 Nov 1995, *J.L. Clark 1700* (MO, QCNE).  
Epiphyte. Endemic.

**Lepanthes saltatrix** Luer & Hirtz, Monogr. Syst. Bot. Missouri Bot. Gard. 61(3): 150, f. 207. 1996. Type: Ecuador. Esmeraldas: epiphytic in cloud forest west of Lita, 750 m, 18 January 1987., *C. Luer, J. Luer, C. H. Dodson, A. Hirtz, D. Benzing & D. Bermudes 12424* (HT: MO).  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 19 Jan 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2728* (MO, QCNE).  
Epiphyte. Endemic.

**Lockhartia chocoensis** Kraenzl., Pflanzenr. 19. 1923. Type: Colombia.,  
Representative Specimen: Ecuador: Esmeraldas: Lita-Alto Tambo 850 m, 20 May 1987, *Dodson et al. 17138* (MO,

QCNE).  
Epiphyte. Chocó.

**Lockhartia hercodonta** Rchb. f. ex Kraenzl., Pflanzenr. IV. 50(Heft 83): 8, t. 2A. 1923.  
Representative Specimen: Ecuador: Manabí: Pata de Pájaro 300 - 700 m, 20 June 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2670* (MO, QCNE).  
Epiphyte. Chocó.

**Lockhartia serra** Rchb. f., Otia Bot. Hamburg. 6. 1876[1878]. Type: Ecuador. Guayas: Guayaquil, Litoral-Ebene, *F.C. Lehmann s.n.* (HT: W; photo: RPSC).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 8 May 1995, *J.L. Clark & C. Watt 804* (MO, QCNE).  
Epiphyte. Endemic.

**Masdevallia geminiflora** P. Ortiz, Orquideologia 13: 75. 1978.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 12 Mar 1997, *J.L. Clark, A. Cousins, T. Nuñez & J. Richter 4038*.  
Epiphyte. Chocó.

**Maxillaria acutifolia** Lindl., Edwards's Bot. Reg. 25: misc. 92. 1839.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sep 1996, *J.L. Clark 2954* (MO, QCNE).  
Epiphyte. Amazonia, Mesoamerica.

**Maxillaria adendrobium** (Rchb. f.) Dressler, Taxon 13(7): 248-249. 1964.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 9 Oct 1994, *J.L. Clark 169* (MO, QCNE).  
Epiphyte. Amazonia, Mesoamerica.

**Maxillaria alba** (Hook.) Lindl., Gen. Sp. Orchid. Pl. 143. 1832.  
Representative Specimen: Esmeraldas: Paraiso de Papagayos, 100-300 m, 7 Jul 1996, *J.L. Clark, N. Binder & W. Naranjo 2789* (MO, QCNE).

- Epiphyte. Amazonia, Chocó, Mesoamerica.
- Maxillaria aurea** (Poepp. & Endl.) L.O. Williams, *Caldasia* 1(3): 14. 1941.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 21 Nov 1994, *J.L. Clark & C. Bergman 304* (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Maxillaria chionantha** J.T. Atwood, *Selbyana* 16(2): 242, f. 1. 1995  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 23 Oct 1996, *J.L. Clark 3098* (MO, QCNE).  
Epiphyte. Amazonia, Mesoamerica.
- Maxillaria cryptobulbon** Carnevali & J.T. Atwood, *Novon* 1(4): 159–162, f. 1–2. 1991.  
Type: Ecuador: Morona-Santiago: Serranía de Cutucú, 25 km SE of Logrono, flowering at the Marie Selby Botanical Gardens, 6–10 Jan 1991, *J. D. Ackerman 1041* (HT: SEL; IT: MO, VEN).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 23 Nov 1994, *J.L. Clark & C. Bergman 327* (MO, QCNE).  
Epiphyte. Amazonia, Mesoamerica.
- Maxillaria dichotoma** (Schltr.) L.O. Williams, *Bot. Mus. Leafl.* 9(1): 15. 1940.  
*Camaridium dichotomum* Schltr. Type: Ecuador: Pinchincha: In regione subtropical vallis Nanegal, Aug 1874, *Sodirol 94*.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, September 21, 1994, *M.S. Bass & L. Kueppers 38* (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Maxillaria ecuadorensis** Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 8: 93. 1921. Type: Ecuador. Pichincha: In silvis temperatis prope Canzacoto – Majo 1885, *Sodirol 86* (HT: B destr.; LT: QPLS).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 21 Nov 1995, *J.L. Clark & K. Cunningham, C. Roberts 1627* (MO,
- QCNE).  
Epiphyte. Amazonia, Chocó.
- Maxillaria imbricata** Barb. Rodr., *Gen. Sp. Orchid.* 1: 120. 1877.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 24 Sep 1996, *J.L. Clark 2905* (MO, QCNE).  
Epiphyte. Amazonia.
- Maxillaria longicaulis** Schltr., *Repert. Spec. Nov. Regni Veg.* 27: 72. 1929.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 8 Oct 1996, *J.L. Clark 3013* (MO, QCNE).  
Epiphyte. Amazonia.
- Maxillaria marmoliana** Dodson, *Icon. Pl. Trop.* 2: t. 156. 1980. Type: Ecuador: Los Ríos: Río Palenque Science Center, km 56 Quevedo-Santo Domingo, 220 m 18 June 1979, *C.H. Dodson 7757* (HT: SEL).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 21 Nov 1995, *J.L. Clark & K. Cunningham, C. Roberts 1627* (MO, QCNE).  
Epiphyte. Endemic.
- Maxillaria nasuta** Rchb. f., *Beitr. Orchid.-K. C. Amer.* 104. 1866. Type: Novo Granada: Lasita, *Schlim s.n.*  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 15 Jul 1996, *J.L. Clark 2880* (MO, QCNE).  
Epiphyte. Amazonia, Mesoamerica
- Maxillaria porrecta** Lindl., *Edwards's Bot. Reg.* 24: misc. 92. 1838.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 23 Oct 1996, *J.L. Clark 3093* (MO, QCNE).  
Epiphyte. Amazonia, Mesoamerica.
- Maxillaria pseudoreichenheimiana** Dodson, *Icon. Pl. Trop.* 2: t. 160. 1980. Type: Ecuador: Pichincha: Km 87–84 old road Quito-Santo Domingo, 1200–1300 m, 21

- Mar 1980, *C.H. Dodson & A.H. Gentry 9718* (HT: SEL; IT: GUA, MO, SEL).  
 Representative Specimen: Ecuador: Esmeraldas: Lita-San Lorenzo 230 m, 11 Jul 1990, *Dodson et al. 18517* (MO).  
 Epiphyte. Endemic.
- Maxillaria ramosa** Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.* 1: 226. 1798.  
 Representative Specimen: Ecuador: Esmeraldas: Sto. Domingo-Esmeraldas 300 m, 14 Sep 1980, *Dodson et al. 10436* (SEL).  
 Epiphyte. Amazonia, Mesoamerica.
- Maxillaria richii** Dodson, *Orquideologia* 19(3): 81. 1994. Type: Ecuador. Esmeraldas: Lita to San Lorenzo, Km 8, 720 m, 13 May 1990, *Dodson et al. 16586 [not 18283]* (HT: RPSC; IT: QCNE).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 15 Jul 1996, *J.L. Clark, C. Aulestia, J. Kellermann & F. Vetel 2862* (MO, QCNE).  
 Epiphyte. Endemic.
- Maxillaria variabilis** Bateman ex Lindl., *Edwards's Bot. Reg.* 23: sub t. 1986. 1837.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 23 Oct 1996, *J.L. Clark 3105* (MO, QCNE).  
 Epiphyte. Amazonia, Mesoamerica.
- Mesospidium incantans** Rchb. f., *Gard. Chron.* 1: 586. 1880.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 7 May 1995, *J.L. Clark & C. Watt 794* (MO, QCNE).  
 Epiphyte. 400–600 m. Amazonia.
- Monophyllorchis maculata** Garay, *Fl. Ecuador* 9: 43. 1978. Type: Ecuador: Pastaza: Mera, *H. Lugo 1942* (HT: S; IT: AMES, GB).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 21 Sep 1994, *N. Pitman, J.L. Clark & B. Adnepos 686* (MO, QCNE).  
 Terrestrial herb. Amazonia, Mesoamerica.
- Myoxanthus exasperatus** (Lindl.) Luer, *Selbyana* 7(1): 36. 1982.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 9 May 1995, *J.L. Clark & C. Watt 813* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Octomeria sp.**  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 24 Nov 1995, *J.L. Clark, K. Cunningham & C. Roberts 1666* (MO, QCNE).  
 Epiphyte. 400–600 m.
- Oncidium crista-galli** Rchb. f., *Bot. Zeitung (Berlin)* 10: 697. 1852.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 12 Mar 1997, *J.L. Clark, A. Cousins, T. Nuñez & J. Richter 4069*.  
 Epiphyte. Chocó, Mesoamerica.
- Oncidium obryzatum** Rchb. f., *Bonplandia (Hanover)* 2: 108. 1854.  
 Representative Specimen: Ecuador: Manabí: Monticristi 500 m, 27 Feb 1977, *Luer et al. 1474* (SEL).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Oncidium toachicum** Dodson, *Icon. Pl. Trop.* 2: t. 191. 1980. Type: Ecuador: Pichincha: Santo Domingo, 530 m, in fruit, 22 Jul 1979, *Dodson 9277* (HT: SEL).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 22 Oct 1996, *J.L. Clark 3091* (MO, QCNE).  
 Epiphyte. Endemic.
- Ophidion pleurothallopsi** (Kraenzl.) Luer, *Selbyana* 7(1): 80. 1982. *Cryptophoranthus pleurothallopsi* Kraenzl. Type: Colombia: Antioquia: on trees in thick, damp forests around San Gregorio and Nariño, 2000–2400 m, fl. Dec, *Lehmann 7272* (HT: K).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 12 Mar 1997, *J.L. Clark, A. Cousins, T. Nuñez & J. Richter 3990*.  
 Epiphyte. Amazonia, Chocó, Mesoamerica.

- Ornithocephalus bryostachys** Schltr., Repert. Spec. Nov. Regni Veg. 17: 17. 1921. Type: Ecuador. Chimborazo: "In silvis tropicis secus flumen Chimbo, 400 m, Sep 1891, *L. Sodi* s.n. (HT: B destr.?).  
Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 100–300 m, 8 Jul 1996, *J.L. Clark, N. Binder & W. Naranjo 2798* (MO, QCNE).  
Epiphyte. Amazonia.
- Osmoglossum panduratum** Garay, Bot. Mus. Leaflet. 26(1): 29. 1978. Type: Ecuador: without precise locality. Imported and grown by J. Stacy, *J. Stacy* s.n. (HT: AMES).  
Representative Specimen: Ecuador: Manabí: Mache-Chindul, comunidad Ambache, 250 m, 5 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4195* (MO, SEL, QCNE).  
Epiphyte. 250 m. Endemic
- Platystele acutilingua** Kapuler & Hascall, Amer. Orchid Soc. Bull. 35: 544. 1966. Type: Colombia: Dept. del Chocó: between Tutunendo and El Carmen, on tree trunks in the foothills of the Cordillera Occidental, *A. M. Kapuler & V. C. Hascall 268* (HT: COL).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 12 Mar 1997, *J.L. Clark, A. Cousins, T. Nuñez & J. Richter 4034*  
Epiphyte. Chocó..
- Platystele enervis** Luer, Phytologia 55(3): 200. 1984. Type: Ecuador: Pichincha: epiphytic in cloud forest near Los Faisanes, ca. 2000 m, 15 Jul 1983, *A. Hirtz 1009* (HT: SEL).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 25 Mar 1997, *J.L. Clark & P. Nutt 4125*.  
Epiphyte. Endemic.
- Pleurothallis barbulate** Lindl., Fol. Orchid. Pleurothallis 40. 1859.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300–700 m, 20 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2693* (MO, QCNE).  
Epiphyte. Amazonia, Mesoamerica.
- Pleurothallis claviculata** Luer & Hirtz, Lindleyana 11(3): 153-154, f. 16. 1996. Type: Ecuador. Pastaza: epiphytic in cloud forest along Río Zuñag, 2400 m, 23-28 Feb 1990, *A. Hirtz et al. 4635* (HT: MO).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 5 May 1995, *J.L. Clark & C. Watt 741* (MO, QCNE).  
Epiphyte. Endemic. Amazonia.
- Pleurothallis deregularis** (Barb. Rodr.) Luer, Selbyana 2(4): 385-386. 1978.  
Representative Specimen: Ecuador: Esmeraldas: Sto. Domingo-Esmeraldas 100 m, 13 Sep 1980, *Dodson et al. 10420* (SEL).  
Epiphyte. Amazonia, Mesoamerica.
- Pleurothallis dibolia** Luer, Selbyana 1(3): 238, f. 54. 1975. Type: Ecuador: Pichincha: epiphytic in old coffee trees 15 km east of Santo Domingo, 800 m, 28 Feb. 1975, *C. Luer & R. Kent 269* (HT: SEL).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sep 1996, *J.L. Clark 2952* (MO, QCNE).  
Epiphyte. Chocó.
- Pleurothallis helleri** A.D. Hawkes, Phytologia 14(1): 12-14, t. 8. 1966.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 15 Jul 1996, *J.L. Clark 2877* (MO, QCNE).  
Epiphyte. Mesoamerica.
- Pleurothallis pidax** Luer, Selbyana 5(2): 174-175. 1979. Type: Ecuador: Los Ríos: epiphytic in rain forest at Río Palenque Science Center, Km 47 S of Santo Domingo, 2000 m, March 1976, cult. at SEL, greenhouse acc. no. 91-76-51, flowered in cult. Jan 1978, *C. Luer 2277* (HT: SEL).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 18 May 1995, *J.L. Clark & C. Watt 935* (MO, QCNE).  
Epiphyte. Endemic.
- Pleurothallis rowleei** Ames, Sched. Orch. 1: 11-

12. 1922  
 Representative Specimen: Ecuador:  
 Esmeraldas: Bilsa Biological Station, 400–  
 600 m, 15 Jul 1996, *J.L. Clark 2871* (MO,  
 QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Pleurothallis ruscifolia** (Jacq.) R. Br., Hort. Kew.  
 (ed. 2) 5: 211. 1813.  
 Representative Specimen: Ecuador:  
 Esmeraldas: Bilsa Biological Station, 500  
 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4745*  
 (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Polycynis ornata** Garay, Canad. J. Bot. 34(2):  
 256. 1956. Type: Ecuador: Napo-Pastaza:  
 Ozoyacu (north of Archidona), 1000 m, 26  
 Oct 1939, *E. Asplund 9516* (HT: S).  
 Representative Specimen: Ecuador:  
 Esmeraldas: Bilsa Biological Station, 650  
 m, 12 Mar 1997, *J.L. Clark, A. Cousins, T.  
 Nuñez & J. Richter 4036*.  
 Epiphyte. Amazonia, Mesoamerica.
- Polystachya concreta** (Jacq.) Garay & H.R.  
 Sweet, Fl. Lesser Antilles 1: 178. 1974.  
 Representative Specimen: Ecuador:  
 Esmeraldas: Bilsa Biological Station, 400–  
 600 m, 16 May 1995, *J.L. Clark & C. Watt  
 904* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Polystachya foliosa** (Hook.) Rchb. f., Ann. Bot.  
 Syst. 6(4): 640. 1863.  
 Representative Specimen: Ecuador: Manabí:  
 Cerro Pata de Pájaro, 300–700 m, 20 Jun  
 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2692*  
 (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Sarcoglottis grandiflora** (Lindl.) Klotzsch, Allg.  
 Gartenzeitung 10: 107. 1842. *Spiranthes  
 grandiflora* Lindl.  
 Representative Specimen: Ecuador:  
 Esmeraldas: Fila de Bilsa, 280 m, 29 Jan  
 1991, *A. Gentry, R. Foster & C. Josse 72872*  
 (MO).  
 Terrestrial herb. Amazonia.
- Scaphosepalum microdactylum** Rolfe, Bull.  
 Misc. Inform. Kew 1893(82-83): 335. 1893  
 [1894].  
 Representative Specimen: Ecuador:  
 Esmeraldas: Cerros de Mache 600 m, 15  
 Dec 1990, *Dodson et al. 18569* (MO).  
 Epiphyte. Chocó, Mesoamerica.
- Scaphyglottis boliviensis** (Rolfe) B.R. Adams,  
 Phytologia 64(4): 257. 1988.  
 Representative Specimen: Ecuador:  
 Esmeraldas: Paraíso de Papagayos, 100–  
 300 m, 8 Jul 1996, *J.L. Clark, N. Binder &  
 W. Naranjo 2803* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Scaphyglottis prolifera** Cogn., Fl. Bras. 3(5): 15.  
 1898.  
 Representative Specimen: Ecuador:  
 Esmeraldas: Bilsa Biological Station, 400–  
 600 m, 20 May 1995, *J.L. Clark & C. Watt  
 940* (MO, QCNE).  
 Epiphyte. Amazonia, Chocó, Mesoamerica.
- Sigmatostalix adamsii** Dodson, Selbyana 2(1): 54,  
 f. 15C. 1977. Type: Ecuador: Pichincha:  
 very common in orange trees in the city of  
 Santo Domingo, 650 m, 15 Jun 1967, *C.H.  
 Dodson, N. Willias & R. Adams 3705* (HT:  
 SEL).  
 Representative Specimen: Ecuador:  
 Esmeraldas: Bilsa Biological Station, 530  
 m, 9 May 2001, *D. Neill, C. Aulestia &  
 QCNE botany interns 13230* (MO, QCNE).  
 Epiphyte. Endemic.
- Sobralia lancea** Garay, Bot. Mus. Leafl. 18: 187.  
 1958. Type: *Koie 4787*.  
 Representative Specimen: Ecuador:  
 Esmeraldas: Bilsa Biological Station, 400–  
 600 m, 21 Nov 1994, *J.L. Clark & C.  
 Bergman 310* (MO, QCNE).  
 Terrestrial herb. Chocó, Mesoamerica.
- Sobralia powellii** Schltr., Repert. Spec. Nov. Regni  
 Veg. Beih. 17: 11. 1922. Type: *Powell 2*.  
 Representative Specimen: Ecuador:  
 Esmeraldas: Bilsa Biological Station, 500  
 m, 24 Sep 1996, *J.L. Clark 2886* (MO,  
 QCNE).  
 Terrestrial herb. Chocó, Mesoamerica.

- Stanhopea annulata** Mansf., *Orchis* 16: 19. 1938.  
Type: Ecuador: Pichincha: Río Baba, 28 km south of Santo Domingo, 350 m, 15 May 1962, *Dodson & Thien 2166* (NT: SEL).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 25 Nov 1995, *J.L. Clark, K. Cunningham & C. Roberts 1694* (MO, QCNE).  
Epiphyte. Chocó
- Stelis argentata** Lindl., *Edwards's Bot. Reg.* 28: Misc. 64. 1842.  
Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 300 m, 16 Dec 1998, *D. Neill & QCNE botany interns 11561*.  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Stelis manabina** Dodson & Garay, *Icon. Pl. Trop.* 4: t. 327. 1980. Type: Ecuador: Manabí: near summit of Monticristi, 8 km of Manta, 500 m, 8 Jan 1978, *Luer et al. 2273* (HT: SEL).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sep 1996, *J.L. Clark 2951* (MO, QCNE).  
Epiphyte. Endemic.
- Stelis pardipes** Rchb. f., *Beitr. Orchid.-K. C. Amer.* 96. 1866. *Wendland s.n.*  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300–700 m, 20 Jun 1996, *J.L. Clark, E. Arroyo & Meter Hibbs 2669* (MO, QCNE).  
Epiphyte. Amazonia, Mesoamerica.
- Stelis purpurea** (Ruiz & Pav.) Willd., *Sp. Pl.* 4: 140. 1805.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sep 1996, *J.L. Clark 2949* (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Stenorrhynchos lanceolatum** (Aubl.) Rich. ex Spreng., *Syst. Veg.* 3: 710. 1826.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 2 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3680*
- Terrestrial herb. Chocó, Mesoamerica.
- Trichopilia rostrata** Rchb. f., *Refug. Bot.* t. 100. 1872.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sep 1996, *J.L. Clark 2944* (MO, QCNE).  
Epiphyte. Endemic.
- Trichosalpinx blaisdellii** (S. Watson) Luer, *Phytologia* 54(5): 394. 1983.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 530 m, 9 May 2001, *D. Neill, C. Aulestia & QCNE botany interns 13231* (MO, QCNE).  
Epiphyte. Amazonia, Mesoamerica.
- Trichosalpinx orbicularis** (Lindl.) Luer, *Phytologia* 54(5): 396. 1983.  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 28 Jan 1991, *A. Gentry & C. Josse 72767* (MO, QCNE).  
Epiphyte. Amazonia, Chocó, Mesoamerica.
- Vanilla planifolia** Andrews, *Bot. Repos.* 8: pl. 538. 1808.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 2 Jan 1995, *N. Pitman 1162* (MO, QCNE).  
Terrestrial, scandent herb. Common name: "Vainilla." Amazonia, Chocó, Mesoamerica.

## OXALIDACEAE

- Averrhoa carambola** L., *Sp. Pl.* 1: 428. 1753.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300–700 m, 21 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2698* (MO, QCNE).  
Common introduced and cultivated tree. 300–700 m. Common name: "Fruta china." Chocó, Mesoamerica.
- Biophytum dendroides** (Kunth) DC., *Prodr.* 1: 690. 1824. *Oxalis dendroides* Kunth. Type: *Crescit in Regno Novo-Granatensi, inter urbem Guaduas et Quebrada de la*



Carbonera, *Humboldt & Bonpland s.n.*

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 18 Nov 1996, *J.L. Clark, F. Gurumendi*  
& *H. Weinert 3447* (MO, QCNE).

Common herb growing on rocks along shady  
rivers. 500 m. Amazonia, Chocó,  
Mesoamerica.

### **Oxalis sp.**

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 4 Dec 1996, *J.L. Clark, T. Walla & H.*  
*Greeney 3567* (MO, QCNE).

Common terrestrial herb along disturbed  
roadsides. 400-600 m. Amazonia, Chocó,  
Mesoamerica.

## **PAPAVERACEAE**

**Bocconia integrifolia** Humb. & Bonpl., Pl.  
Aequinoct. 1: 119, t. 35. 1807.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 7 Oct 1994, *J.L. Clark & H. Lintz*  
*150* (MO, QCNE).

Common shrub along road, 1-3 m tall. 400-600  
m. Amazonia.

## **PASSIFLORACEAE**

**Passiflora ambigua** Hemsl., Bot. Mag. 128: t.  
7822. 1902.

Representative Specimen: Ecuador: Esmeraldas:  
Paraíso de Papagayos, 200 m, 10 Oct 1996,  
*J.L. Clark 3035* (MO, QCNE).

Herbaceous vine. 200 m. Amazonia, Chocó,  
Mesoamerica.

**Passiflora auriculata** Kunth, Nov. Gen. Sp. 2: 131.  
1817.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 22 Oct 1996, *J.L. Clark 3063* (MO,  
QCNE).

Common herbaceous vine in disturbed areas. 60-  
800 m. Amazonia, Chocó, Mesoamerica.

**Passiflora biflora** Lam., Encycl. 3: 36. 1789.

Representative Specimen: Ecuador: Manabí:  
Cerro Pata de Pájaro 800 m, 10 Mar 1997,

*H. Vargas 1307* (MO, QCNE).

Vine or liana. 800 m. Chocó, Mesoamerica.

**Passiflora capsularis** L., Sp. Pl. 2: 957. 1753.

Representative Specimen: Ecuador: Manabí:  
Jama 400 m, 18 Dec 1998, *D. Neill &*  
*QCNE Botany interns 11680* (QCNE).

Herbaceous vine. 400 m. Chocó, Mesoamerica.

**Passiflora chelidonea** Mast., Gard. Chron. 12: 40.

1879. Type: Cultivated: cult. by Anderson-  
Henry from a Sodiro seed collection from  
Cerro Corazón, Ecuador, *s.n.* (HT: K).

Representative Specimen: Ecuador:  
Esmeraldas: Herrera (La Y de la Laguna)  
450 m, 26 Mar 1998, *J.L. Clark 4920*  
(QCNE, MO).

Herbaceous vine. 450 m. Amazonia, Chocó.

**Passiflora discophora** P. Jørg. & Lawesson,  
Nordic J. Bot. 7(2): 127, f. 1. 1987. Type:  
Ecuador. Prov. Los Ríos: Patricia Pilar-24  
de Mayo, km 12, *C.H. Dodson et al. 11077*  
(HT: MO!).

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 4 Jan 1997, *J.L. Clark, E. Austen, S.*  
*Bennett & D. Kapan 3706* (MO, QCNE,  
US).

Liana growing in subcanopy. 500 m. Endemic.  
Amazonia

**Passiflora edulis** Sims, Bot. Mag. 45: pl. 1989.  
1818.

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 13 Sep 1994, *J.L. Clark & B.*  
*Adnepos 12* (MO, QCNE).

Common introduced and cultivated herbaceous  
vine. 400-600 m. Common name:  
"Maracuya." Amazonia, Chocó,  
Mesoamerica.

**Passiflora filipes** Benth., Pl. Hartw. 118. 1843.

Type: Ecuador: Guayaquil, *Hartweg 661*.

Representative Specimen: Ecuador: Manabí:  
Reserva de Lalo Loor 50 m, 25 Aug 1998,  
*D. Neill & QCNE botany interns 11287*  
(MO, QCNE).

Herbaceous vine. 50 m. Mesoamerica.

***Passiflora foetida* L., Sp. Pl. 2: 959. 1753.**

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 13 May 1995, *J.L. Clark & C. Watt 856* (MO, QCNE).

Common clambering herbaceous vine in disturbed areas. 400 m. Common name: “Bombillo.” Amazonia, Chocó, Mesoamerica.

***Passiflora macrophylla* Spruce ex Mast., J. Linn. Soc., Bot. 20: 31. 1883. Type: Ecuador: Río San Antonio near Volcan Chimborazo, *Spruce 6203* (LT: BM; ILT: W).**

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 14 May 1995, *J.L. Clark & C. Watt 871* (MO, QCNE).

Understory unbranched shrub, 1–2 m tall. 300–700 m. Amazonia, Chocó.

***Passiflora maliformis* L., Sp. Pl. 2: 956. 1753.**

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 2 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3681* (MO, QCNE).

Herbaceous vine in sunny disturbed areas. 500 m. Chocó.

***Passiflora palenquensis* Holm-Niels. & Lawesson, Ann. Missouri Bot. Gard. 74: 497, f. 1. 1987. Type: Ecuador. Prov. Los Ríos: Río Palenque Science Center, Km 56. 150–220 m., *C.H. Dodson & A. Gentry 8854* (HT: MO).**

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 4–5 Oct 1996, *J.L. Clark 2983* (MO, QCNE).

Common herbaceous vine. 280–600 m. Chocó.

***Passiflora pittieri* Mast., Bot. Gaz. 23(4): 246–247. 1897.**

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 8 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3772* (MO, QCNE).

Common woody vine in mature forest. Used for *Heliconius-Passiflora* study. 400–600 m. Chocó, Mesoamerica.

***Passiflora punctata* L., Sp. Pl. 2: 957. 1753.**

Representative Specimen: Ecuador: Manabí: 34 km al norte de Pedernales 60 m, 28 Aug 1998, *D. Neill & QCNE botany interns 11458* (MO, QCNE).

Herbaceous vine growing in secondary forest. 60 m. Chocó, Mesoamerica.

***Passiflora quadrangularis* L., Syst. Nat. (ed. 10) 2: 1248. 1759.**

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 8 Dec 1994, *M.S. Bass & N. Pitman 312* (MO, QCNE).

Vine growing in secondary forest. 400–600 m. Common name: “Badea.” Amazonia, Chocó, Mesoamerica.

***Passiflora resticulata* Mast. & André, J. Linn. Soc., Bot. 20: 42–43. 1884. Type: Ecuador: Pichincha: San Florencio on the W slopes of Cerro Corazón, 1580 m, *André 2568* (LT: K).**

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 4–5 Oct 1996, *J.L. Clark 2994* (MO, QCNE).

Common herbaceous vine in secondary forest. 400–800 m. Amazonia.

***Passiflora rubra* L., Sp. Pl. 2: 956–957. 1753.**

Representative Specimen: Ecuador: Esmeraldas: 3 km al norte del Río Cojimíes 50 m, 19 Dec 1998, *D. Neill & QCNE botany interns 11699* (MO, QCNE).

Herbaceous vine. 50–700 m. Amazonia, Chocó, Mesoamerica.

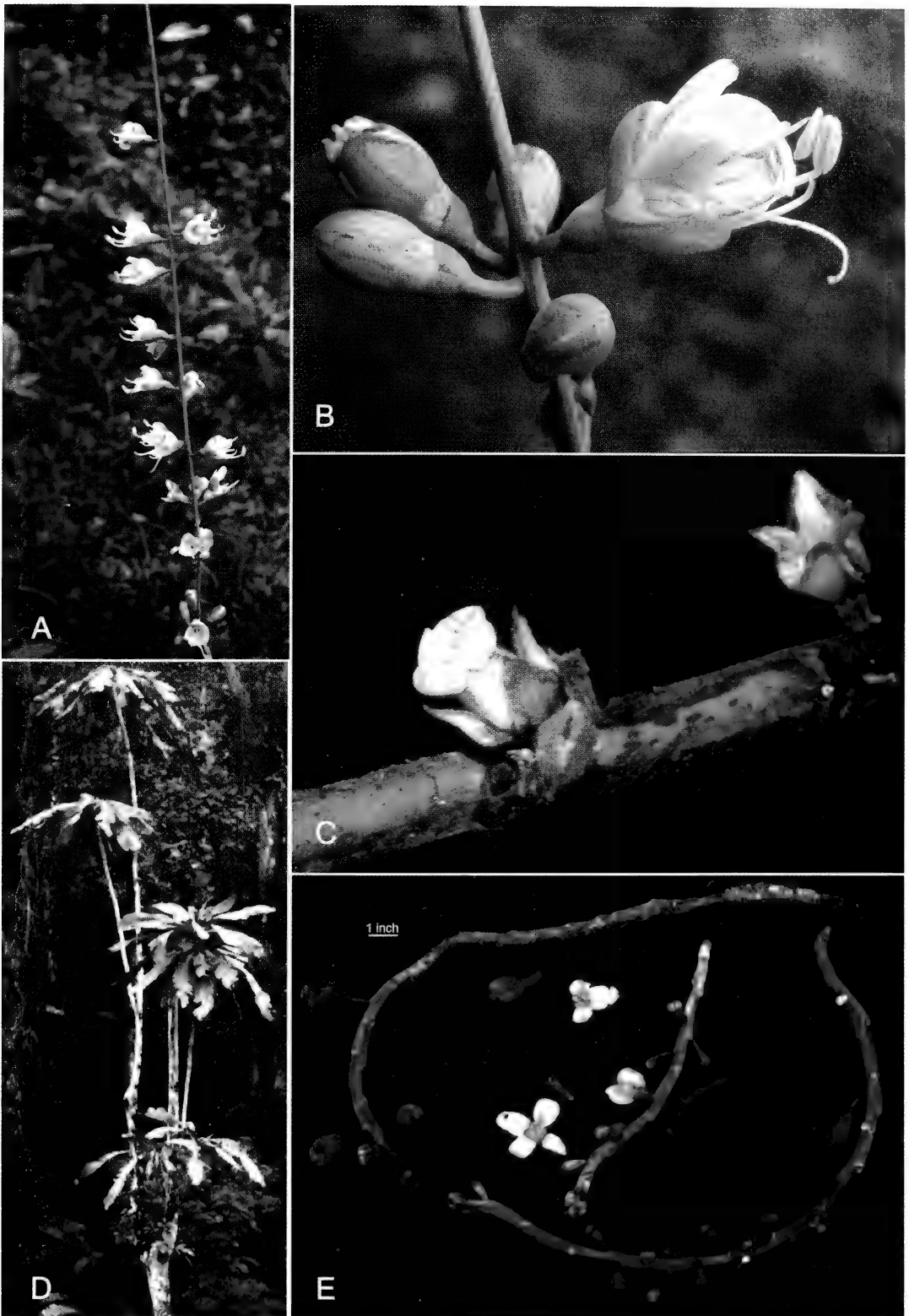
***Passiflora sprucei* Mast., Fl. Bras. 13(1): 568. 1872. Type: Ecuador: Guayas: Río Ventanas, *R. Spruce 6459* (IT: BM, K).**

Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 14 Jan 1997, *J.L. Clark, L. Chatrou, P. Maas & C. Repetur 3792* (MO, QCNE).

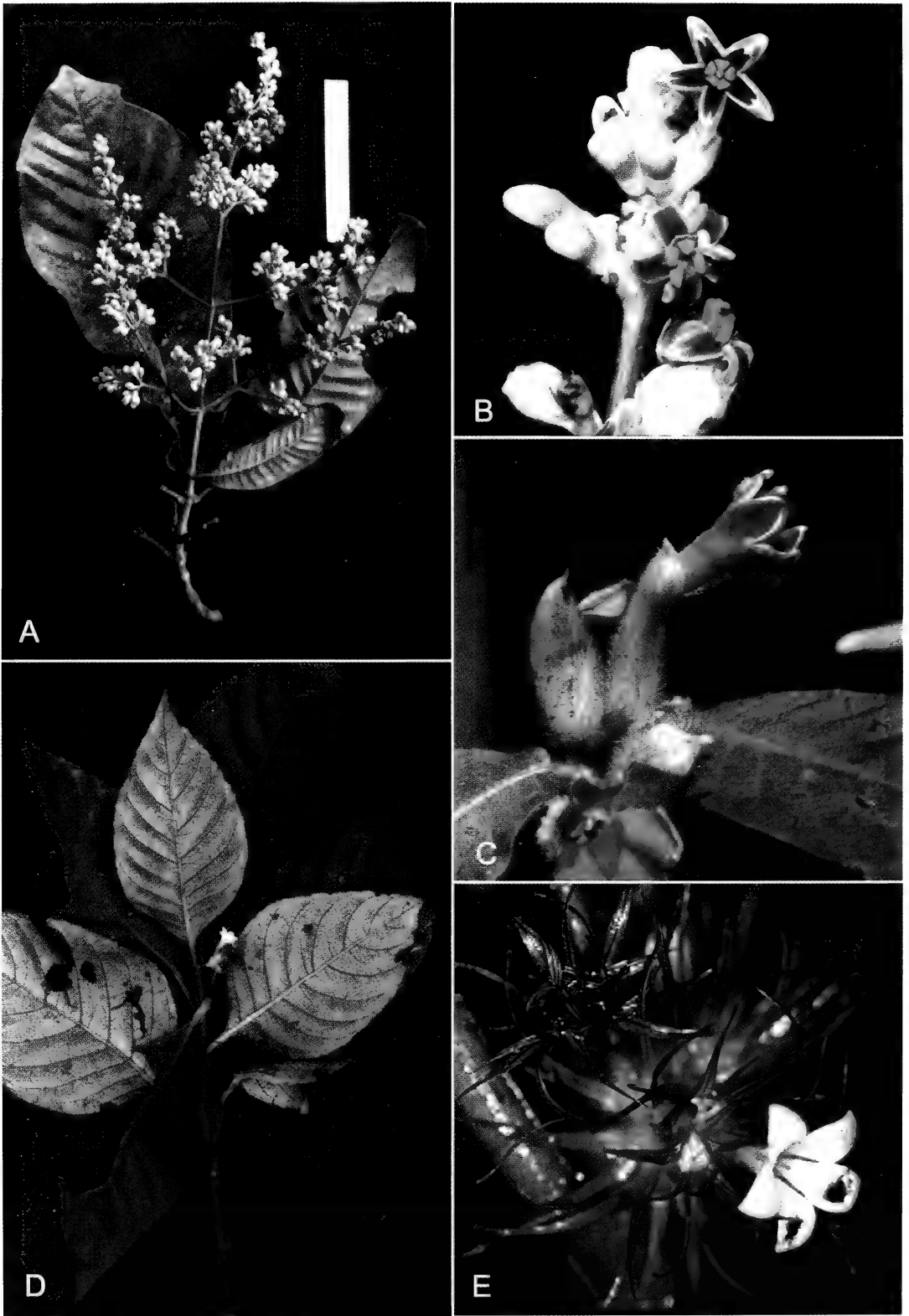
Herbaceous vine growing in sunny disturbed site. 200 m. Endemic.

***Passiflora tiliifolia* L., Sp. Pl. 956. 1753.**

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–



**Figure 2.** A-B. Inflorescence and flower of *Ecuadendron acosta-solistanum* D.A. Neill. C. Flower of *Diospyros esmereg* B. Walln. D-E. Habit and inflorescence of *Grias longirachis* S. Mori & J.L. Clark.



**Figure 3.** A-B. Inflorescence and flower of *Rustia bilsana* Delprete. C. Flower of *Hippotis comosa* L. Andersson & Rova. D-E. Habit and inflorescence of *Amphidasya amethystina* J.L. Clark & C.M. Taylor.



**Figure 4.** A-B. Hemiepiphytic *Ocotea* sp. showing strangling habit on the host tree *Citharexylum gentryi* Moldenke; only known from three individuals in permanent plot on Loma de los Guerreros. C. Common canopy tree, *Chlorocardium aff. venosum* (Kosterm. & Pinkley) Rohwer, H.G. Richt. & van der Werff.

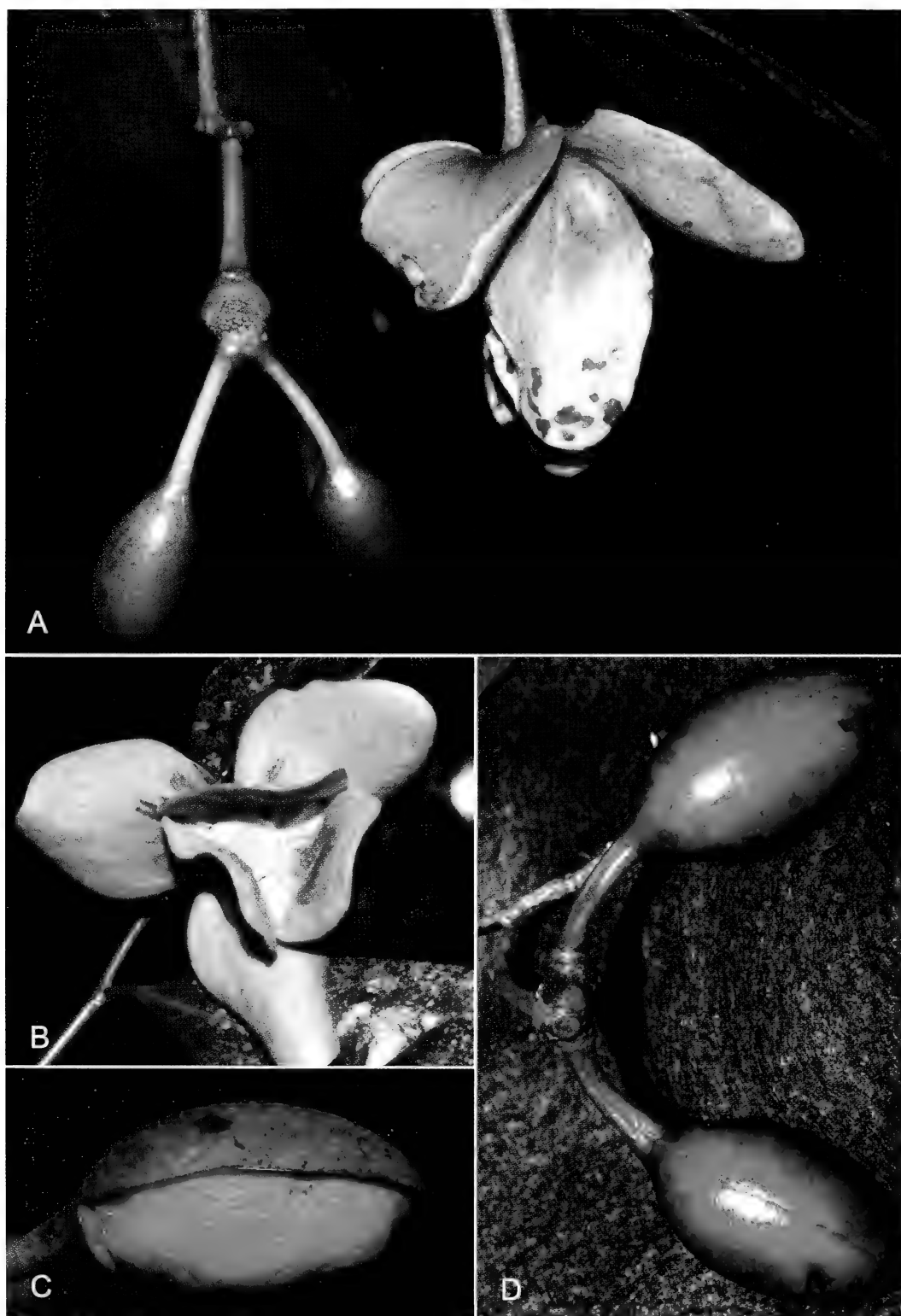
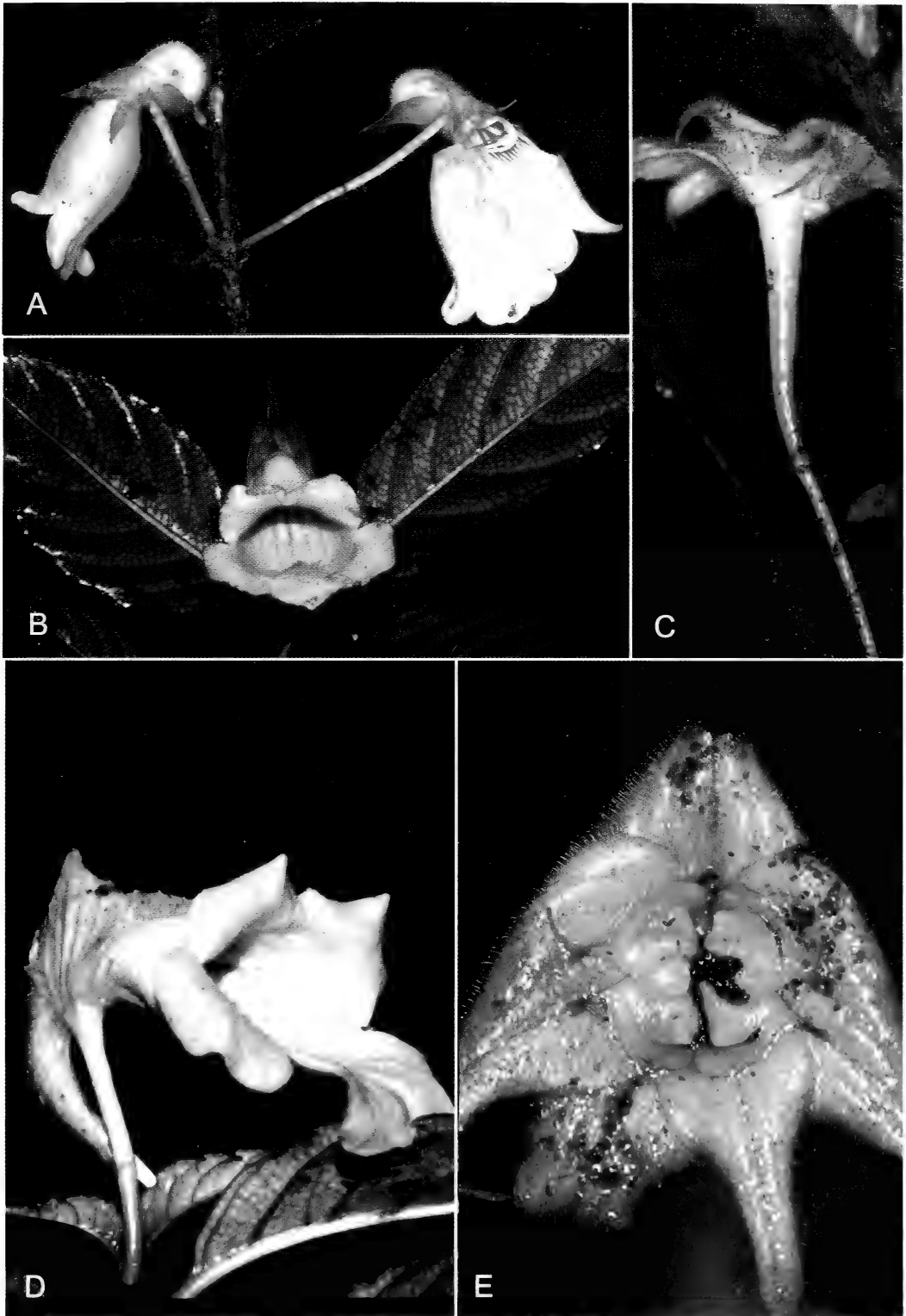


Figure 5. A-B. Fruit and flower of *Mosannona pacifica* Chatrou. C-D. Fruits of *Klarobelia megalocarpa* Chatrou (photo by P. Maas of type collection, *Maas et al.* 8521)



**Figure 6.** A. Lateral views of closed and cut open flowers of *Gasteranthus villosus* L.E. Skog & L.P. Kvist. B. Front view of *Gasteranthus tenellus* L.E. Skog & L.P. Kvist with red foliage. C & E. Capsular fruit of *Gasteranthus villosus*. D. Lateral view of *Gasteranthus tenellus* L.E. Skog & L.P. Kvist with green foliage.

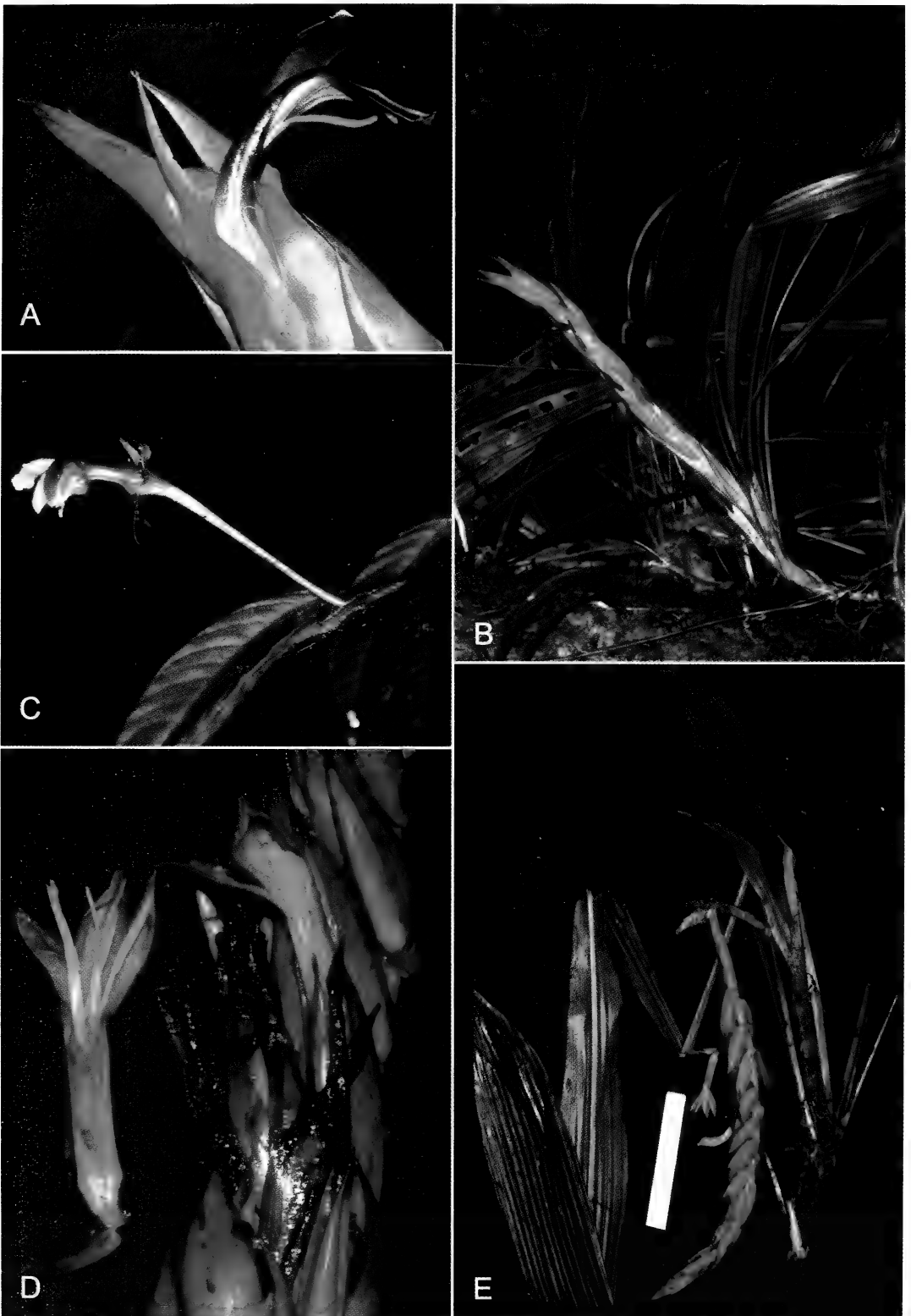
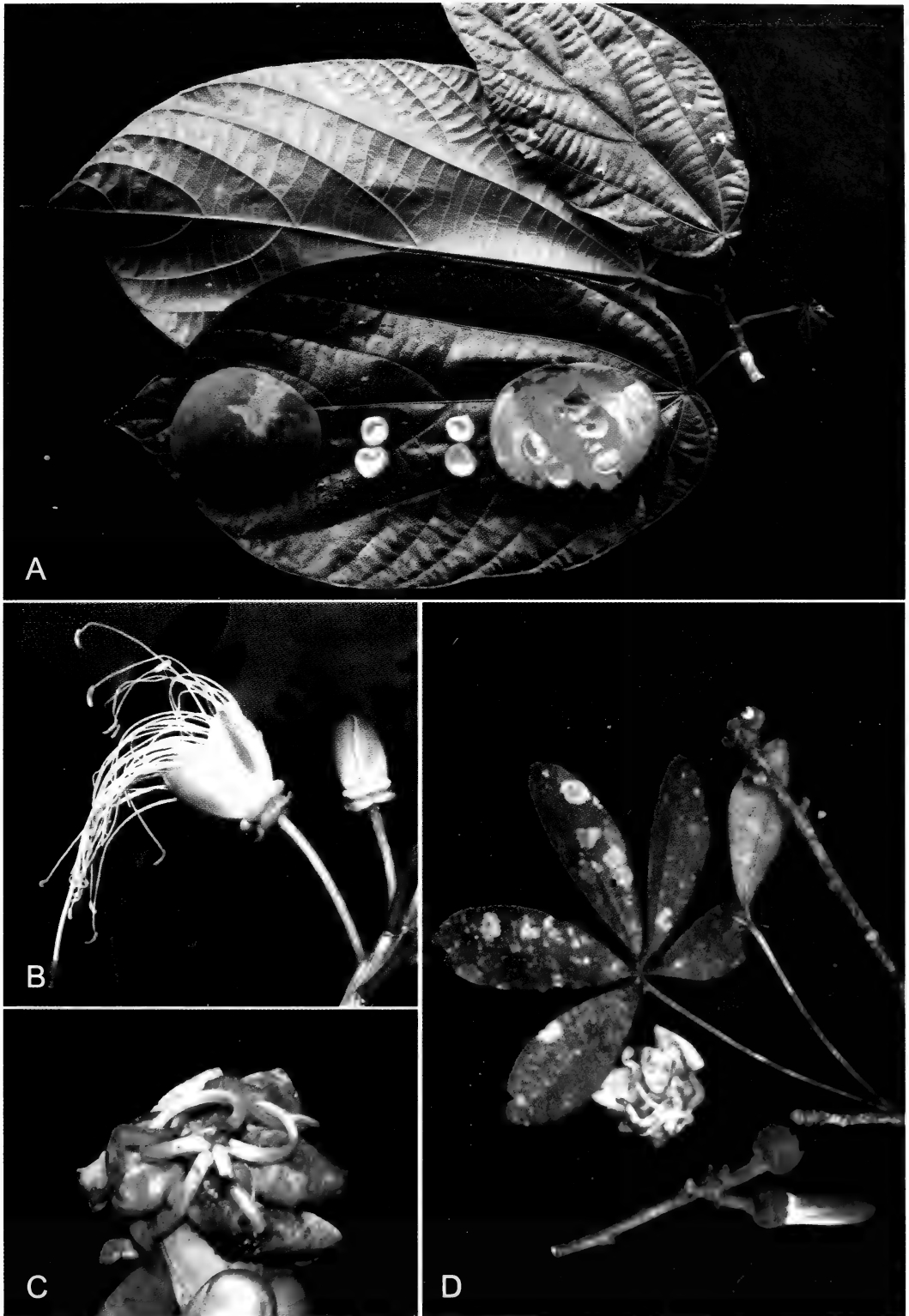


Figure 7. A-B. Flower and habit of *Pitcairnia clarkii* H. Luther. C. Flower of *Burmeistera smaragdii* Lammers. D-E. Flower and habit of *Pitcairnia ferrell-ingramiae* H. Luther & Dalström.





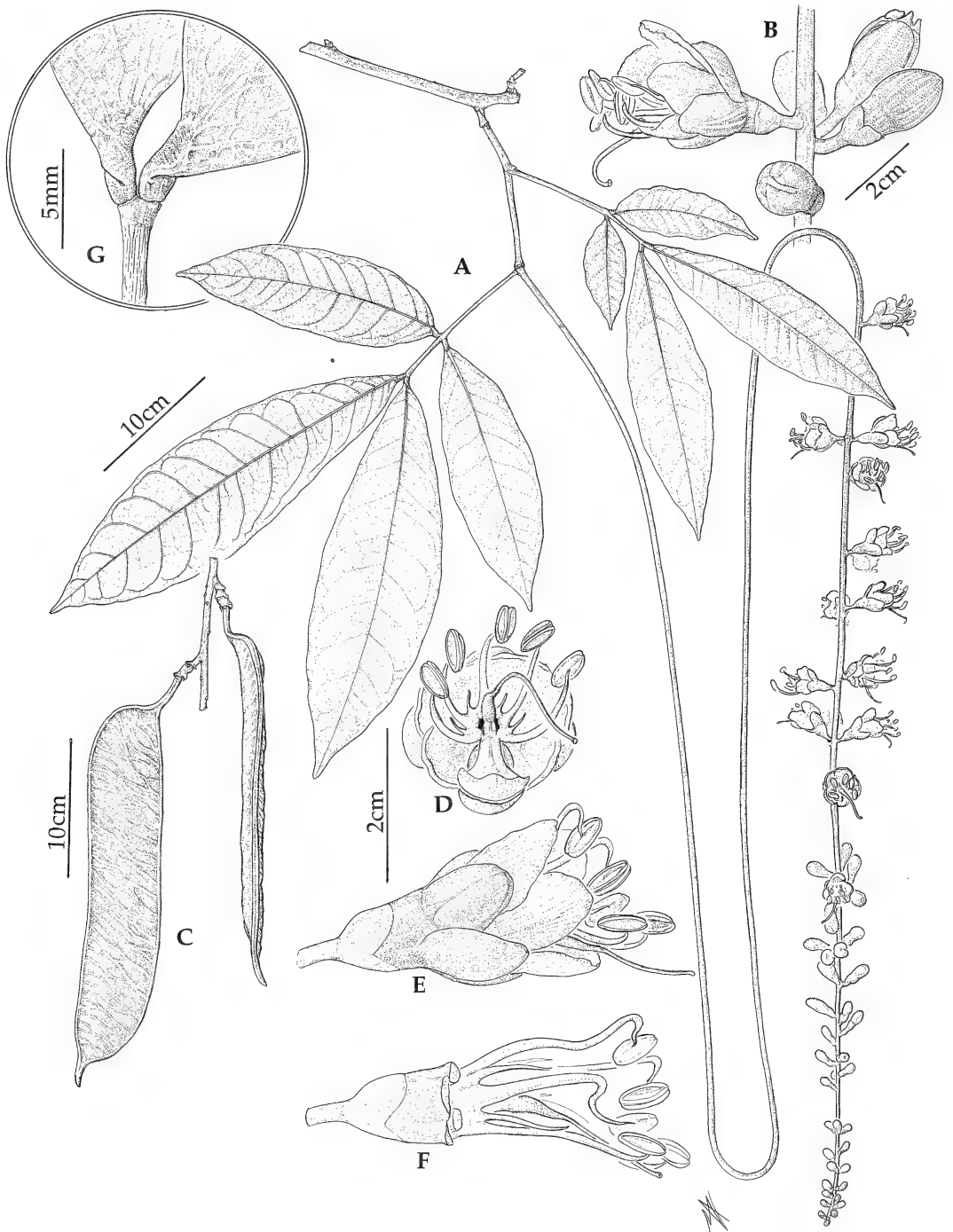
**Figure 8.** A. Large fruits with numerous woolly lanate seeds of *Patinoa* aff. *almirajo* Cuatrec. B. Flower of *Capparis bonifaziana* X. Cornejo & H.H. Iltis. C-D. Flower and leaves of emergent canopy tree, *Spirotheca awadendron* Fern. Alonso



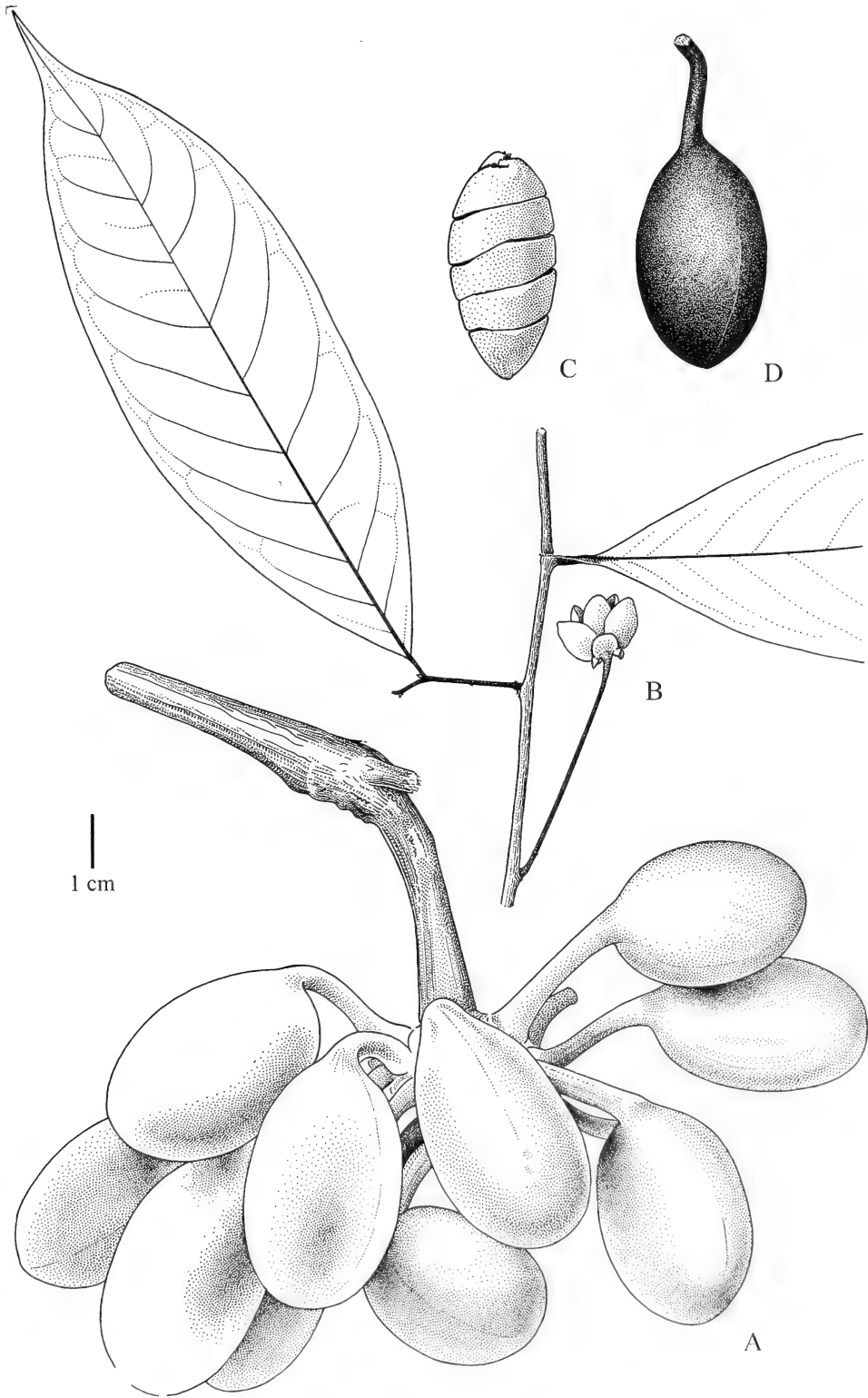
**Figure 9.** A-B. Lateral and front views of flower from *Exarata chocoensis* A.H. Gentry. C-D. Hemiepiphytic habit and flowers of *Thibaudia litensis* Luteyn.



**Figure 10.** *Exarata chochoensis* A.H. Gentry. A. Branch with flowers. B. Branch with fruits. C. Calyx cut away to show pistil. D. Anthers. E. Base of lower leaves. (Based on: A, Pennington & de la Cruz 10550; B, Gentry & Renteria 23980.) Reprinted with permission from Gentry (1992: Figure 1).



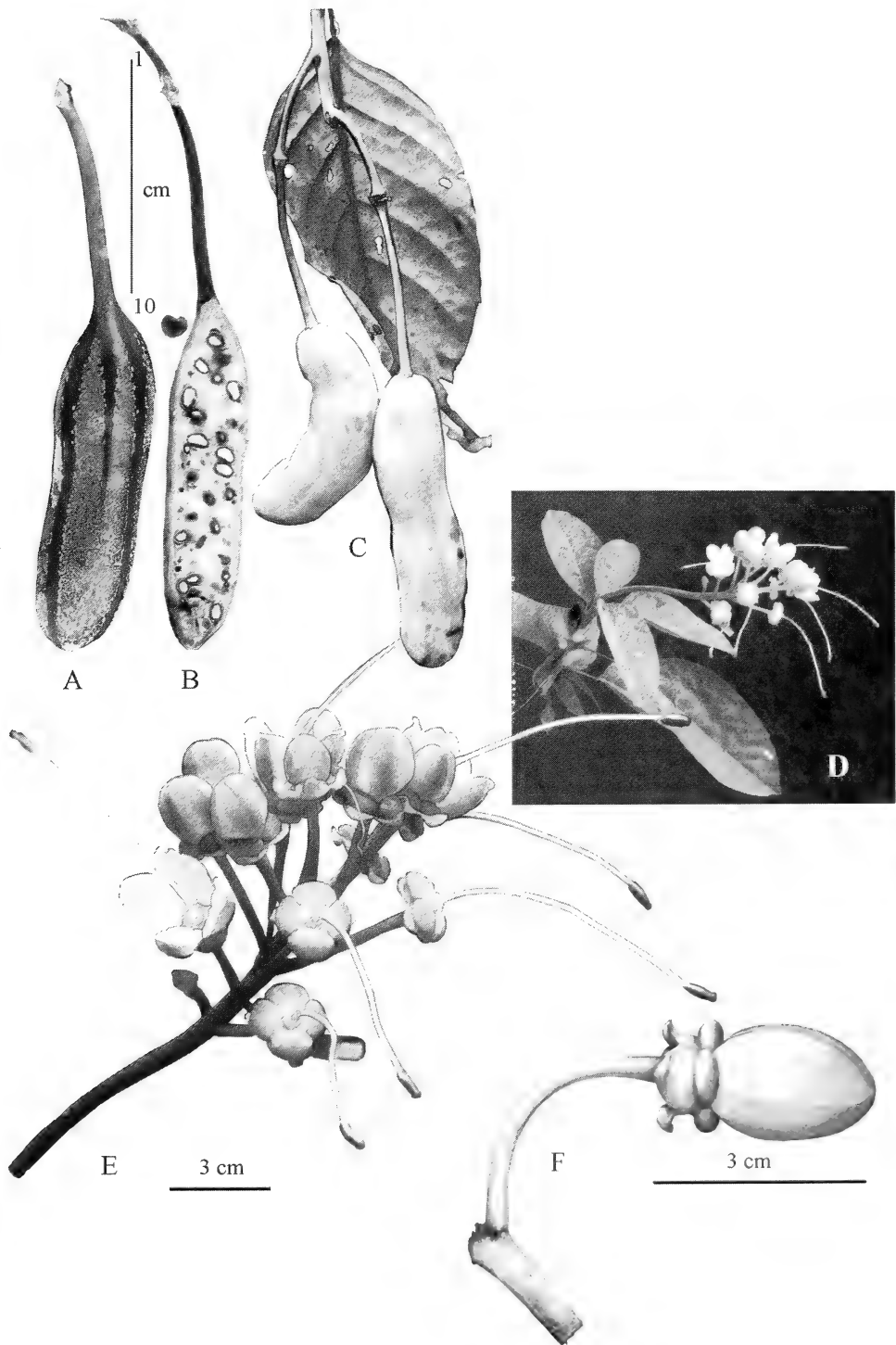
**Figure 11.** *Ecuadendron acosta-solisianum* D.A. Neill. A. Flowering branch with pendent inflorescence. B. Position of flowers on pendent inflorescence. C. Pendent, mature fruits. D. Open flower showing position of petals, androecium, and gynoecium. E. Side view of open flower. At anthesis filaments are fully extended. F. Flower with sepals and petals removed, showing position of androecium with fertile stamens and vestigial staminodes and gynoecium. (Based on: D.A. Neill, H. Vargas, T. Núñez & J.L. Clark 10437, holotype.) Reprinted with permission from Neill (1998: Figure 1).



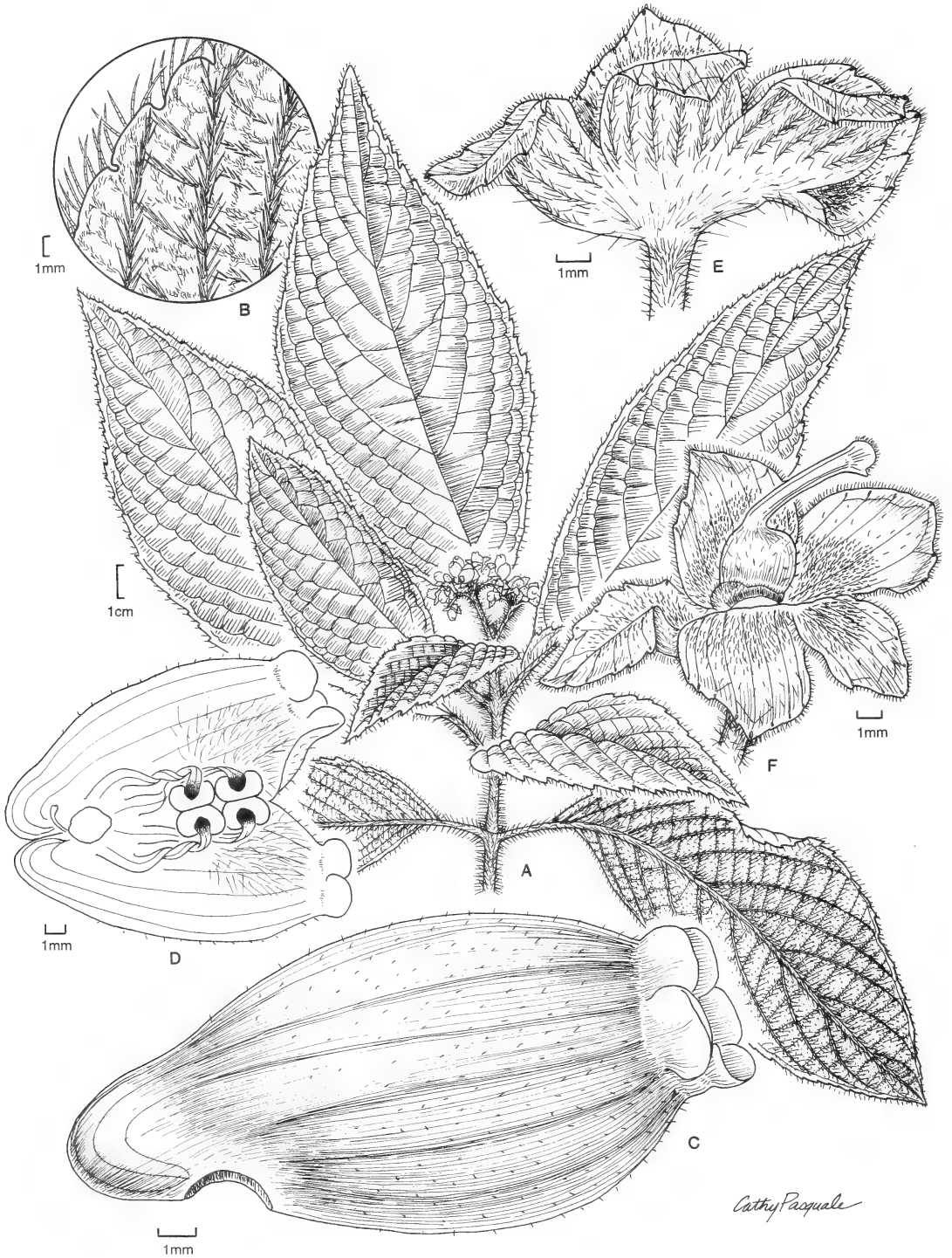
**Figure 12.** *Klarobelia megalocarpa* Chatrou. A. Fruit. B. Habit with immature flower. C. Seed with spiral raphe. D. Monocarp. (Based on: A, C, D, Maas et al. 8521, holotype; B, J.L. Clark 509.) Reprinted with permission from Chatrou (1998: Figure 5).



**Figure 13.** *Mosannona pacifica* Chatrou. A. Habit with immature fruit. B. Flower at anthesis. The front petal curved inward to close the pollination chamber. C. Habit with flower. (Based on: A, P. Maas et al. 8531, type collection; B, J.L. Clark 4107; C, J.L. Clark 419.) Reprinted with permission from Chatrou (1998: Figure 8).



**Figure 14.** *Capparis bonifaziana* X. Cornejo & Iltis. A. Nearly mature fruit with characteristic longitudinal stripes. B. Fruit in longitudinal section, showing the many seeds imbedded in a white pulp. C. Branch with two fruits and subtending leaf. D. Flowering branch, with buds and post-anthesis flower with filaments abscised. E. The same branch as in D, enlarged. F. Flower bud just preceding anthesis. Reprinted with permission from Cornejo & Iltis (2005: modified from Figures 4 & 5).



**Figure 15.** *Gasteranthus bilsaensis* L.E. Skog & L.P. Kvist. A. Habit. B. Inset: section of abaxial leaf surface. C. Corolla. D. Corolla opened to show stamens. E. Calyx. F. Calyx, pistil, and disk. (Based on: A, *Mendoza-T. et al.* 561; B, *J.L. Clark et al.* 213; C-F, *N. Pitman et al.* 884.) Reprinted with permission from Skog & Kvist (2000: Figure 17).





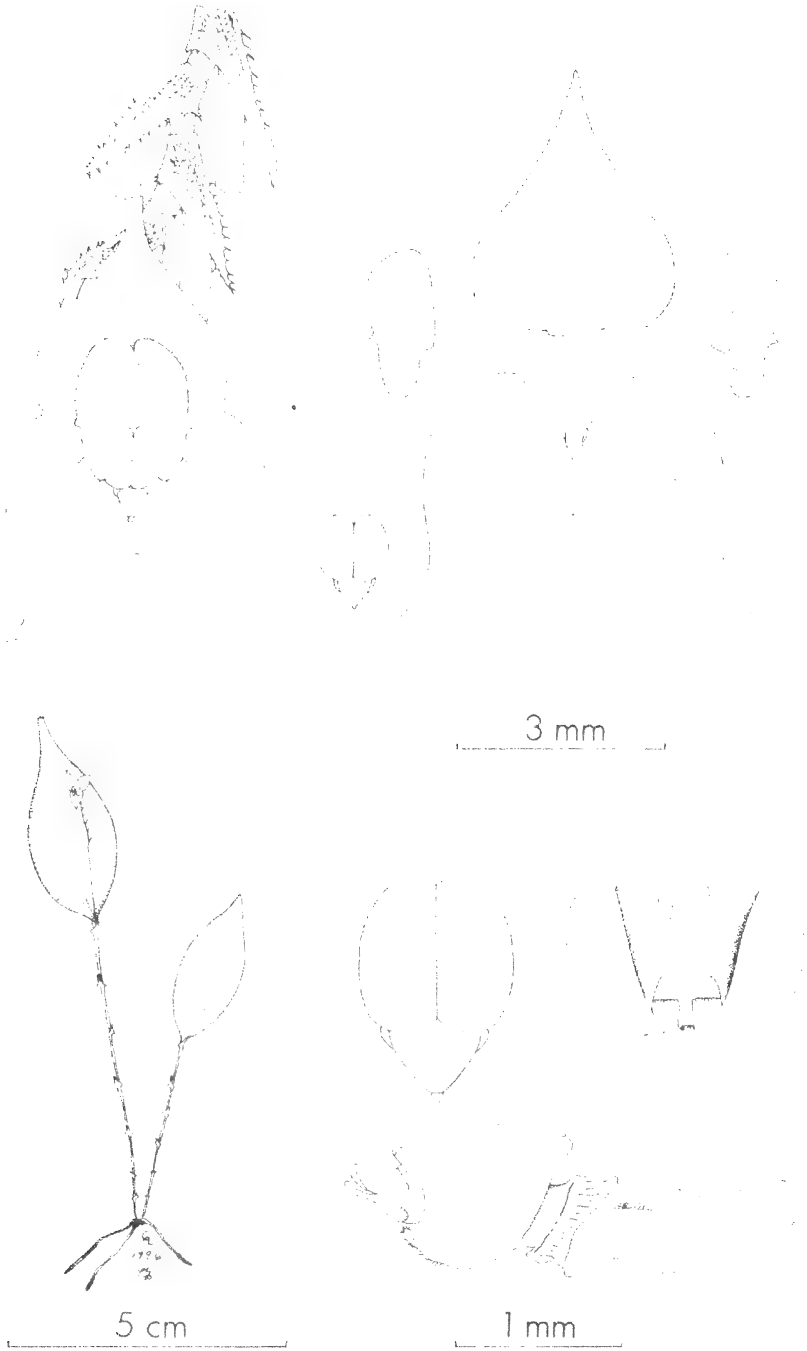
**Figure 16.** *Gasteranthus tenellus* L.E. Skog & L.P. Kvist. A. Habit. B. Inset: section of abaxial leaf surface. C. Corolla. D. Corolla opened to show stamens. E. Calyx. F. Calyx, pistil, and disk. G. Fruit. H. Seeds. (Based on: A, Abbott 15271; B-F, J.L. Clark et al. 2815; G,H, Mendoza-T. et al. 586.) Reprinted with permission from Skog & Kvist (2000: Figure 37).



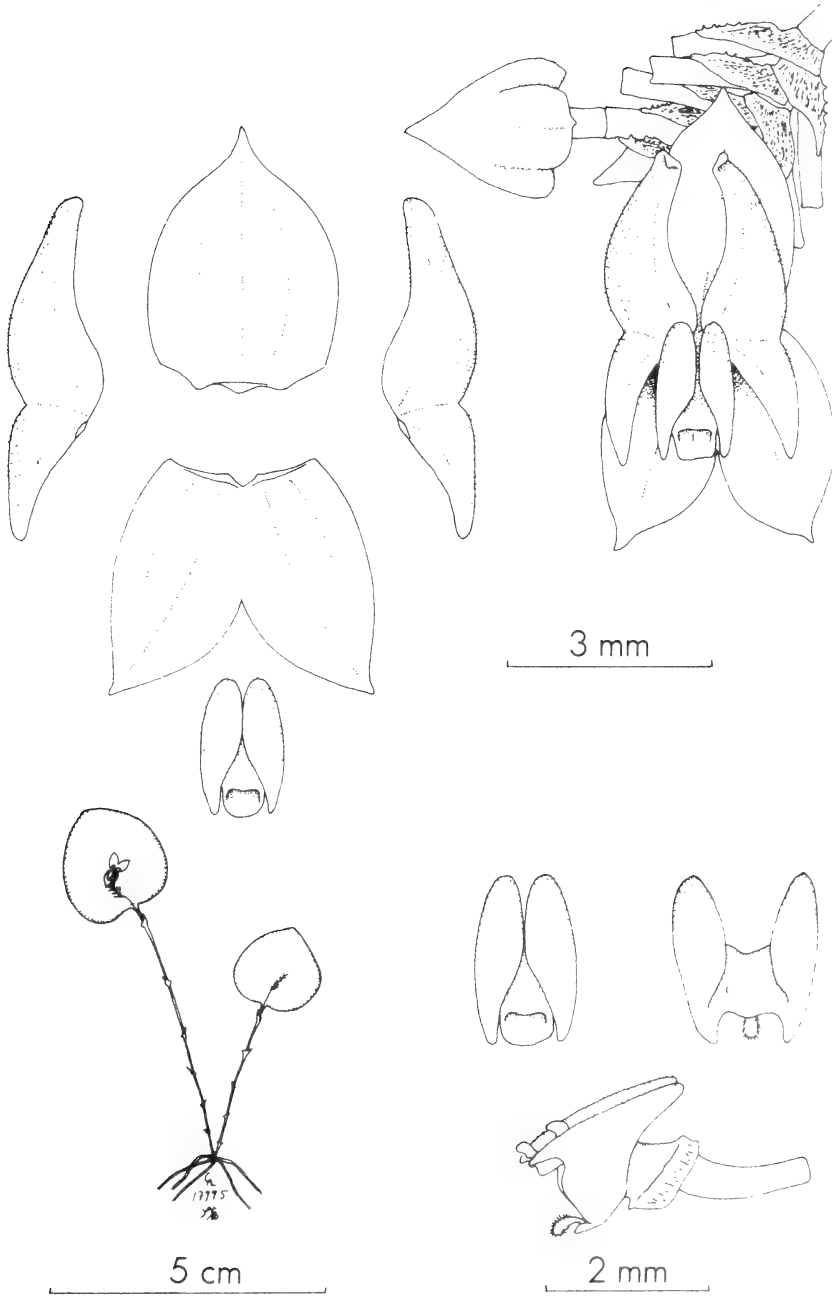
**Figure 17.** *Gasteranthus villosus* L.E. Skog & L.P. Kvist. A. Habit. B. Inset: section of abaxial leaf surface. C. Corolla. D. Corolla opened to show stamens. E. Calyx. F. Calyx, pistil, and disk. G. Fruit. H. Seeds. (Based on: *Játiva & Epling 744.*) Reprinted with permission from Skog & Kvist (2000: Figure 38).



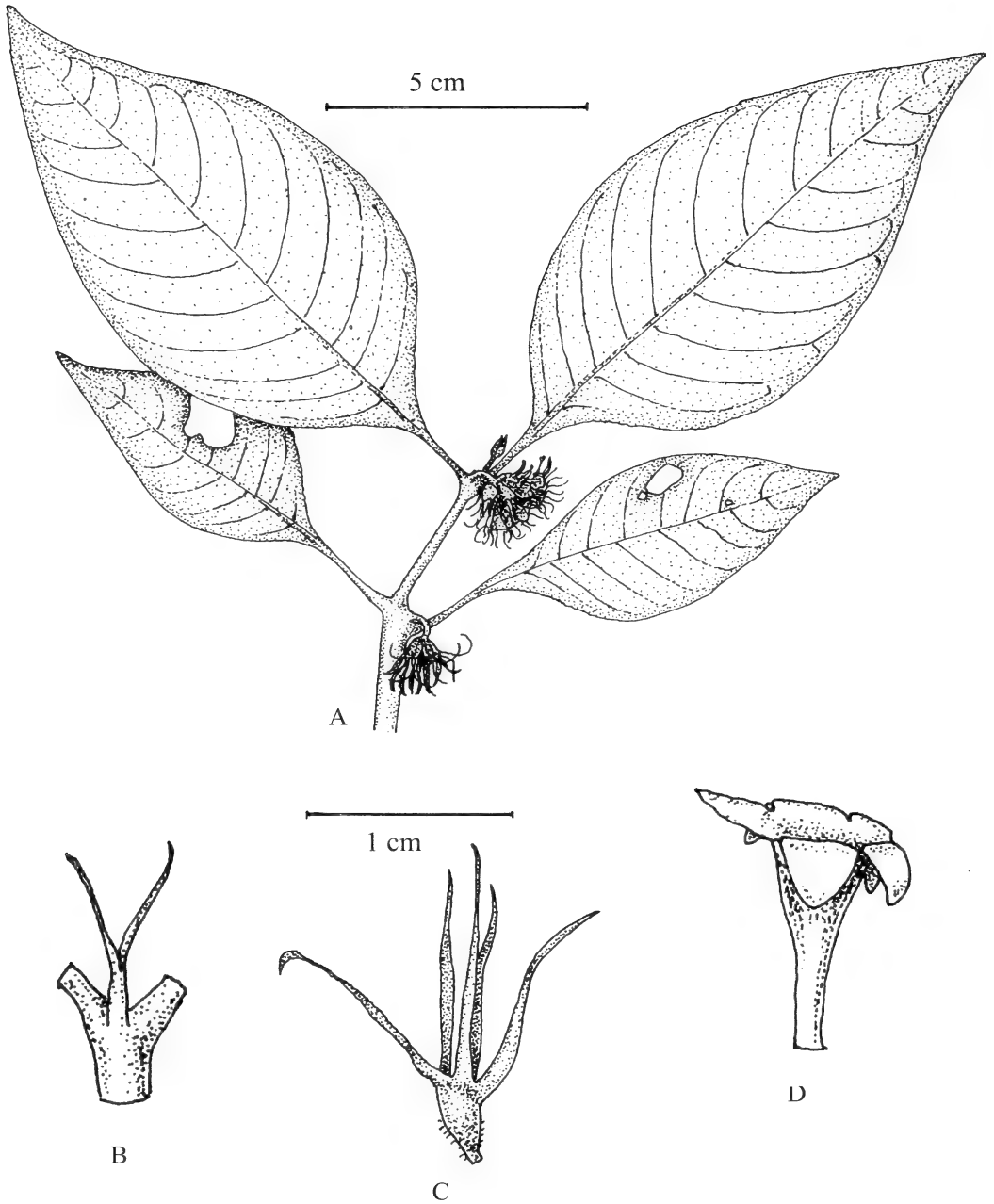
**Figure 18.** *Grias longirachis* S.A. Mori & J.L. Clark. A. Stem showing scars of two leaf flushes with scars of intervening bracts. B. Part of leaf. C. Inflorescence showing young flowers toward apex and newly forming fruits below them, note bracts at apex and bract scars under flowers and developing fruits. D. Apical part of inflorescence showing lateral views of bud and flower. E. Apical view of flower. F. Medial section of androecium and pistil. Note pendulous ovules. G. Stamen. H. Fruit (upper right) and seed with seed coat partially fragmented (lower left). (Based on: A, J.L. Clark & D. Kapan 3745; B, H from J.L. Clark & Y. Troya 684; C, J.L. Clark et al. 1641; D-G, J.L. Clark 2963.) Reprinted with permission from Clark & Mori (2000: Figure 1).



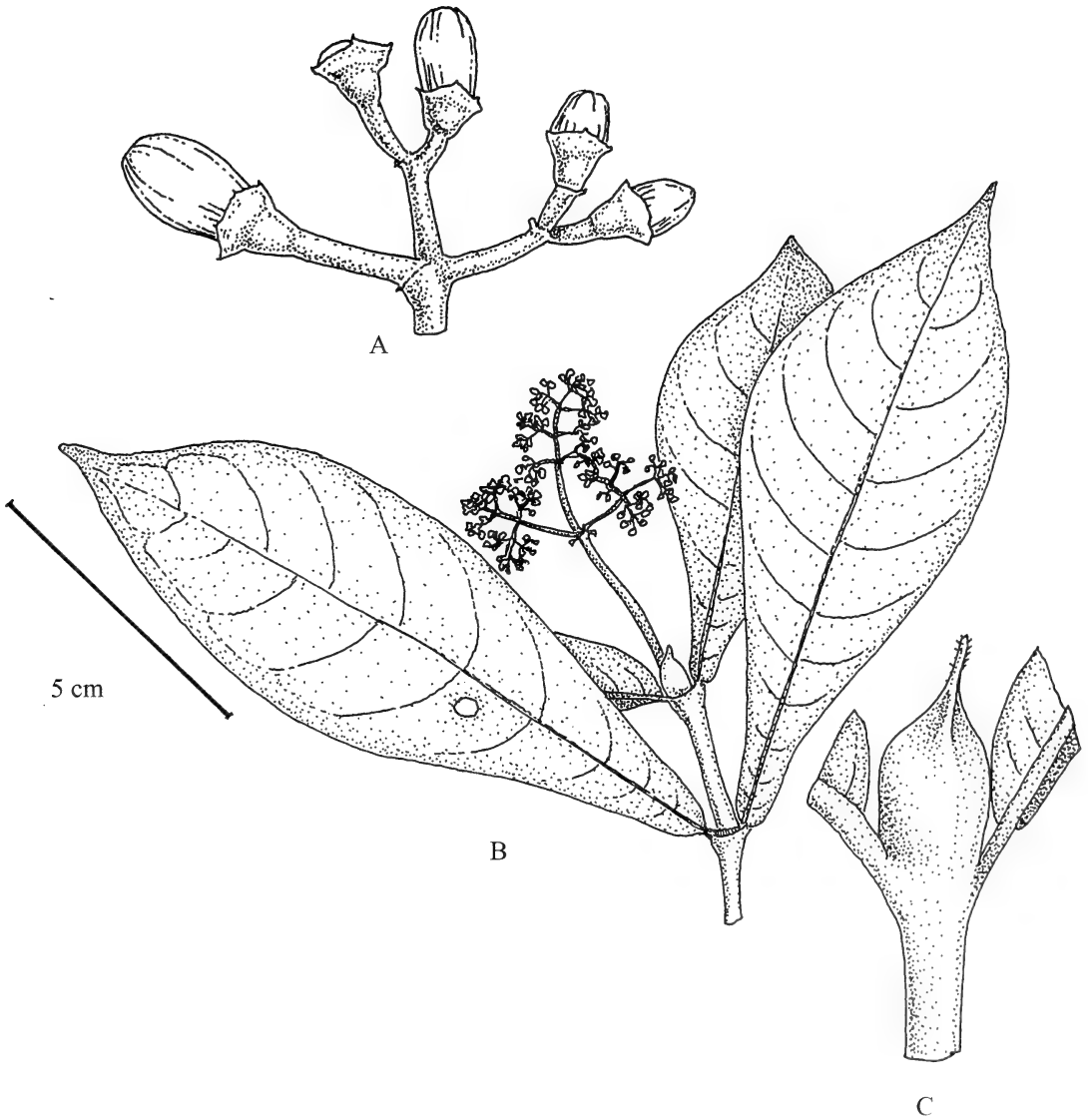
**Figure 19.** *Lepanthes clarkii* Luer. (Based on: *J.L. Clark & N. Pitman 254*, type.) Reprinted with permission from Luer (1996: Figure 50).



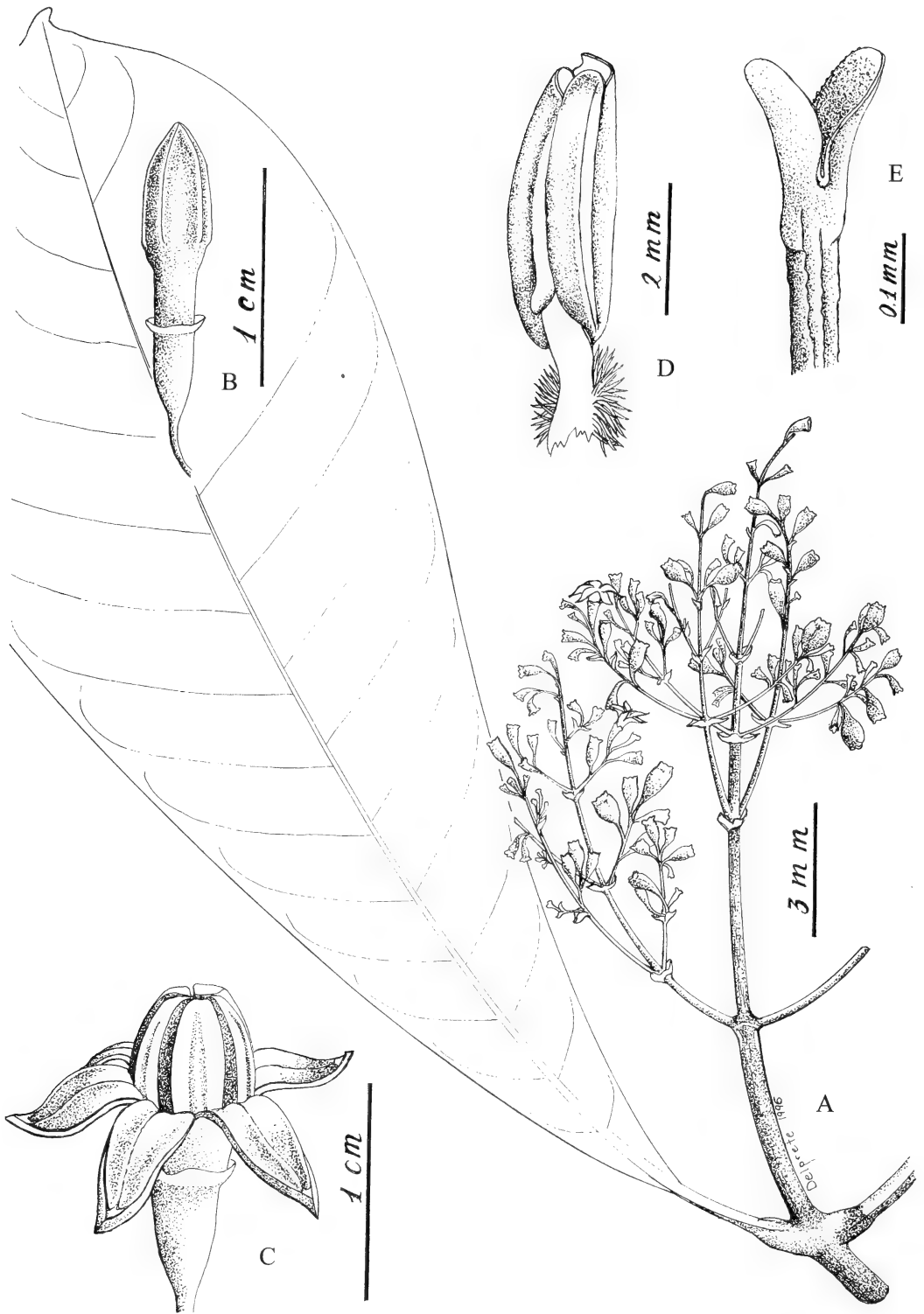
**Figure 20.** *Lepanthes maccolmiana* Luer. (Based on: *J.L. Clark & C. Watt 838*, type.) Reprinted with permission from Luer (1996: Figure 144).



**Figure 21.** *Amphidasya amethystina* J.L. Clark & C.M. Taylor. A. Stem with young infructescences. B. Node with stipule. C. Calyx (including hypanthium) at anthesis. D. Corolla at anthesis. A to 5-cm scale; B,C,D to 1-cm scale. (Based on: J.L. Clark et al. 2864; B-D based on J.L. Clark et al. 1514, type.) Reprinted with permission from Taylor & Clark (2001: Figure 1).



**Figure 22.** *Psychotria esmeraldana* C.M. Taylor. A. Portion of inflorescence with one flower from which the corolla has fallen and four flower buds. B. Flowering stem. C. Portion of stem with stipule and portions of subtending leaves. (Based on: A, Carvajal 7; B, C Bass & Pitman 244.) Reprinted with permission from Taylor (2006: Figure 2 D-F).



**Figure 23.** *Rustia bilsana* Delprete. A. Habit of inflorescence with mature leaf. B. Flower bud. C. Flower in early stage of anthesis. D. Anther. E. Style. (Based on: J.L. Clark 2979, type.) Reprinted with permission from Delprete (1998: Figure 1).



600 m, 7 Dec 1994, *M.S. Bass & N. Pitman* 299 (MO, QCNE).

Vine. 200 m. Common name: "Grenadilla del monte." Amazonia, Chocó, Mesoamerica.

### PHYTOLACCACEAE

**Gallesia integrifolia** (Spreng.) Harms, Nat. Pflanzenfam. (ed. 2) 16c: 144. 1934.

Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11277* (MO, QCNE).

Canopy tree. 10-50 m. Common name: "Ajo."

**Hillieria secunda** (Ruiz & Pav.) H. Walter, Pflanzenz. IV. 83(Heft 39): 82-83. 1909.

Representative Specimen: Ecuador: Manabí: Jama 400 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11658* (MO, QCNE).

Understory herb. 400 m.

**Petiveria alliacea** L., Sp. Pl. 1: 342. 1753.

Representative Specimen: Ecuador: Manabí: Mache-Chindul, comunidad Ambache, 250 m, 6 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4208* (MO, QCNE).

Terrestrial herb. 250 m. Amazonia, Chocó, Mesoamerica.

**Phytolacca rivinoides** Kunth & C.D. Bouché, Index Sem. (Berlin) 1848: 15-16. 1849.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 3 Oct 1994, *J.L. Clark, M. Bass & N. Pitman 138* (MO, QCNE).

Common succulent herb in sunny disturbed sites. 300-700 m. Common name: "Atuczara." Amazonia, Chocó, Mesoamerica.

**Phytolacca weberbaueri** H. Walter, Pflanzenz. IV. 83(Heft 39): 49-50. 1909.

Representative Specimen: Ecuador: Manabí: Jama, 10 km NE of Jama, slopes north of Río Don Juan, 400 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11674* (MO, QCNE).

Canopy tree. 400 m. Amazonia, Chocó.

**Rivina humilis** L.

Representative Specimen: Ecuador: Esmeraldas: Quinindé, Paraíso de Papagayos, 200 m, 14 Jan 1997, *J.L. Clark, L. Chatrou & C. Repetur 3795* (MO, QCNE).

Herbaceous vine in disturbed areas. 200 m. Widespread: Amazonia, Chocó, Mesoamerica.

### PIPERACEAE

**Peperomia alwynii** Callejas & Betancur, Novon 7(1): 17, f. 1. 1997. Type: Colombia: Nariño: municipio de Barbacoas, corregimiento Altaquer, vereda El Barro, Reserva Natural Río Ñambí, margen derecha del Río Ñambí, 1325 m. 1°118'N 78°108'W, 7 Dec 1993, *P. Franco, D. Giraldo, W. Beltrán, A. Prieto & O. Rivera 4999* (HT: COL; IT: HUA).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 19 Feb 1997, *J.L. Clark 3962* (MO, QCNE).

Succulent terrestrial herb, 30 cm tall. 650 m. Chocó.

**Peperomia glabella** (Sw.) A. Dietr., Sp. Pl. 1: 156. 1831.

Representative Specimen: Ecuador: Manabí: 31 km al norte de Pedernales 60 m, 27 Aug 1998, *D. Neill & QCNE botany interns 11400* (HUA, MO, QCNE).

Epiphyte. 60 m. Amazonia, Chocó, Mesoamerica.

**Peperomia lancifolia** Hook., Icon. Pl. 4: t. 332. 1841.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 23 Sep 1994, *J.R. Abbott 15202* (BEREA, QCNE).

Epiphytic herb. 600 m. Amazonia, Chocó, Mesoamerica.

**Peperomia montium** C. DC., Repert. Spec. Nov. Regni Veg. 15(415/417): 5. 1917.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 7 Dec 1994, *M.S. Bass & N. Pitman 307* (HUA, MO, QCNE).

- Herbaceous epiphyte. 280-600 m. Amazonia, Chocó, Mesoamerica.
- Peperomia obtusifolia** (L.) A. Dietr., Sp. Pl. 1: 154. 1831.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 25 Jan 1995, *J.L. Clark 421* (MO, QCNE, US).  
Epiphyte in disturbed forest. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Peperomia pernambucensis** Miq., London J. Bot. 4: 420-421. 1845.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 31 Dec 1994, *N. Pitman & David Marsh 1136* (HUA, MO, QCNE).  
Succulent epiphyte. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Peperomia puberulicaulis** Trel. & Yunck., Piperac. N. South Amer. 2: 637. 1950. Type: Colombia: El Valle: Cordillera Occidental, La Cubre, 1900-2200 m, 21-25 May 1922, *E.P. Killip 5925* (T: GH, NY, PH, US).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 13 Sep 1994, *J.L. Clark & Adnepos 30* (HUA, MO, QCNE).  
Epiphyte. 400-600 m. Chocó.
- Peperomia pyramidata** Sodiro, Piperac. Ecuador. 1: 151-152. 1900. Type: Crece en las pendientes occidentales de Angamarca, colectada con flores y fruto en Nov. 1900, *Sodiro s.n.*  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 2 Apr 1995, *J.L. Clark & Y. Troya 566* (HUA, MO, QCNE, US).  
Common succulent understory herb. 400-800 m. Amazonia, Chocó, Mesoamerica.
- Peperomia rotundifolia** (L.) Kunth, Nov. Gen. Sp. (quarto ed.) 1: 65-66. 1815 [1816].  
Representative Specimen: Ecuador: Manabí: Mache-Chindul, comunidad Ambache, 250 m, 4 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4145* (HUA, MO, QCNE).
- Succulent herbaceous vine. 250 m. Amazonia, Chocó, Mesoamerica.
- Peperomia serpens** (Sw.) Loudon, Hort. Brit. 13. 1830. *Piper serpens* Sw. Type: Jamaica, *Swartz s.n.*  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 24 Sep 1994, *N. Pitman 717* (HUA, MO, QCNE).  
Succulent herbaceous vine. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Peperomia urocarpa** Fisch. & C.A. Mey., Index Sem. (St. Petersburg) 13. 1838. Type: Hab. in Brasilia, *not cited*.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 12 Sep 1994, *J.L. Clark 9* (HUA, MO, QCNE).  
Herbaceous epiphyte. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Peperomia verticillatispica** Trel. & Yunck., Piperac. N. South Amer. 13. 1950. Type: Ecuador: Pichincha: on tree in forest along road from Quito to Santo Domingo, inflorescence showy white, 1200 m., 4 Apr 1942, *Haught 3217* (HT: US; IT: GH, ILL).  
Representative Specimen: Ecuador: Esmeraldas: Carretera Herrera-El Páramo (Sta. Isabel) 580 m, 18 Feb – 5 Mar 1995, *W. Palacios, J.L. Clark & N. Jaramillo 13579* (HUA, MO, QCNE).  
Succulent herbaceous epiphyte. 400-600 m. Amazonia, Chocó.
- Piper aduncum** L., Sp. Pl. 1: 29. 1753.  
Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 600 m, 16 Dec 1998, *D. Neill & QCNE botany interns 11548* (HUA, MO, QCNE).  
Shrub, ca. 1.5 m tall. 600 m. Amazonia, Chocó, Mesoamerica.
- Piper appendiculatum** (Benth.) C. DC., Prodr. 16(1): 369. 1869. *Artanthe appendiculata* Benth. Type: Ecuador: Pichincha: along Quito-Santo Domingo road, 1200 m, 4 Apr 1942, *Fraser s.n.* (T: G).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600

- m, 27 Sep 1996, *J.L. Clark 2925* (HUA, MO, QCNE).  
Subwoody shrub or herb. 400-600 m. Amazonia, Chocó.
- Piper augustum** Rudge, Pl. Guian. 1: 10, pl. 7. 1805.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 7 Dec 1994, *N. Pitman & M.S. Bass 1030* (MO, QCNE).  
Shrub to 2 m tall. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Piper auritum** Kunth, Nov. Gen. Sp. (quarto ed.) 1: 54. 1815 [1816].  
Representative Specimen: Ecuador: Esmeraldas: Reserva Ecológica Mache-Chindul, Comunidad Caña Braval, Cabaceras del Río Viche, estero Sabaleta, 250 m, 16 Mar 1998, *J.L. Clark 4654* (HUA, MO, QCNE).  
Terrestrial herb, to 1.5 m tall. 25-250 m. Common name: “Santa Maria de Anis.” Amazonia, Chocó.
- Piper brachypodon** (Benth.) C. DC., Prodr. 16(1): 327. 1869  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry & C. Josse 72930* (MO).  
Liana. 280 m. Amazonia, Chocó.
- Piper brachystylum** Trel., Ciencias (Mexico) 2(5): 207. 1941.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 21 Nov 1994, *J.L. Clark & C. Bergman 323* (MO, QCNE).  
Shrub or hemiepiphyte. 400-600 m. Amazonia.
- Piper bulbosum** C. DC., J. Bot. 4: 165. 1866. Type: In Novae-Granatae: prov. Barbacoas, 1000 m, *Triana 22* (HT: G-DC).  
Representative Specimen: Ecuador: Esmeraldas: 400–600 m, 4 Oct 1994, *M.S. Bass & N. Pitman 136* (HUA, MO, QCNE).  
Vine. 400-600 m. Amazonia, Chocó.
- Piper cinereum** C. DC., J. Bot. 4: 214. 1866. Type: Colombia: Chocó, *Triana s.n.* (HT: G-DC).  
Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 16 Mar 1998, *J.L. Clark 4661* (HUA, MO, QCNE).  
Herb or subshrub in sunny disturbed areas. 250-600 m. Amazonia, Chocó, Mesoamerica.
- Piper dryadum** C. DC., Bull. Soc. Roy. Bot. Belgique 30(1): 221. 1891 [1892].  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 16 Sep 1994, *J.L. Clark & B. Adnepos 63* (HUA, MO, QCNE).  
Scandent shrub or hemiepiphyte. 400-600 m. Chocó, Mesoamerica.
- Piper filistilum** C. DC., Bull. Herb. Boissier 6(6): 491. 1898. Type: Ecuador: in regione tropicali, *Sodirol 1/7*.  
Synonym: *Trianaepiper garciae* Trel. & Yunck., fide: Jørgensen & León-Yáñez (1999).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 27 Sep 1994, *J.L. Clark, B. Adnepos & J. Wolf 125* (HUA, MO, QCNE).  
Common herb or subshrub. 400-600 m. Chocó, Mesoamerica.
- Piper laevigatum** Kunth, Nov. Gen. Sp. 1: 56. 1815 [1816].  
Representative Specimen: Ecuador: Manabí: Mache-Chindul, comunidad Ambache, 250 m, 4 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4160* (HUA, MO, QCNE).  
Shrub. 250 m. Amazonia, Chocó.
- Piper maranyonense** Trel., Publ. Field Mus. Nat. Hist., Bot. Ser. 13(2): 189. 1936.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 30 Oct 1994, *J.L. Clark & D. Neill 230* (HUA, MO, QCNE).  
Shrub. 400-600 m. Amazonia, Chocó.
- Piper marginatum** Jacq., Collectanea 4: 128. 1790.  
Representative Specimen: Ecuador: Manabí: Jama, Reserva de Lalo Loor, 10 m, 9 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4372*

- (HUA, MO, QCNE).  
Shrub. 10-400 m. Amazonia, Chocó, Mesoamerica.
- Piper ottoniifolium** C. DC., J. Bot. 4: 213. 1866.  
Representative Specimen: Ecuador: Manabí: 45 km al norte de Pedernales, 5 m, 28 Aug 1998, *D. Neill & QCNE botany interns 11418* (HUA, MO, QCNE).  
Shrub. 5 m. Amazonia, Chocó, Mesoamerica.
- Piper oxystachyum** C. DC., *Annuaire Conserv. Jard. Bot. Geneve* 2: 255. 1898.  
Representative Specimen: Ecuador: Esmeraldas: 400-600 m, 27 Sep 1994, *J.L. Clark, B. Adnepos & J. Wolf 126* (HUA, MO, QCNE).  
Hemiepiphyte. 400-600 m. Chocó.
- Piper peltatum** L., *Sp. Pl.* 1: 30. 1753.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro 800 m, 10 Mar 1997, *H. Vargas 1306* (MO, QCNE).  
Common subshrub or herb in sunny disturbed areas, to 1 m tall. 400-800 m. Amazonia, Chocó, Mesoamerica.
- Piper piluliferum** Kunth, *Nov. Gen. Sp.* 1: 53. 1815 [1816]. Type: Crescit in declivitate Andinum, inter Cuenca et Tambo de Burgay, super Schisto micaceo, 1400 hexapodarom. Floret Julio, *Humboldt & Bonpland s.n.*  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4314* (HUA, MO, QCNE).  
Shrub. 300-700 m. Amazonia, Chocó.
- Piper reticulatum** L., *Sp. Pl.* 1: 29. 1753. Type: Habitat in Martinica, Brasilia.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 3 Jan 1995, *N. Pitman 1178* (HUA, MO, QCNE).  
Shrub, ca. 3 m tall. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Piper tenuilimum** C. DC., *Bot. Jahrb. Syst.* 40: 253. 1908.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Mar 1998, *J.L. Clark & C. Pallis 4834* (HUA, MO, QCNE).  
Vine or hemiepiphyte. 400-600 m, Chocó.
- Piper trianae** C. DC., J. Bot. 4: 162-163. 1866.  
Type: Colombia: Pasto, *Triana 2* (HT: G-DC).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 25 Jan 1995 *J.L. Clark 420* (HUA, MO, QCNE).  
Common subshrub, ca. 1 m tall. 400-600 m. Chocó.
- Piper veneralense** Trel. & Yunck., *Piperac. N. South Amer.* 4: 162-163. 1950. Type: Colombia: El Valle: Pacific Coast, Río Yurumanguí, Veneral, 5-50 m, Jan 28-Feb 10, 1944, *Cuatrecasas 15740* (HT: US-1852625).  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry, R. Foster & C. Josse 72907* (MO).  
Liana. 280 m. Chocó.
- Piper verruculosum** C. DC., J. Bot. 4: 215. 1866.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 3 Oct 1994, *J.L. Clark, M.S. Bass & N. Pitman 132* (HUA, MO, QCNE).  
Shrub, ca. 1.5 m tall. 400-600 m. Chocó, Mesoamerica.
- Piper xanthostachyum** C. DC., *Anales Inst. Fis.-Geogr. Nac. Costa Rica* 9: 169. 1897.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 7 Dec 1994, *M.S. Bass & N. Pitman 303* (HUA, MO, QCNE).  
Vine. 400-600 m. Amazonia.
- Sarcorhachis sydowii** Trel., *Repert. Spec. Nov. Regni Veg.* 48: 16. 1940. Type: Ecuador: Pichincha: Mindo, *H. Sydow 317* (HT: US-2 sheets).  
Representative Specimen: Ecuador: Esmeraldas: 400-600 m, 11 Nov 1994, *M.S. Bass & N. Pitman 229* (HUA, MO, QCNE).  
Woody liana. 400-600 m. Amazonia, Chocó.

## POACEAE

- Chloris barbata** Sw., Fl. Ind. Occid. 1: 200. 1797.  
Representative Specimen: Ecuador: Manabí:  
Reserva de Lalo Loor, 100 m, 15 Dec 1998,  
*D. Neill & QCNE botany interns 11542*  
(MO, QCNE).  
Common in pastures and fields. 100 m. Chocó,  
Mesoamerica.
- Homolepis aturensis** (Kunth) Chase, Proc. Biol.  
Soc. Wash. 24: 146, f. 12. 1911.  
Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 600  
m, 13 Sep 1994, *J.R. Abbott 15051*  
(BEREA, QCNE).  
Common terrestrial herb along road. 400-600  
m. Amazonia, Chocó, Mesoamerica.
- Ichnanthus nemorosus** (Sw.) Döll, Fl. Bras. 2(2):  
289. 1877.  
Representative Specimen: Ecuador: Manabí:  
Cerro Pata de Pájaro 850 m, 11 Mar 1997,  
*H. Vargas, X. Aguirre, R. Miranda & C.*  
*Robles 1337* (MO, QCNE).  
Terrestrial herb. 850 m. Amazonia, Chocó,  
Mesoamerica.
- Ichnanthus pallens** (Sw.) Munro ex Benth., Fl.  
Hongk. 414. 1861.  
Representative Specimen: Ecuador: Manabí:  
Cordillera de Jama, 600 m, 16 Dec 1998,  
*D. Neill & QCNE botany interns 11574*  
(MO, QCNE).  
Terrestrial herb in secondary forest. 400-600  
m. Amazonia, Chocó, Mesoamerica.
- Lasiacis nigra** Davidse, Phytologia 29(2): 152.  
1974.  
Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 600  
m, 14 Sep 1994, *J.R. Abbott 15140* (MO,  
QCNE).  
Herb. 600 m. Amazonia, Chocó, Mesoamerica.
- Lasiacis scabrior** Hitchc., Proc. Biol. Soc. Wash.  
40: 85. 1927.  
Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 18 Nov 1996, *J.L. Clark, F. Gurumendi*  
& *H. Weinert 3439* (AAU, MO, QCNE).  
Common clambering herb in sunny disturbed  
areas. 300-600 m. Amazonia, Chocó,  
Mesoamerica.
- Olyra latifolia** L., Syst. Nat. (ed. 10) 1261. 1759.  
Representative Specimen: Ecuador: Manabí:  
Reserva de Lalo Loor, 100 m, 15 Dec 1998,  
*D. Neill & QCNE botany interns 11530*  
(MO, QCNE).  
Scandent terrestrial herb in secondary forest.  
10-250 m. Amazonia, Chocó, Mesoamerica.
- Panicum pilosum** Sw., Prodr. 22. 1788.  
Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 18 Nov 1996, *J.L. Clark, F. Gurumendi*  
& *H. Weinert 3453* (MO, QCNE).  
Common terrestrial herb along disturbed  
roadsides. 500 m. Amazonia, Chocó,  
Mesoamerica.
- Panicum polygonatum** Schrad., Mant. 2: 256.  
1824.  
Representative Specimen: Ecuador: Manabí:  
Cerro Pata de Pájaro, 10 km al este de  
Pedernales, 800 m, 10 Mar 1997, *H. Vargas*  
*1312* (MO, QCNE).  
Herb. 800 m. Amazonia, Chocó, Mesoamerica.
- Panicum trichidiachne** Döll, Fl. Bras. 2(2): 339,  
pl. 49. 1877.  
Representative Specimen: Ecuador: Manabí:  
Cerro Pata de Pájaro, 300-700 m, 7 Apr  
1997, *J.L. Clark, T. Nuñez & C. Robles 4299*  
(MO, QCNE, SI).  
Terrestrial herb. 300-700 m. Amazonia,  
Mesoamerica.
- Paspalum conjugatum** P.J. Bergius, Acta Helv.  
Phys.-Math. 7: 129, t. 8. 1762 [1772].  
Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 600  
m, 13 Sep 1994, *J.R. Abbott 15074*  
(BEREA, QCNE).  
Herb. 600 m. Amazonia, Chocó, Mesoamerica.
- Pharus latifolius** L., Syst. Nat. (ed. 10) 2: 1269.  
1759.  
Representative Specimen: Ecuador:  
Esmeraldas: Mache-Chindul, comunidad

Caña Braval, 250 m, 16 Mar 1998, *J.L. Clark 4734* (MO, QCNE).

Terrestrial herb. 250 m. Amazonia, Chocó, Mesoamerica.

**Pharus mezii** Prod., Bot. Arch. 1: 250. 1922.

Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11281* (MO, QCNE).

Terrestrial herb in secondary forest. 10-50 m. Mesoamerica.

**Pseudechinolaena polystachya** (Kunth) Stapf, Fl.

Trop. Afr. 9: 495. 1919.

Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 600 m, 16 Dec 1998, *D. Neill & QCNE botany interns 11595* (MO, QCNE).

Creeping herb. 600 m. Amazonia, Chocó, Mesoamerica.

**Streptochoeta sodiroana** Hack., Oesterr. Bot. Z.

40: 113. 1890. Type: Ecuador: Pinchacha: prope San Miguel de Colorados, in silvis tropicae, secus flumen Peripa, 400 m, 1883, *Sodiro 911* (HT: W).

Representative Specimen: Ecuador: Manabí: 31 km al norte de Pedernales 60 m, 27 Aug 1998, *D. Neill & QCNE botany interns 11394* (MO, QCNE).

Terrestrial herb in secondary forest. 60 m. Mesoamerica.

**Streptochoeta spicata** Schrad. ex Nees, Fl. Bras.

Enum. Pl. 2: 537. 1829.

Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor 75 – 125 m, 6 Oct 1999, *T. Delinks & C. Robles 354* (MO, QCNE).

Herb. 75-125 m. Chocó, Mesoamerica.

Infrasp.: *Streptochoeta spicata* subsp. *ecuatoriana* Judz. & Soderstr.

**Uniola pittieri** Hack., Oesterr. Bot. Z. 52: 309. 1902.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 2 m, 2 Dec 1995, *J.L. Clark & K. Cunningham 1723* (MO, QCNE).

Terrestrial herb in lowland sandy areas. 0-10

m. Chocó, Mesoamerica.

**POLYGALACEAE**

**Monnina denticulata** Chodat, Bull. Herb. Boissier

3: 135. 1895. Type: Hab. in Guayaquil, *Pavon s.n.* (HT: G-DEL; IT: P).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 19 Feb 1997, *J.L. Clark 3966* (GB, MO, QCNE).

Vine. 650 m.

**Moutabea** sp.

Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 28 Jan 1991, *A. Gentry & C. Josse 72780* (MO).

Liana. Common name: "Bejuco de Pava."

**Polygala paniculata** L., Syst. Nat. (ed. 10) 2: 1154. 1759.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 1 Apr 1995, *J.L. Clark & Y. Troya 551* (MO, QCNE).

Common terrestrial herb in open sunny areas. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Securidaca calophylla** (Poepp.) S.F. Blake, Proc. Biol. Soc. Wash. 40: 52. 1927.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 580 m, 2-4 marzo 1995, *W. Palacios 13704* (GB, MO, QCNE).

Liana in subcanopy. 580 m.

**POLYGONACEAE**

**Coccoloba mollis** Casar., Nov. Stirp. Bras. 8: 72. 1844.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 10 Dec 1994, *N. Pitman & M.S. Bass 1078* (MO, QCNE).

Tree, ca. 20 m tall. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Coccoloba obovata** Kunth, Nov. Gen. Sp. (quarto ed.) 2: 176. 1817 [1818]

Representative Specimen: Ecuador:

Esmeraldas: Fila de Bilsa, 280 m, 29 Jan 1991, *A. Gentry & C. Josse 72760* (MO).  
Tree, ca. 15 m tall. 280 m. Amazonia, Chocó, Mesoamerica.

**Triplaris cumingiana** Fisch. & C.A. Mey. ex C.A. Mey., Mem. Acad. Imp. Sci. Saint-Petersbourg, Ser. 6, Sci. Math., Seconde Pt. Sci. Nat. 4: 148. 1845 [1840]. Type: Colombia, *Cuming s.n.*  
Representative Specimen: Ecuador: Manabí: Jama, 200 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11640* (MO, QCNE).  
Common tree in secondary forests. 200-500 m.  
Common name: "Fernán Sanchez." Chocó, Mesoamerica.

#### PONTEDERIACEAE

**Heteranthera reniformis** Ruiz & Pav., Fl. Peruv. 1: 43, pl. 71, f. a. 1798.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 10 Apr 1995, *J.L. Clark & Ivonne Troya 689* (MO, QCNE).  
Aquatic herb. 400-600 m. Amazonia, Chocó, Mesoamerica.

#### PORTULACAEAE

**Portulaca** sp.  
Representative Specimen: Ecuador: Esmeraldas: Muisne, 2 m, 2 Dec 1995, *J.L. Clark & K. Cunningham 1722* (MO, QCNE).  
Terrestrial herb. 0-10 m.

#### PROTEACEAE

**Panopsis megistosperma** Bonifaz & Cornejo, Fl. Ecuador 69: 12, f. 2. 2002. Type: Ecuador: Los Ríos: Hda Clementina, Cerro Samana, trail between destacamente Pita and La Torre, 650-750 m, 21 Sept 1999, *C. Gustafsson & X. Cornejo 510* (HT: GUAY; IT: AAU, GB, K).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 25 Jan 1995, *J.L. Clark 416* (MO, QCNE).  
Rare tree, 10-15 m tall. 400-600 m. Endemic.

#### RANUNCULACEAE

**Clematis haenkeana** C. Presl, Reliq. Haenk. 2(2): 69. 1835.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400 m, 27 Feb 1996, *J.L. Clark 2177* (MO, QCNE).  
Herbaceous vine. 400-600 m. Amazonia, Chocó, Mesoamerica.

#### RHAMNACEAE

**Ziziphus thyrsoiflora** Benth. Bot. Voy. Sulphur 78. 1844-1846. Type: Ecuador, Guayaquil *Hartweg 646* (K, W; photo: F(W)).  
Representative Specimen: Ecuador: Manabí: Punta Los Frailes, 5-60 m, 29 Jun 1999, *T. Delinks & C. Robles 347* (MO, QCNE).  
Tree, in dry to moist forest, ca. 9 m tall. 5-60 m. Endemic (including coastal Tumbes, Peru)

#### RUBIACEAE

**Agouticarpa williamsii** (Standl.) C. Persson, Brittonia 55(2): 197. 2003.  
Synonym: *Genipa williamsii* Standl., fide Persson (2003).  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry, R. Foster & C. Josse 72970* (MO).  
Tree, ca. 15 m tall. 280 m. Amazonia, Chocó, Mesoamerica.

**Alseis eggertii** Standl., Publ. Field Columbian Mus., Bot. Ser. 4(8): 264. 1929. Type: Ecuador: Manabí: El Recreo, 29 Apr 1897, *H. Eggers 15738* (HT: F; IT: B destr (photos: F, C, K, O, S)).  
Representative Specimen: Ecuador: Manabí: Jama Cantón, Hacienda Reserva de Lalo Loor, 30 km S of Pedernales on vía marginal de la costa, 10 m, 9 Oct 1997, *J.L. Clark, T. Nuñez & C. Robles 4380* (MO, QCNE).  
Tree, 18 m tall. 0-50 m. Amazonia.

**Amphidasya ambigua** (Standl.) Standl., Field Mus. Nat. Hist., Bot. Ser. 11(5): 181. 1936.

- Sabicea ambigua* Standl. Type: Colombia: without definite locality, *Triana 1847* (HT: K).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 4 May 1995, *J.L. Clark & C. Watt 736* (GB, MO, QCNE).  
 Terrestrial herb or shrub in understory of mature forest. 280–600 m. Amazonia, Chocó, Mesoamerica.
- Amphidasya amethystina** J.L. Clark & C.M. Taylor, *Novon* 11(4): 491–492, f. 1. 2001. Type: Ecuador: Esmeraldas: cantón Quinindé, Bilsa Biological Station, Mache Mountains, 35 km W of Quininde, 5 km W of Santa Isabel, 00°21'N, 79°44'W, 400–600 m, 27 Oct 1995, *J.L. Clark, L.P. Kvist, P. Mendosa & L.E. Skog 1514* (HT: QCNE; IT: MO, US). (Fig. 3D-E, p.130; 21A-D, p.148).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 27 Sep 1994, *J.L. Clark, B. Adnepos & J. Wolf 124* (MO, NY, QCNE, US).  
 Terrestrial herb in light gaps or shade of mature forest. 400–600 m. Endemic.
- Bertiera procumbens** K. Schum. & K. Krause, *Bot. Jahrb. Syst.* 40: 328. 1908. Type: Ecuador, *H. Eggers 14282* (T: M, US).  
 Representative Specimen: Ecuador: Esmeraldas: Quinindé, Paraíso de Papagayos, 200 m, 10 Oct 1006, *J.L. Clark 3037* (MO, QCNE).  
 Shrub, ca. 1 m tall. 200 m. Endemic.
- Borreria remota** (Lam.) Bacigalupo & E.L. Cabral, *Darwiniana* 37(3–4): 334. 1999.  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 700 m, 8 Mar 1997, *H. Vargas, X. Aguirre, R. Miranda & C. Robles 1263* (MO, QCNE).  
 Herb. 700 m. Amazonia, Chocó, Mesoamerica.
- Chione venosa** (Sw.) Urb., *Symb. Antill.* 4: 594. 1911.  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300–700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4318* (MICH, MO, QCNE).  
 Subcanopy tree. 60–450 m. Mesoamerica.
- Infrasp.: *Chione venosa* var. *venosa*.
- Chomelia ecuadorensis** (K. Schum. & K. Krause) Steyerl. *Mem. New York Bot. Gard.* 17(1): 340. 1967. *Anisomeris ecuadorensis* K. Schum. & K. Krause. Type: Ecuador: Manabí, El Recreo. *H. Eggers 15411* (HT: B destr.?, IT: MO).  
 Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 10 m, 9 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4332* (MO, QCNE).  
 Tree, 8 m tall. 0–50 m. Chocó.
- Chomelia panamensis** (Standl.) Dwyer. *Ann. Missouri Bot. Gard.* 57(1): 100. 1989. *Antirhea panamensis* Standl.  
 Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 50 m, 4 Jun 2006, *D. Neill, J. Cevallos & Peace Corps volunteers 15164* (MO, QCNE).  
 Tree, 25 m tall. 50–100 m. Dominant canopy tree, with distinctive smooth papery bark, in semi-deciduous forest at Lalo Loor Reserve. Chocó, Mesoamerica. [May be conspecific with *Guettarda acreana* K. Krause (C.M. Taylor, pers. comm.) and therefore also in Amazonia.]
- Chomelia tenuiflora** Benth., *J. Bot. (Hooker)* 3: 235. 1841.  
 Representative Specimen: Esmeraldas: Bilsa Biological Station, 500 m, 22 Oct 1996, *J.L. Clark 3085* (MO, QCNE).  
 Understory tree, 2–15 m tall. 400–600 m. Amazonia, Chocó, Mesoamerica.
- Coussarea latifolia** Standl., *J. Wash. Acad. Sci.* 18: 281. 1928.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 27 Oct 1994, *J.L. Clark, C. Bienkowski & C. Clark 219* (MO, QCNE, US).  
 Very common understory tree, 5–15 m tall. 280–650 m. Chocó Mesoamerica.
- Coutarea hexandra** (Jacq.) K. Schum., *Fl. Bras.* 6(6): 196. 1889.  
 Representative Specimen: Ecuador: Esmeraldas: Quinindé, Paraíso de



Papagayos, 200 m, 10 Oct 1996, *J.L. Clark 3035* (MO, QCNE).

Tree, 2.5-5 m tall. 10-200 m. Amazonia, Chocó, Mesoamerica.

### **Elaeagia sp.**

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 4-5 Oct 1996, *J.L. Clark 2990* (MO, QCNE).

Subcanopy tree. 400-650 m

### **Faramea anisocalyx** Poepp. & Endl., Nov. Gen. Sp. Pl. 3: 28. 1845.

Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry & C. Josse 72921* (MO).

Tree. 280 m. Amazonia.

### **Faramea coffeoides** C.M. Taylor, Fl. Ecuador 162(pt. 3): 277, fig. 48D, E. 1999. Type: Ecuador: Carchi, SE trail, in Gualpi Chico area near Awa encampment, *W.S. Hoover, P. Guelpi, R.A. Lorentzen & A. Arguello 2739* (HT: MO).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 2 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3691* (AAU, GB, MEXU, MO, NY, QCNE).

Rare understory tree, 6 m tall. 500-550 m. Chocó.

### **Faramea insignis** Standl., Publ. Field Columbian Mus., Bot. Ser. 7: 72. 1930.

Representative Specimen: Ecuador: Esmeraldas: Comunidad Chorrera Grande, 300-750 m, 10-13 Jul 1996. *J.L. Clark, N. Binder & P. Hibbs 2840* (MO, QCNE).

Understory tree, 2 m tall. 300-750 m. Chocó.

### **Faramea multiflora** A. Rich. ex DC., Prodr. 4: 497. 1830.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 11 Sep 1994, *J.L. Clark 1* (MO, QCNE).

Very common understory tree in mature forest, 1-4 m tall. 400-600 m. Amazonia, Chocó, Mesoamerica.

### **Faramea occidentalis** (L.) A. Rich., Mem. Soc. Hist. Nat. Paris 5: 176. 1834.

Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 10 m, 8 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4366* (MO, QCNE).

Understory tree, 2-4 m tall. 10-150 m. Amazonia, Chocó, Mesoamerica.

### **Faramea spathacea** Müll. Arg. ex Standl., Field Mus. Nat. Hist., Bot. Ser. 11(5): 211-212. 1936.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 24 Sep 1996, *J.L. Clark 2888* (MO, QCNE).

Understory tree, 5-8 m tall. 100-600 m. Amazonia, Mesoamerica.

### **Genipa americana** L., Syst. Nat. (ed. 10) 2: 931. 1759.

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 500 m, 26 Aug 1998, *D. Neill & QCNE botany interns 11314* (MO, QCNE).

Canopy or subcanopy tree. 200-700 m. Common name: "Jagua." Amazonia, Chocó, Mesoamerica.

### **Gonzalagunia bifida** B. Ståhl, Fl. Ecuador 62: 94, fig. 28. 1999. Type: Ecuador: Manabí, Flavio Alfaro on road between Santo Domingo and Chone, 11 May 1968, *G. Harling, Storm & Strom 9427* (HT: GH; IT: MO, US).

Representative Specimen: Ecuador: Manabí: 45 km al norte de Pedernales, 5 m, 28 Aug 1998, *D. Neill & QCNE botany interns 11427* (GB, MO, QCNE).

Tree, 8 m tall. 0-50 m. Endemic.

### **Gonzalagunia cornifolia** (Kunth) Standl., Field Mus. Nat. Hist., Bot. Ser. 4(8): 279. 1929..

Representative Specimen: Ecuador: Esmeraldas: Comunidad Chorrera Grande, 300-750 m, 10-13 Jul 1996, *J.L. Clark, N. Binder & P. Hibbs 2844* (GB, MO, QCNE).

Tree in understory of secondary forest, 1-4 m tall. 300-750 m. Amazonia, Chocó, Mesoamerica.

- Gonzalagunia dicocca** Cham. & Schltdl., *Linnaea* 4: 194. 1829.  
 Representative Specimen: Ecuador: Esmeraldas: Mache-Chindul, comunidad Caña Braval, 250 m, 16 Mar 1998, *J.L. Clark 4662* (GB, MO, QCNE).  
 Tree in understory of secondary forest, ca. 1 m tall. 250-600 m. Amazonia.
- Gonzalagunia dodsonii** Dwyer, *Selbyana* 2(1): 58-59. 1977. Type: Ecuador: Los Ríos: cloud forest on western slope, area of virgin forest, km 12 road from Patricia Pilar to 24 de Mayo, Montañas de Ila, 450 m, *C.H. Dodson & A.H. Gentry 6597* (HT: MO; IT: RPSC, SEL).  
 Representative Specimen: Ecuador: Manabí: Mache-Chindul, comunidad Ambache, 250 m, 4 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4165* (GB, MO, QCNE).  
 Tree in understory of secondary forest, ca. 4 m tall. 250 m. Endemic.
- Gonzalagunia sessilifolia** Standl., *Publ. Field Columbian Mus., Bot. Ser.* 7: 210. 1931. Type: , Ecuador: Chimborazo 900 m, *Spruce s.n.*, July 1860 (K: frag., photo: F).  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 20 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2682* (MO, QCNE).  
 Common shrub in understory of secondary forest, ca. 1 m tall. 300-700 m. Endemic.
- Guettarda acreana** K. Krause, *Notizbl. Bot. Gart. Berlin-Dahlem* 6: 204. 1914.  
 Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 10 m, 9 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4356* (MO, QCNE).  
 Tree, 10 m tall. 0-50 m. Amazonia, Chocó, Mesoamerica.
- Guettarda crispiflora** Vahl, *Eclog. Amer.* 1: 36, t. 6. 1796.  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 20 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2665* (MO, QCNE).  
 Tree, 4-15 m tall. 300-850 m. Amazonia, Chocó, Mesoamerica.
- Guettarda sanblasensis** Dwyer, *Ann. Missouri Bot. Gard.* 67(1): 204. 1980.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 27 Sep 1996, *J.L. Clark 2932* (MO, QCNE).  
 Common understory tree, 8-15 m tall. 10-600 m. Chocó, Mesoamerica.
- Hamelia axillaris** Sw., *Prodr.* 46. 1788.  
 Representative Specimen: Ecuador: Manabí: Mache-Chindul, comunidad Ambache, 250 m, 25 Mar 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4220* (MO, QCNE).  
 Tree, 3 m tall. 50-250 m. Amazonia, Chocó, Mesoamerica.
- Hamelia patens** Jacq., *Enum. Syst. Pl.* 16. 1760.  
 Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 28 Mar 1998, *J.L. Clark & S. Nazzaro 4925* (MO, QCNE).  
 Tree, 5 m tall. 10-200 m. Amazonia, Chocó, Mesoamerica.
- Hippotis comosa** L. Andersson & Rova, *Fl. Ecuador* 74: 14-16, fig. 3A-B. 2004. Type: Ecuador, Esmeraldas, cantón Quinindé, Montañas de Mache, 35 km W of Quinindé, 0°21'N, 79°44'W, 500 m, *J.L. Clark, M. Lysinger, T. Walla & H. Greeney 3559* (HT: GH; IT: AAU, F, GB, K, MO, NY, QCNE, US). (Fig. 3C, p.130).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 550 m, 24 Nov 1999, *D. Neill & QCNE botany interns 12229* (MO, QCNE).  
 Very common understory tree in mature forest, 4-15 m tall. 250-600 m. Endemic.
- Hoffmannia longipetiolata** Pol., *Linnaea* 41(5-6): 567-568. 1877.  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro 800 m, 10 Mar 1997, *H. Vargas 1315* (MO, QCNE).  
 Tree, 3 m tall. 800 m. Chocó, Mesoamerica.
- Hoffmannia subauriculata** Standl., *J. Wash. Acad. Sci.* 18: 179. 1928.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-

- 600 m, 22 Sep 1994, *M.S. Bass & J.R. Abbott 45* (MO, QCNE).  
Subshrub, 1.5 m tall. 400-600 m. Chocó, Mesoamerica.
- Isertia pittieri** (Standl.) Standl., Publ. Field Columbian Mus., Bot. Ser. 8(5): 346. 1931. *Cassupa pittieri* Standl. Type: Colombia, El Valle, Pittier 514.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 5 May 1996, *J.L. Clark 2551* (MO, QCNE).  
Common understory tree reaching subcanopy. 25-700 m. Common name: "Cangana." Chocó
- Ladenbergia pavonii** (Lamb.) Standl., Publ. Field Columbian Mus., Bot. Ser. 7: 201. 1931. *Cinchona pavonii* Lamb. Type: Ecuador: Prov. unknown: "Cinchona cava sp. nova / inedita vulgo canela / de Loxa Quito Peru / es preciosa esta planta", *Pavón s.n.* (LT: BM; T: B destroyed, photo F-134; possible IT: BM, MA, P).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 13 May 1998, *J.L. Clark & C. Pallis 5537* (MO, QCNE).  
Subcanopy tree, 20 m tall. 400-850 m. Endemic.
- Manettia reclinata** L., Mant. Pl. 2: 558. 1771.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4301* (MO, QCNE).  
Succulent vine. 300-700 m. Chocó, Mesoamerica.
- Notopleura anomothyrsa** (K. Schum. & Donn. Sm.) C.M. Taylor, Ann. Missouri Bot. Gard. 88(3): 490. 2001.  
Synonyms: *Psychotria anomothyrsa* K. Schum. & Donn. Sm., *Psychotria macrophylla* subsp. *anomothyrsa* (K. Schum. & Donn. Sm.) Steyerl.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, M.S. Bass & L. Kueppers 400-600 m, 15 Oct 1994, *N. Pitman, M.S. Bass & L. Kueppers*
- 852 (MO, QCNE).  
Succulent understory herb. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Notopleura capacifolia** (Dwyer) C.M. Taylor, Ann. Missouri Bot. Gard. 88(3): 491. 2001.  
Synonyms: *Psychotria capacifolia* Dwyer, *Psychotria dosbocensis* Dwyer.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 15 Sep 1994, *J.L. Clark & B. Adhepos 41* (MO, QCNE).  
Common understory shrub or herb. 400-750 m. Amazonas, Chocó, Mesoamerica.
- Notopleura epiphytica** (K. Krause) C.M. Taylor, Ann. Missouri Bot. Gard. 88(3): 512. 2001.  
Synonyms: *Psychotria epiphytica* K. Krause, *Psychotria lassula* Standl., *Psychotria orchidearum* Standl., *Psychotria paramorum* Standl., *Psychotria semimetralis* K. Krause.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Nov 1995, *J.L. Clark & K. Cunningham, C. Roberts 1609* (MO, QCNE).  
Woody hemiepiphyte in mature forest. 400-600 m. Amazonas, Chocó, Mesoamerica.
- Notopleura macrophylla** (Ruiz & Pav.) C.M. Taylor, Ann. Missouri Bot. Gard. 88(3): 499. 2001.  
Synonyms: *Psychotria albacostata* Rusby, *Psychotria macrophylla* fo. *tomentella* Steyerl., *Psychotria macrophylla* Ruiz & Pav., *Psychotria macrophylla* subsp. *albacostata* (Rusby) Steyerl.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 15 Oct 1994, *N. Pitman, Margor Bass & L. Kueppers 851* (MO, QCNE).  
Succulent understory shrub. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Palicourea acanthacea** Standl. ex C.M. Taylor, Novon 6(2): 211. 1996.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 12 Mar 1997, *J.L. Clark, A. Cousins, T. Nuñez & J. Richter 4052*

- (MO, QCNE).  
Common tree in light gaps in mature forests, 3-12 m tall. 400-650 m. Chocó.
- Palicourea chimboracensis** Standl., Publ. Field Columbian Mus., Bot. Ser.7: 231. 1931.  
Representative Specimen: Ecuador: Manabí: Reserva Ecologica Mache-Chindul. Comunidad Ambache (vía marginal de la costa-Chindul), comunidad Ambache, 250 m, 5 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4191* (MO, QCNE).  
Understory tree, 14 m tall. 250 m. Chocó.
- Palicourea guianensis** Aubl., Hist. Pl. Guiane 1: 173, t. 66. 1775.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 1 Dec 1994, *J.L. Clark 347* (MO, QCNE).  
Common tree, 2-8 m tall. 25-500 m. Amazonia, Chocó, Mesoamerica.  
Infrasp.: *Palicourea guianensis* subsp. *barbinervia* (DC.) Steyerl.
- Palicourea lugoana** C.M. Taylor, Ann. Missouri Bot. Gard. 84: 253. 1997. Type: Ecuador, Pastaza, Mera, *M. Lugo 14* (HT: S).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 11 Oct 1994, *J.L. Clark 189* (MO, QCNE).  
Tree, 1-3 m tall. 400-600 m. Amazonia, Chocó.
- Palicourea stipularis** Benth., Pl. Hartw. 133. 1844.  
Type: Ecuador: Loja: El Sisma mountains, (HT: K, photos F, MO, NY).  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 400-500 m, 11 Nov 1998, *T. Delinks & C. Robles 144* (MO, QCNE).  
Tree, ca. 3 m tall. 400-500 m. Amazonia, Chocó.
- Pentagonia breviloba** L. Andersson & Rova, Fl. Ecuador 74: 32-33, fig. 5C-E. 2004. Type: Ecuador, Esmeraldas, Cantón Quinindé, Montañas de Mache, Bilsa Biological Station, 35 km W of Quinindé, 5 km W of Santa Isabel, *J.L. Clark & C. Watt 908* (HT: GB; IT: GH, QCNE).
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 20 Nov 1994, *J.L. Clark, C. Bergman, H. Lintz, & S. Mora 292* (MO, QCNE).  
Tree, 10-12 m tall. 400-600 m. Endemic.
- Pentagonia bonifaziana** X. Cornejo & C.M. Taylor, Harvard Pap. Bot. (11)1: 19-24, Type: Ecuador, Esmeraldas, Reserva Mache-Chindul, adentro del Río Ene, a lo largo del estero aportante, cerca a la propiedad de Luis Cabrera, 150 m, 3 May 2003, *X. Cornejo & C. Bonifaz 7782*. (HT: GUAY; IT: GB, MO).  
Representative Specimen: Known only from the type.  
Pachycaul, unbranched treelet, 6 m tall. 150 m. Endemic.
- Pentagonia donnell-smithii** (Standl.) Standl., J. Wash. Acad. Sci. 17(7): 170. 1927.  
Representative Specimen: Ecuador: Esmeraldas: Muisne 100 m, 22 May 2000, *D. Neill & QCNE botany interns 12751* (MO, QCNE).  
Common understory tree, 10 m tall. 0-15 m. Chocó, Mesoamerica.
- Pentagonia grandiflora** Standl., Field Mus. Nat. Hist., Bot. Ser. 17(2): 217. 1937. Type: Ecuador: Río Cojumies (?). above tidewater, 1921, *W.W. Rowlee & G. Mixter 1271* (HT: US-2 sheets).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 22 Sep 1994, *N. Pitman, J.L. Clark, B. Adnepos & L. Kueppers 707* (MO, QCNE).  
Unbranched tree, 3-15 m tall. 280-600 m. Chocó.
- Pentagonia macrophylla** Benth., Bot. Voy. Sulphur 105, t. 39. 1845.  
Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 7 Jul 1996, *J.L. Clark 2786* (MO, QCNE).  
Tree, 5-10 m tall. 60-700 m. Amazonia, Chocó, Mesoamerica.
- Pentagonia tinajita** Seem., Bot. Voy. Herald 105,

- t. 39. 1854.  
 Representative Specimen: Ecuador: Esmeraldas: Reserva Ecológica Mache-Chindul, comunidad Caña Braval, cabaceras del Río Viche, estero Sabaleta, 250 m, 16 Mar 1998, *J.L. Clark 4739* (MO, QCNE).  
 Shrub, ca. 2 m tall. 250 m. Mesoamerica.
- Posoqueria coriacea** M. Martens & Galeotti, Bull. Acad. Roy. Sci. Bruxelles 11(1): 240. 1844.  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300–700 m, 21 Jul 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2722* (MO, QCNE).  
 Tree, 4 m tall. 300–700 m. Amazonia, Chocó, Mesoamerica.
- Posoqueria latifolia** (Rudge) Roem. & Schult., Syst. Veg. 5: 227. 1819.  
 Representative Specimen: Esmeraldas: Bilsa Biological Station, 400–600 m, 11 Oct 1994, *J.L. Clark 176* (MO, QCNE).  
 Tree, 5–18 m tall. 400–600 m. Amazonia, Chocó, Mesoamerica.
- Posoqueria longiflora** Aubl., Hist. Pl. Guiane 142: 134, t. 51. 1775.  
 Representative Specimen: Ecuador: Esmeraldas: Muisne, sitio San Salvador, orillas del Río Sucio, 100–150 m, Mar 1995, *W. Palacios 13764* (MO, QCNE).  
 Tree, 3–7 m tall. 100–150 m. Amazonia, Chocó.
- Posoqueria panamensis** (Walp. & Duchass.) Walp., Ann. Bot. Syst. 2: 797. 1852.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 26 Mar 1995, *J.L. Clark & Y. Troya 502* (AAU, GB, MEXU, MO, NY, QCNE, US).  
 Very common tree, 6–20 m tall. 250–800 m. Amazonia, Chocó, Mesoamerica.
- Psychotria allenii** Standl., Ann. Missouri Bot. Gard. 27(3): 342. 1940.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 15 Nov 1994, *J.L. Clark & N. Pitman 243* (MO, QCNE).  
 Common tree, 5–15 m tall. 400–600 m. Amazonia, Chocó, Mesoamerica.
- Psychotria amplifrons** Standl., Publ. Field Mus. Nat. Hist., Bot. Ser. 22(3): 199. 1940. Type: Ecuador: In silv. conv. Nanegal, Aug 1874, *P. L. Sodiro s.n.3* (HT: BP; IT: F fragm.; photo: F (BP)).  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300–700 m, 20 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2675* (MO, QCNE).  
 Tree, 1.5–3 m tall. 300–850 m. Chocó.
- Psychotria brachiata** Sw., Prodr. 45. 1788.  
 Representative Specimen: Ecuador: Esmeraldas: Quinindé, Reserva Ecológica Mache-Chindul, comunidad Caña Braval, cabaceras del Río Viche, estero Sabaleta, 250 m, 16 Mar 1998, *J.L. Clark 466b* (MO, QCNE).  
 Shrub, ca. 1.5 m tall. 250 m. Amazonas, Chocó, Mesoamerica.
- Psychotria carthagensis** Jacq., Enum. Syst. Pl. 16. 1760.  
 Representative Specimen: Ecuador: Esmeraldas: Quinindé, Reserva Ecológica Mache-Chindul, Bilsa Biological Station, 400–600 m, 13 Nov 1994, *M.S. Bass & N. Pitman 244* (MO, QCNE).  
 Tree, ca. 2 m tall. 400–600 m. Amazonia, Chocó, Mesoamerica.
- Psychotria chimboracensis** Standl., Publ. Field Columbian Mus., Bot. Ser. 7: 223. 1931. Type: Ecuador: at the base of Mt. Chimborazo 750 m., July 1860, *R. Spruce 6192* (HT: K; photo: F).  
 Representative Specimen: Ecuador: Manabí: Pedernales Cantón, Reserva Ecológica Mache-Chindul, Hacienda la Siberia (vía la carretera marginal de la costa), ca. 20 km SE of Cojimíes, 100 m, 6 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4259* (MO, QCNE).  
 Tree, ca. 5 m tall. 100–800 m. Endemic
- Psychotria cornejoii** C.M. Taylor, Novon 12(1): 124–125, f. 2A–D. 2002. Type: Ecuador: Guayas: 3 km E of Olón (5 km N of Manglaralto, on the beach), 75–190 m, 20

- Dec 1961, *C.H. Dodson & L.B. Thien 1669* (HT: MO).  
 Representative Specimen: Ecuador: Manabí: Pedernales Cantón, Reserva Ecológica Mache-Chindul, Cerro Pata de Pájaro, cabaceras de Río Vite, estero Nuquepe, forest N of La Loma de Pajaro & road to Carmen, 300–700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4274* (MO, QCNE).  
 Tree, 2–4 m tall. 300–800 m. Chocó.
- Psychotria esmeraldana*** C.M. Taylor, *Novon* 16(1): 151–152, f. 2D–F. 2006. Type: Ecuador: Representative Specimen: Ecuador: Esmeraldas: Cantón Quinindé, Reserva Ecológica Mache-Chindul, Bilsa Biological Station, 400–600 m, 13 Nov 1994, *M.S. Bass & N. Pitman 244* (HT: QCNE; IT: MO). (Fig. 22A–F, p.149).  
 Tree, ca. 2 m tall. 400–600 m. Endemic.
- Psychotria gentryi*** (Dwyer) C.M. Taylor, *Novon* 4: 305. 1994. *Cephaelis gentryi* Dwyer. Type: Ecuador: Los Ríos: Río Palenque Biological Station, km 56 Quevedo-Santo Domingo road, 150–220 m, *C.H. Dodson 5169* (HT: MO; IT: RPSC, US, SEL).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 19 Feb 1996, *J.L. Clark 2089* (MO, QCNE).  
 Common tree in mature forest, 5–11 m tall. 280–700 m. Amazonia, Chocó, Mesoamerica.
- Psychotria grandis*** Sw., *Prodr.* 43. 1788.  
 Representative Specimen: Ecuador: Manabí: Recinto Hojas Blancas, Carretera Pedernales-Carmen Mandarino, Entrada el Mono, 150 m, 12 Apr 1997 *J.L. Clark, T. Nuñez & C. Robles 4404* (MO, QCNE).  
 Tree, 15 m tall. 100–150 m. Chocó, Mesoamerica.
- Psychotria hazenii*** Standl., *Publ. Field Columbian Mus., Bot. Ser.* 7: 96. 1930.  
 Representative Specimen: Ecuador: Manabí: canton Pedernales, Cerro Pata de Pájaro, 10 km E of Pedernales, 300–700 m, 19 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2644* (MO, QCNE).
- Understory tree, 1.5–12 m tall. 300–700 m. Amazonia, Chocó, Mesoamerica.
- Psychotria hispidula*** Standl. ex Steyererm., *Acta Biol. Venez.* 4: 97. 1964.  
 Representative Specimen: Ecuador: Esmeraldas: Quinindé, Paraíso de Papagayos, 200 m, 6 Jul 1996, *J.L. Clark 2762* (MO, QCNE).  
 Understory shrub, 1 m tall. 200 m. Amazonia, Chocó, Mesoamerica.
- Psychotria horizontalis*** Sw., *Prodr.* 44. 1788.  
 Type: Hispaniola, *Swartz s.n.*  
 Representative Specimen: Manabí: Reserva de Lalo Loor 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11304* (MO, QCNE).  
 Understory shrub, 2 m tall. 50 m. Chocó, Mesoamerica.
- Psychotria hylocharis*** Standl., *Publ. Field Columbian Mus., Bot. Ser.* 7: 98. 1930.  
 Representative Specimen: Ecuador: Manabí: 43 km N of Pedernales, 100 m, 19 Dec 1998, *D. Neill & QCNE botany interns 11727* (MO, QCNE).  
 Understory shrub, 1.4–3 m tall. 100 m. Chocó.
- Psychotria marginata*** Sw., *Prodr.* 43. 1788.  
 Representative Specimen: Ecuador: Esmeraldas: Quinindé, Paraíso de Papagayos, 200 m, 14 Jan 1997, *J.L. Clark, L. Chatrou, P. Maas & C. Repetur 3804* (MO, QCNE).  
 Tree, 4 m tall. 250. Amazonia, Chocó, Mesoamerica.
- Psychotria pilosa*** Ruiz & Pav., *Fl. Peruv.* 2: 60, t. 208, f. a. 1799.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 15 Nov 1994, *N. Pitman & J.L. Clark 939* (MO, QCNE).  
 Tree or shrub to 2 m tall. 400–600 m. Amazonia, Chocó, Mesoamerica.
- Psychotria poeppigiana*** Müll. Arg., *Fl. Bras.* 6(5): 370. 1881.  
 Representative Specimen: Ecuador: Esmeraldas: Quinindé, Paraíso de Papagayos, 200 m, 8 Jul 1996, *John L. Clark*

- 2797 (MO, QCNE).  
Shrub, ca. 1 m tall. 200 m. Amazonia, Chocó, Mesoamerica.
- Psychotria racemosa** Rich., Actes Soc. Hist. Nat. Paris 1: 107. 1792.  
Representative Specimen: Ecuador: Esmeraldas: Quinindé, Paraíso de Papagayos, 200 m, 6 Jul 1996, *J.L. Clark 2749* (MO, QCNE).  
Understory shrub, 1.5 m tall. 200 m. Amazonia, Chocó, Mesoamerica.
- Randia armata** (Sw.) DC., Prodr. 4: 387. 1830.  
*Gardenia armata* Sw.  
Representative Specimen: Ecuador: Esmeraldas: Recinto Palma Junta 80 m, 20 May 2000, *D. Neill & QCNE botany interns 12746* (MO, QCNE, UB).  
Tree. 500 m. Amazonia, Chocó, Mesoamerica.
- Randia pubistyla** C. Gust., Novon 10(3): 204-206, fig. 2. 2000. Type: Ecuador, Guayas, 15 km E of Guayaquil, Cerro Mirador de los Monos, *D. Rubio & W. Palacios 2439* (HT: GB; IT: MO, QCNE).  
Representative Specimen: Ecuador: Manabí: Pedernales Cantón, Reserva Ecologica Mache-Chindul, Cerro Pata de Pájaro, cabaceras de Río Vite, estero Nuquepe, forest N of La Loma de Pajaro & road to Carmen, 300-700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4287* (MO, QCNE).  
Tree, 2-5 m tall. 5-700 m. Chocó.
- Rudgea cornifolia** (Kunth) Standl., Publ. Field Columbian Mus., Bot. Ser. 7: 432. 1931.  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 10 m, 9 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4346* (MO, QCNE).  
Tree, 5 m tall. 0-50 m. Amazonia, Chocó, Mesoamerica.
- Rustia bilsana** Delprete, Novon 8(3): 234, f. 1, 2. 1998. Type: Ecuador. Esmeraldas: Cantón Quinindé, Bilsa Biological Station, Mache Mountains, 35 km W of Quinindé, 5 km W of Santa Isabel, along Cube River. premontane wet forest, 2 Oct 1996, *J. L. Clark 2979* (HT: QCNE; IT: AAU, CAS, COL, DAV, F, G, GB, GH, MO, NY, P, QCA, TEX, US). (Fig. 3A-B, p. 130; 23A-E, p. 150).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 3 Oct 1994, *J.L. Clark, M.S. Bass & N. Pitman 139* (MO, NY, QCA, QCNE, TEX).  
Subcanopy tree. 400-600 m. Endemic
- Sabicea villosa** Willd. ex Roem. & Schult., Syst. Veg. 5: 265. 1819.  
Representative Specimen: Esmeraldas: Bilsa Biological Station, 400-600 m, 11 May 1995, *J.L. Clark & C. Watt 836* (MO, QCNE).  
Herbaceous vine in disturbed sunny areas. 250-600 m. Amazonia, Chocó, Mesoamerica.  
Infrasp.: *Sabicea villosa* var. *villosa*.
- Schradera stellata** Benth., Bot. Voy. Sulphur 106, t. 40. 1845. Type: Colombia, Isle of Gorgona.,  
Representative Specimen: Ecuador: Esmeraldas: Cotacachi-Cayapas 250 m, 28 Oct 1993 - 31 Oct 1993, *Milton Tirado & P. Asimbaya, M. Coroso, J. Arroyo 622* (MO, QCNE).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 21 Feb 1996, *J.L. Clark 2118* (MO, QCNE).  
Common woody liana in subcanopy, leaves with foetid odor. 400-600 m. Chocó.
- Simira standleyi** (Little) Steyererm., Mem. New York Bot. Gard. 23: 309. 1972. *Sickingia standleyi* Little. Type: Ecuador: Esmeraldas: Quinindé, 60 m, cutover wet tropical forest, 13 Apr 1943, *E.L. Little 6248* (HT: US; IT: F, Q).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 25 Mar 1995, *J.L. Clark & Y. Troya 496* (MO, QCNE).  
Common canopy tree, inner bark turns bright red. 400-600 m. Common names: "Mangle," "Manglillo," "Murcielag." Endemic.
- Sommeria purdiei** Standl., Publ. Field Columbian

Mus., Bot. Ser. 7: 48. 1930. Type: Colombia: Bogota, *Purdie s. n.* (HT: GH; IT: K).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 11 May 1995, *J.L. Clark & C. Watt 832* (MO, QCNE).

Common understory tree, 5–10 m tall. 100–600 m. Chocó.

### **Spermacece sp.**

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 14 Sep 1994, *J.R. Abbatt 15102* (BEREA, QCNE).

Common terrestrial herb in disturbed sunny areas. 400–600 m.

**Tocoyena pittieri** (Standl.) Standl., *Contr. Arnold Arbor* 5: 151. 1933.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 7 May 1995, *J.L. Clark & C. Watt 790* (MO, QCNE).

Common understory tree in mature forest, 4–10 m tall. 250–850 m. Amazonia, Chocó, Mesoamerica.

**Warszewiczia coccinea** (Vahl) Klotzsch, *Monatsber. Konigl. Preuss. Akad. Wiss. Berlin* 1853: 497. 1853.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 23 Jan 1995, *J.L. Clark 407* (MO, QCNE).

Understory tree, 2–4 m tall in secondary forest. 400–600 m. Amazonia, Chocó, Mesoamerica.

### **RUTACEAE**

**Amyris pinnata** Kunth, *Nov. Gen. Sp.* 7: 37–38. 1824.

Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 100 m, Oct 2005, *J. Cevllos & D. Neill 211* (MO, QCNE).

Tree, 10 m tall, 100 m. Amazonia, Choco, Mesoamerica.

**Toxosiphon carinatus** (Little) Kallunki, *Brittonia* 44(2): 121. 1992. *Erythrochiton carinatus*

Little. Type: Ecuador: El Oro: At Piedras about 3 km along new trail, virgin forest 500 m 18 June 1943, *Little, E.L. 6632* (HT: US; IT: F, K, NY).

Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 100 m, 15 Dec 1998, *D. Neill & QCNE botany interns 11531* (MO, QCNE).

Tree or shrub, 1–4 m tall. 50–500 m. Amazonia.

**Zanthoxylum fagara** (L.) Sarg., *Gard. & Forest* 3(112): 186. 1890.

Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 10 m, 9 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4340* (MO, QCNE).

Tree, 18 m tall. 0–50 m. Common name: “Tachuelo.” Amazonia, Chocó, Mesoamerica.

Infrasp.: *Zanthoxylum fagara* var. *culantrillo* (Kunth) Reynel.

**Zanthoxylum tumbezanum** (J.F. Macbr.) J.F. Macbr., *Field Mus. Nat. Hist., Bot. Ser.* 13(3/2): 669. 1949.

Representative Specimen: Ecuador: Manabí: Punta los frailes, La Chorrera, 3 km SW of Pedernales, Dry forest, 5–60 m, 29 June 1999, *T. Delinks & C. Robles 340* (MO, NY, QCNE).

Tree. 0–60 m, in dry forest. Endemic, including coastal Tumbes, Peru.

### **SABIACEAE**

**Meliosma occidentalis** Cuatrec., *Lloydia* 11(3): 217. 1948. Type: Colombia: del Valle: Cordillera Occidental vert. Occidental, Hoya del río Anchicayá bosques junto a la Quebrada de Le Retiro, 230–260 m, 13 Oct 1943, *J. Cuatrecasas 15279* (HT: F).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 25 Feb 1996, *J.L. Clark 2145* (MO, QCNE).

Common subcanopy tree in mature forest. 400–600 m. Chocó, Mesoamerica.

### **SAPINDACEAE**

**Allophylus dodsonii** A.H. Gentry, *Ann. Missouri*



- Bot. Gard. 75(4): 1438. 1988 [1989]. Type: Ecuador. Los Ríos: Río Palenque Field Station, halfway between Quevedo and Santo Domingo de los Colorados, wet forest, 200 m, 21 Feb 1974, *A.H. Gentry 10098* (HT: MO; IT: QCA).
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 13 May 1998, *J.L. Clark & C. Pallis 5550* (K, MO, QCNE).
- Common understory tree, 3-18 m tall. 400-600 m. Endemic.
- Allophylus incanus** Radlk., Sitzungsber. Math.-Phys. Cl. Konigl. Bayer. Akad. Wiss. Munchen 38: 216, 236. 1908-1909. Type: Ecuador, *H. Eggers 15786* (HT: M; IT: US fragm.; photo: F(M)).
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 20 Sep 1994, *J.L. Clark & B. Adnepos 83* (MO, QCNE, US).
- Common subcanopy tree. 400-600 m. Amazonia, Chocó.
- Cupania cinerea** Poepp., Nov. Gen. Sp. Pl. 3: 38. 1844. Type: Crescit in marginibus sylvarum provinciae peruviana Maynas. Martio mense a nobis lecta fuit, *Poeppig s.n.*
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 29 Mar 1995, *J.L. Clark & Ivonne Troya 526* (MO, NY, QCNE, US).
- Canopy tree. 250-600 m. Common name: "Pialde." Amazonia, Chocó, Mesoamerica.
- Cupania livida** (Radlk.) Croat, Ann. Missouri Bot. Gard. 63(3): 438-439. 1976 [1977].
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 4 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3707* (MO, QCNE, US).
- Canopy tree. 400-600 m. Common name: "Quebra Fierro." Amazonia, Chocó, Mesoamerica.
- Exothea paniculata** (Juss.) Radlk., Index Gen. Phan. 81. 1887 [1888].
- Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11278* (MO, QCNE).
- Common canopy tree in moist forest at the Reserva de Lalo Loor, in permanent plots; with distinctive "shaggy" bark. 50-150 m. Common name: "Cativo." Mesoamerica. [Also in the Antilles; only one previous record from South America, in the Río Magdalena valley, Colombia].
- Matayba sp.**
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 12 Mar 1997, *J.L. Clark, A. Cousins, T. Nuñez & J. Richter 4084* (K, MO, QCNE, US).
- Common understory tree in second permanent plot. 650 m.
- Paullinia bilobulata** Radlk., Bot. Jahrb. Syst. 37: 152. 1905.
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 17 May 1995, *J.L. Clark & C. Watt 912* (MO, QCNE, US).
- Woody liana in subcanopy. 100-600 m.
- Paullinia bracteosa** Radlk., Bull. Herb. Boissier, ser. 2, 5(4): 321-322. 1905.
- Representative Specimen: Ecuador: Manabí: Mache-Chindul, comunidad Ambache, 250 m, 6 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4219* (MO, QCNE, US).
- Woody vine. 250 m. Amazonia, Chocó, Mesoamerica.
- Paullinia capreolata** (Aubl.) Radlk., Monogr. Serjanja 70. 1875.
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 12 May 1995, *J.L. Clark & C. Watt 847* (MO, NY, QCNE).
- Woody liana in canopy. 580-750 m. Amazonia, Chocó, Mesoamerica.
- Paullinia dasystachya** Radlk., Monogr. Paullinia 70. 1895-96.
- Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 14 Feb 1996, *John L. Clark & N. Kerber, J. Plihal 1995* (MO, NY, QCNE).

- Woody liana in canopy. Collected in first permanent plot. 500 m. Amazonia, Mesoamerica.
- Paullinia elongata** Radlk., Abh. Math.-Phys. Cl. Konigl. Bayer. Akad. Wiss. 19: 238. 1895-1896.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 20 Nov 1995, *J.L. Clark, K. Cunningham & C. Roberts 1600* (MO, QCNE, US).  
Liana. 400-600 m. Amazonia.
- Paullinia quitensis** Radlk., Monogr. Paullinia 269. 1895. Type: In Ecuador: ad pedem montis Chimborazo in sylvis, 3000 ped., m. Jul. 1860, flor et fruct. juven; Andes Quitensis, in sylvis secus torrentem Navegal [Nanegal], m. Aug. 1874, flor et fruct. immat., *R. Spruce 6156; Sodiro s.n.* (ST's).  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11294* (MO, QCNE, US).  
Common woody liana in mature forest in environs of Reserva de Lalo Loor. 0-50 m. Amazonia
- Paullinia rubiginosa** Cambess., Fl. Bras. Merid. 1: 371. 1825.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 27 Sep 1994, *J.L. Clark, B. Adnepos & J. Wolf 120* (MO, QCNE, US).  
Woody liana in mature forest. 400-600 m. Chocó.
- Paullinia spicata** Benth., J. Bot. (Hooker) 3: 193. 1851.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4311* (MO, QCNE, US).  
Understory tree in mature forest. 300-700 m. Amazonia, Chocó.
- Sapindus saponaria** L., Sp. Pl. 1: 367. 1753.,  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor 50 m, 25 Aug 1998, *D. Neill & QCNE botany interns 11294* (MO, QCNE).
- Tree, 20 m tall. 50 m. Common name: "Jaboncillo." Amazonia, Chocó, Mesoamerica.
- Serjania brevipes** Benth., Bot. Voy. Sulphur 76. 1844. Type: Ecuador, Guayaquil, *Barclay & Hinds s.n.* (HT: K).  
Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11608* (MO, QCNE, US).  
Liana. 100-300 m. Endemic.
- Talisia equatoriensis** Acev.-Rodr., Fl. Neotrop. 87: 109, 111-112, f. 74, 76. 2003. Type: Ecuador: Pichincha: between Atenas and Sapullo, Km 17, 1750 m., 2 Nov 1991 (fl), *J. Jaramillo & E. Grijalva 14473* (HT: NY; IT: QCA).  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 20 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2650* (MO, QCNE, US).  
Unbranched understory tree with terminally clustered leaves, ca. 10 m tall. Common in southern range of Mache-Chindul mountains, including Reserva de Lalo Loor. 100-700 m. Chocó, Mesoamerica.
- Talisia macrophylla** (Mart.) Radlk., Sitzungsber. Math.-Phys. Cl. Konigl. Bayer. Akad. Wiss. Munchen 8(3): 347. 1878.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 5 Apr 1995, *J.L. Clark & Y. Troya 611* (MO, NY, QCNE).  
Unbranched understory tree with terminally clustered leaves, ca. 10 m tall. Common in northern range of Mache-Chindul mountains (e.g., Bilsa Biological Station). 400-700 m. Chocó, Mesoamerica.

## SAPOTACEAE

- Chrysophyllum argenteum** Jacq., Enum. Syst. Pl. 15. 1760.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 18 Feb 1996, *J.L. Clark & N. Kerber, J. Plihal 2062* (K, MO, QCNE).  
Common canopy tree. 400-600 m. Common

- name: "Caimito." Amazonia, Chocó, Mesoamerica.  
Infrasp.: *Chrysophyllum argenteum* subsp. *panamense* (Pittier) T.D. Penn.
- Pouteria brevipetiolata** T.D. Penn., Fl. Neotrop. 52: 468, f. 104E-F. 1990. Type: Ecuador: El Oro: ca 50 km SE of Arenillas along road to Loja, Nov. 1982 (fl.), *Pennington & Tenorio 10716* (HT: NY; IT: K, QCA)  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 50 m, Oct. 2005, *J. Cevallos & D. Neill s.n.* (QCNE).  
Canopy tree, 20 m, common in permanent plots, moist forest at Reserva de Lalo Loor. Tentative determination from sterile material; otherwise known only from the type. Endemic.
- Pouteria bulliformis** Q. Jiménez & T.D. Penn., Novon 7(2): 169-171, f. 1. 1997.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 30 Dec 1996, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3661* (K, MO, QCNE, US).  
Canopy tree. 400-600 m. Chocó, Mesoamerica.
- Pouteria capacifolia** Pilz, Selbyana 2(1): 60, t. 17, f. 1. 1977. Type: Ecuador: Los Rios: Río Palenque Science Center, km 56 Quevedo-Santo Domingo road, 7 Mar 1974 (fl), 150-220 m, *Dodson, C.H. 5808* (NT: MO; T: MO, QCA, RPSC, SEL, US).  
Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry & C. Josse 72934* (K, MO).  
Subcanopy tree. 280-580 m. Chocó.
- Pouteria glomerata** (Miq.) Radlk., Sitzungsber. Math.-Phys. Cl. Konigl. Bayer. Akad. Wiss. Munchen 12(3): 333. 1882.  
Representative Specimen: Ecuador: Manabí: Mache-Chindul, comunidad Ambache, 250 m, 4 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4153* (K, MO, QCNE).  
Understory tree, ca. 15 m tall. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Pouteria multiflora** (A. DC.) Eyma, Recueil Trav. Bot. Neerl. 33: 164. 1936.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 28 Mar 1995, *J.L. Clark & Y. Troya 522* (MO, QCNE).  
Common canopy tree. 400-600 m. Common name: "Zapote silvestre." Amazonia, Chocó, Mesoamerica.
- Pouteria polysepala** T.D. Penn., Fl. Neotrop. 52: 500. 1990.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 4 Apr 1995, *J.L. Clark & Y. Troya 605* (K, MO, QCNE).  
Canopy tree. 400-600 m. Amazonia
- Pouteria sapota** (Jacq.) H.E. Moore & Stearn, Taxon 16(5): 383. 1967..  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 25 Mar 1997, *J.L. Clark & P. Nutt 4116* (K, MO, QCNE).  
Common canopy tree in first permanent plot at Bilsa. 500 m. Mesoamerica.
- Pouteria torta** (Mart.) Radlk., Sitzungsber. Math.-Phys. Cl. Konigl. Bayer. Akad. Wiss. Munchen 12(3): 333. 1882.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 18 Feb 1996, *J.L. Clark & N. Kerber, J. Plihal 2071* (K, MO, QCNE).  
Subcanopy tree. 100-500 m. Common name: "Mamey silvestre." Amazonia, Chocó, Mesoamerica.  
Infrasp.: *Pouteria torta* subsp. *torta*, *Pouteria torta* subsp. *tuberculata* (Sleumer) T.D. Penn.,
- Pradosia montana** T.D. Penn., Fl. Neotrop. 52: 661-663, f. 155E, 156a. 1990. Type: Ecuador: El Oro: ca 60 km SE of Arenillas on road to Loja, Nov. 1982 (fl), *Pennington & Tenorio 10719* (HT: K; IT: NY, QCA).  
Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11601* (MO, QCNE).  
Canopy tree, in dry forest, southern part of Mache-Chindul range. 100 m. Endemic.

## SCROPHULARIACEAE

**Lindernia crustacea** (L.) F. Muell., Syst. Census Austral. Pl. 1: 97. 1882.

Representative Specimen: Esmeraldas: Bilsa Biological Station, 500 m, 22 Nov 1995, *J.L. Clark & K. Cunningham, C. Roberts 1639* (MO, QCNE).

Terrestrial herb growing along sunny disturbed roads. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Scoparia dulcis** L., Sp. Pl. 1: 116. 1753.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 2 Apr 1995, *J.L. Clark & Y. Troya 581* (MO, QCNE).

Common terrestrial herb growing along sunny disturbed roads. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Stemodia angulata** Oerst., Vidensk. Meddel. Dansk Naturhist. Foren. Kjobenhavn 1853(1-2): 22-23. 1854.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 19 Sep 1994, *M.S. Bass & N. Pitman 16* (BKL, MO, QCNE).

Terrestrial herb growing along sunny disturbed roads. 400-600 m. Amazonia, Chocó, Mesoamerica.

## SIMAROUBACEAE

**Picramnia latifolia** Tul., Ann. Sci. Nat., Bot., ser. 3. 7: 258-259. 1847.

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 500 m, 26 Aug 1998, *D. Neill & QCNE botany interns 11373* (MO, QCNE).

Understory tree, ca. 6 m tall. 500 m. Amazonia, Chocó, Mesoamerica.

**Simarouba amara** Aubl., Hist. Pl. Guiane 2: 860-861, pl. 331-332. 1775.

Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 10 Oct 1996, *J.L. Clark 3049* (MO, NY, QCNE).

Canopy tree. 200 m. Amazonia, Chocó, Mesoamerica.

## SMILACACEAE

**Smilax cumanensis** Humb. & Bonpl. ex Willd., Sp. Pl. 4: 783. 1806.

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 20 Jun 1996, *J.L. Clark, E. Arroyo & P. Hibbs 2657* (MO, QCNE).

Vine. 100-700 m. Amazonia, Chocó.

**Smilax mollis** Humb. & Bonpl. ex Willd., Sp. Pl. 4: 785. 1806.

Representative Specimen: Ecuador: Manabí: 400 - 500 m, 11 November 1998, *T. Delinks & C. Robles 146* (MO, QCNE).

Liana. 400-500 m. Chocó, Mesoamerica.

**Smilax tomentosa** Kunth, Nov. Gen. Sp. (quarto ed.) 1: 272. 1815 [1816].

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 01 Ene 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3678* (MO, QCNE).

Vine growing along sunny disturbed roads. 500 m. Amazonia, Chocó, Mesoamerica.

## SOLANACEAE

**Browallia americana** L., Sp. Pl. 2: 631. 1753.

Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 600 m, 16 Dec 1998, *D. Neill & QCNE botany interns 11577*.

Common herb or subshrub along sunny disturbed roads. 50-600 m. Amazonia, Chocó, Mesoamerica.

**Cestrum lorentense** Francey, Candollea 6: 225-226. 1935-36.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 26 Sep 1994, *J. Richard Abbott 15306* (BEREA, QCNE).

Shrub. 600 m. Amazonia

**Cestrum microcalyx** Francey, Candollea 6: 301-302. 1935.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 4 May 1995, *J.L. Clark & C. Watt 738* (BM, MO, QCNE).

Tree, ca. 2 m tall. 25-600 m. Amazonia, Chocó,

- Mesoamerica.
- Cestrum morae** Hunz., *J. Arnold Arbor.* 61(1): 113. 1980.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 4–5 Oct 1996, *J.L. Clark 2991* (MO, QCNE).  
 Tree in mature forest, 2–4 m tall. 400–600 m. Chocó.
- Cestrum schlehtendalii** G. Don, *Gen. Hist.* 4: 482–483. 1838. [ask Alex Monroe about this name – this is a southeastern Brazil name]  
 Representative Specimen: Ecuador: Manabí: Jama 400 m, 18 Dec 1998, *D. Neill & QCNE botany interns 11684* (MO, QCNE).  
 Shrub, ca. 4 m tall. 400 m. Amazonia, Chocó, Mesoamerica.
- Cestrum silvaticum** Francey, *Candollea* 6: 316–317. 1935.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 14 Feb 1996, *J.L. Clark & N. Kerber, J. Plihal 1990* (MO, MY, QCNE).  
 Tree, 2 m tall. Common along roads and sunny disturbed areas. 500–600 m. Amazonia, Chocó, Mesoamerica.
- Cuatresia harlingiana** Hunz., *Opera Bot.* 92: 75. 1987. Type: Ecuador. Prov. Pichincha: Palmitopamba, ca 1300 m, ca 10 km northwest of Nanegal. 23 Jan 1974., *Harling & Andersson 11529* (HT: GB; IT: MO).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 16 May 1995, *J.L. Clark & C. Watt 889* (MO, QCNE).  
 Shrub, ca. 1.5 m tall. 400–600 m. Endemic. Amazonia.
- Cuatresia plowmanii** Hunz., *Kurtziana* 10: 18–20, f. 4. 1977. Type: Colombia: Valle del Cauca: Cordillera Occidental, vertiente occidental, Hoya del río Anchicayá (circa del puente de Aguaclara), 120 m, 29 Sep 1946, *Cuatrecasas 22066* (HT: US).  
 Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry, R. Foster & C. Josse 72949* (MO).
- Vine. 280 m. Chocó.
- Juanulloa pavonii** (Miers) Benth. & Hook., *Nat. Pflanzenfam.* 4(Abt. 3b): 29. 1891.  
*Ectozoma pavonii* Miers. Type: Ecuador, *Pavón s.n.* (HT: BM).  
 Synonyms: *Ectozoma pavonii* Miers, *Markea pavonii* (Miers) D'Arcy  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 17 Feb 1996, *J.L. Clark & N. Kerber, J. Plihal 2061* (MO, NY, QCNE).  
 Common woody vine in mature forest. 250–700. Amazonia, Chocó.
- Lycianthes medusocalyx** (Bitter) Bitter, *Lycianthes* 4(Abt. 3b): 29. 1919.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 26 Sep 1994, *J.R. Abbott 15281* (BEREA, QCNE).  
 Shrub, 1.5 m tall. 600 m. Amazonia.
- Lycianthes pauciflora** (Vahl) Bitter, *Lycianthes* 4(Abt. 3b): 29. 1919.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 13 Oct 1994, *N. Pitman 838* (MO, QCNE).  
 Vine. 400–600 m. Amazonia, Chocó.
- Solandra** aff. **longiflora** Tussac, *Fl. Antill.* 2: 49–51, t. 12. 1818.  
 Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 75–125 m, 6 Oct 1999, *T. Delinks & C. Robles 358* (MO, QCNE).  
 Woody liana. 75–125 m. Mesoamerica.
- Solanum adhaerens** Willd. ex Roem. & Schult., *Syst. Veg.* 4: 669. 1819.  
 Representative Specimen: Ecuador: Esmeraldas: Quinindé, Reserva Ecológica Mache-Chindul, comunidad Caña Braval, cabaceras del Río Viche, estero Sabaleta, 250 m, 16 Mar 1998, *J.L. Clark 4663b* (MO, QCNE).  
 Herbaceous vine. 250 m. Amazonia, Chocó, Mesoamerica.

- Solanum circinatum** Bohs, Taxon 44(4): 585. 1995.  
 Synonym: *Cyphomandra hartwegii* (Miers) Walp.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 8 May 1995, *J.L. Clark & C. Watt 800* (MO, NY, QCNE).  
 Tree, ca. 5 m tall. 400–600 m. Amazonia, Chocó, Mesoamerica.
- Solanum confertiseriatum** Bitter, Repert. Spec. Nov. Regni Veg. 11: 490. 1913.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 13 May 1998, *J.L. Clark & C. Pallis 5576* (MO, QCNE).  
 Tree, 1.5–7 m tall. 500–700 m. Amazonia.
- Solanum evolvulifolium** Greenm., Bot. Gaz. 37(4): 211. 1904.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 17 Feb 1996, *J.L. Clark & N. Kerber, J. Plihal 2054* (MO, QCNE).  
 Vine in mature forest. 500 m. Amazonia, Chocó, Mesoamerica.
- Solanum fallax** Bohs, Taxon 44(4): 585. 1995.  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro 800 m, 10 Mar 1997, *H. Vargas 1307* (MO, NY, QCNE).  
 Tree, 8 m tall. 800 m. Chocó.
- Solanum lepidotum** Dunal, Solan. Syn. 17. 1816.  
 Type: Nova Granada, *Humboldt & Bonpland s.n.* (HT: P).  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 19 Feb 1997, *J.L. Clark 3942* (MO, NY, QCNE).  
 Tree, 1–3 m tall. Common along sunny roads. 400–650 m. Amazonia, Chocó, Mesoamerica.
- Solanum leptorhachis** Bitter, Repert. Spec. Nov. Regni Veg. 18: 50. 1922. Type: Ecuador: Manabí: El Recreo, *H. Eggers 15743* (HT: M; IT: K, US).  
 Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro 400–500 m, 11 Nov 1998, *T. Delinks & C. Robles 148* (MO, QCNE).  
 Shrub, 1.5 m tall. 400–500 m. Chocó.
- Solanum marantifolium** Bitter, Repert. Spec. Nov. Regni Veg. 11: 13. 1912.  
 Representative Specimen: Manabí: Bilsa Biological Station, 250 m, 5 Apr 1997, *J.L. Clark, R. Dunn, T. Nuñez & C. Robles 4200* (MO, QCNE).  
 Succulent terrestrial herb, ca. 1 m tall. 250 m. Chocó
- Solanum ovalifolium** Dunal, Solan. Syn. 37. 1816.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 21 Nov 1994, *J.L. Clark & C. Bergman 307* (MO, QCNE).  
 Tree, 2 m tall. 400–600 m. Amazonia, Chocó.
- Solanum pensile** Sendtn., Fl. Bras. 10: 50, t. 4, f. 32–36. 1846.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 24 Jan 1995, *J.L. Clark 412* (MO, QCNE).  
 Common woody linana. 280–600 m. Amazonia, Chocó, Mesoamerica.
- Solanum pimpinellifolium** L., Cent. Pl. I. 8. 1755.  
 Synonym: *Lycopersicon pimpinellifolium* (L.) Mill.  
 Representative Specimen: Ecuador: Esmeraldas: Quinindé, carretera vecinal Herrera-Los Monos, cabecera del Río Aguacatal, 550 m, 24–26 Feb 1995, *W. Palacios 13695* (MO, QCNE).  
 Scandent terrestrial erb. 550 m. Common name: “Tomatillo.”
- Solanum pseudolulo** Heiser, Ci. & Nat. 11: 5. 1968.  
 Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, September 19, 1994, *M.S. Bass & N. Pitman 11* (MO, QCNE).  
 Shrub, 2–3 m tall. 400 m. Amazonia, Chocó.
- Solanum quitoense** Lam., Tabl. Encycl. 2: 16. 1794.  
 Representative Specimen: Ecuador: Manabí:

Cordillera de Jama, 600 m, 16 Dec 1998, *D. Neill & QCNE botany interns 11564* (MO, QCNE).

Common shrub to 3 m tall. Native and cultivated. 0-600 m. Common name: "Naranjillo." Amazonia, Chocó, Mesoamerica.

**Solanum rudepannum** Dunal, Prodr. 13(1): 264-265. 1852..

Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11603* (MO, QCNE).

Shrub, 1.5-3 m tall. Common in secondary forest. 5-500 m. Chocó, Mesoamerica.

**Solanum schlechtendalianum** Walp., Repert. Bot. Syst. 3: 61. 1844.

Representative Specimen: Esmeraldas: Bilsa Biological Station, 500 m, 10 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3786* (MO, QCNE).

Shrub to 2 m tall. 400-700 m. Amazonia, Chocó, Mesoamerica.

**Solanum siphonobasis** Bitter, Repert. Spec. Nov. Regni Veg. 12: 72. 1913. Type: Ecuador. *Jameson 808* (HT: G-BARB.-BOISS.; IT: BM, K, NY) photo: F).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 4-5 Oct 1996, *J.L. Clark 2993* (MO, NY, QCNE).

Common vine in secondary forest. 400-600 m. Chocó.

**Witheringia solanacea** L'Hér., Sert. Angl. 1: 19, t. 1. 1788.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 13 Sep 1994, *J.R. Abbott 150481* (BEREA, QCNE).

Shrub, 3.5 m tall. Common in secondary forest. 400-600 m. Amazonia, Chocó, Mesoamerica.

#### STAPHYLEACEAE

**Turpinia occidentalis** (Sw.) G. Don, Gen. Hist. 2: 3. 1832.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 20 May 1995, *J.L. Clark & C. Watt 962* (MO, QCNE).

Understory tree in mature forest, 10 m tall. 400-600 m. Amazonia, Chocó, Mesoamerica.

#### STERCULIACEAE

**Guazuma ulmifolia** Lam., Encycl. 3: 52-53. 1789.

Representative Specimen: Manabí: Cordillera de Jama, 300 m, 16 Dec 1998, *D. Neill & QCNE botany interns 11550* (MO, QCNE).

Understory tree, 2-10 m tall. Common in secondary forest. 300 m. Amazonia, Chocó, Mesoamerica.

**Herrania balaensis** P. Preuss, Exped. C.-Sudamer. 253. 1901.

Representative Specimen: Esmeraldas: Paraíso de Papagayos, 200 m, 6 Jul 1996, *J.L. Clark 2741* (MO, QCNE).

Unbranched pachycaul tree to 2 m tall in understory of mature forest. 200-500 m. Common name: "Cacao silvestre." Endemic.

**Melochia lupulina** Sw., Prodr. 97. 1788. Type: Jamaica, *Swartz s.n.*

Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4296* (MO, QCNE).

Shrub to 3 m tall in secondary forest. 5-800 m. Amazonia, Chocó, Mesoamerica.

**Sterculia colombiana** Sprague, Trans. & Proc. Bot. Soc. Edinburgh 22(4): 429. 1905. Type: Colombia: San José: Río Putumayo, *Sprague 618*.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 13 May 1998, *J.L. Clark & C. Pallis 5569* (MO, QCNE).

Common canopy tree. 500-650 m. Common name: "Higuerilla," "Fruta chucha." Amazonia, Mesoamerica.

#### STYRACACEAE

**Styrax weberbaueri** Perkins, Repert. Spec. Nov.

Regni Veg. 2: 16. 1906.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 25 Nov 1995, *J.L. Clark & K. Cunningham, C. Roberts 1674* (CAS, MO, QCNE).

Rare tree, 10-30 m tall. 250-500 m. Amazonia, Chocó.

### THEOPHRASTACEAE

**Clavija eggersiana** Mez, Pflanzenr. IV. 236a(Heft 15): 18. 1903. Type: Ecuador, *H Eggers 14303* (LT: M; ILT: L, LE, US fragm., photo: MO F(M)).

Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 300 m, 16 Dec 1998, *D. Neill & QCNE botany interns 11555*.

Unbranched pachycaul tree to 5 m tall in understory of mature forest. 200-600 m. Endemic.

**Clavija membranacea** Mez, Pflanzenr. IV. 236a(Heft 15): 38. 1903. Type: Ecuador, *Sodiño 100/13*.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 19 Feb 1997, *J.L. Clark 3957* (MO, QCNE).

Unbranched pachycaul tree to 1 m tall in understory of mature forest. 250-650 m. Amazonia, Chocó.

**Clavija parvula** Mez, Pflanzenr. IV. 15(236A): 23. 1903.

Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 100 m, 15 Dec 1998, *D. Neill & QCNE botany interns 11539* (MO, QCNE).

Common unbranched pachycaul tree to 1 m tall in understory of mature forests near southern edge of Mache-Chindul Mountains (Manabí). 50-100 m.

**Jacquinia sprucei** Mez, Pflanzenr. IV. 15: 43-44. 1903. Type: *Spruce 6478*.

Representative Specimen: Ecuador: Manabí: Cerro del Matal 100 m, 17 Dec 1998, *D. Neill & QCNE botany interns 11628* (MO, QCNE).

Tree, 15 m tall. 100 m.

### THYMELAEACEAE

**Schoenobiblus panamensis** Standl. & L.O. Williams, *Ceiba* 3(1): 33. 1952.

Representative Specimen: Ecuador: Esmeraldas: Muisne 180 m, 23 May 2000, *D. Neill & QCNE botany interns 12762* (MO, QCNE).

Tree, ca. 10 m tall. 180-250 m. Amazonia, Mesoamerica.

### TILIACEAE

**Trichospermum galeottii** (Turcz.) Kosterm., *Reinwardtia* 6(3): 278. 1962.

Representative Specimen: Ecuador: Esmeraldas: Paraiso de Papagayos 250 m, 20 Oct 1996, *J.L. Clark B. Shlenker & H. Shlenker 3057* (MO, QCNE).

Understory tree, 10-20 m tall. 200-600 m. Amazonia, Chocó, Mesoamerica.

### TROPAEOLACEAE

**Tropaeolum harlingii** Sparre, *Fl. Ecuador* 2: 15. 1973. Type: Ecuador: Guayas, Guayaquil, April 13, 1939., *Asplund 5684* (HT: S; IT: CAS, G, K, LD, R, RJ, UPS, US).

Representative Specimen: Ecuador: Esmeraldas: Muisne, 30-40 m, 27 Jun 1979, *B. Løjtmant & U. Molau 15292* (AAU).

Herbaceous vine. 0-50 m. Endemic.

### TURNERACEAE

**Turnera subulata** Sm., *Cycl.* 36: n. 2. 1817.

Representative Specimen: Ecuador: Esmeraldas: Muisne, 2 m, 2 Dec 1995, *J.L. Clark & K. Cunningham 1717* (MO, QCNE).

Common roadside herb at low elevations. 0-50 m. Chocó, Mesoamerica.

### ULMACEAE

**Celtis iguanaea** (Jacq.) Sarg., *Silva* 7: 64. 1895.

Representative Specimen: Ecuador: Manabí: Chone, Recinto Hojas Blancas, Carretera Pedernales-Carmen Mandarin, Entrada el Mono, 150 m, 12 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4398* (MO, QCNE)



Woody liana in canopy of mature forest. 5-500 m. Amazonia, Chocó, Mesoamerica.

**Trema integerrima** (Beurl.) Standl., Contr. Arnold Arbor. 5: 55. 1933.

Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 10 Oct 1996, *J.L. Clark 3045* (MO, QCNE).  
Common tree in secondary forest, 2-19 m tall. 200-500 m. Common names: "Sapán de mono," "Sapán de palomo." Amazonia, Chocó, Mesoamerica.

**Trema micrantha** (L.) Blume, Mus. Bot. 2: 58. 1856.

Representative Specimen: Ecuador: Esmeraldas: Quigüe 250 m, 18 May 2000, *D. Neill & QCNE botany interns 12701* (MO, QCNE).  
Tree, 10 m tall. 250 m. Amazonia, Chocó, Mesoamerica.

#### URTICACEAE

**Boehmeria ramiflora** Jacq., Enum. Syst. Pl. 31. 1760.

Representative Specimen: Ecuador: Esmeraldas: Muisne, 50 m, 27 Jun 1979, *B. Løjtnant & U. Molau 15280* (AAU).  
Shrub. 50 m. Amazonia, Mesoamerica.

**Laportea aestuans** (L.) Chew, Gard. Bull. Singapore 21(2): 200. 1965.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 17 Nov 1994, *N. Pitman 972* (MO, QCNE).  
Common succulent herb along streams. 400-600 m. Amazonia, Chocó, Mesoamerica.

**Myriocarpa stipitata** Benth., Bot. Voy. Sulphur 168, t. 55. 1846. Type: Tumaco [coastal Nariño province, Colombia].

Representative Specimen: Ecuador: Esmeraldas: Muisne, 25 m, 24 May 2000, *D. Neill & QCNE botanu interns 12778* (MO, QCNE).  
Tree, to 6 m tall. 0-50 m. Amazonia, Chocó.

**Phenax rugosus** (Poir.) Wedd., Prodr. 16(1): 235(38). 1869.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 14 Sep 1994, *J.R. Abbott 15108* (BEREA, QCNE).

Shrub, ca. 2 m tall. 600 m. Amazonia, Chocó, Mesoamerica.

**Pilea fasciata** Wedd., Prodr. 16(1): 149. 1869.  
Type: In sylvis prov. Choco et Novita Novo-Granatensium, altit. 170 m, *Triana s.n.* (HT: P).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 21 Nov 1995, *J.L. Clark & K. Cunningham, C. Roberts 1617* (MO, QCNE).

Herb growing on rocks along stream. 500 m. Amazonia, Chocó, Mesoamerica.

**Urera eggersii** Hieron., Bot. Jahrb. Syst. 20(Beibl. 49): 3-4. 1895. Type: Ecuador: crescit prope Balao, mense Februario florens, *H. Eggers 14466*.

Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 30 Jan 1991, *A. Gentry, R. Foster & C. Josse 72953* (MO).

Shrub, ca. 2 m tall. 280 m. Amazonia, Chocó, Mesoamerica.

#### VALERIANACEAE

**Valeriana scandens** L., Sp. Pl. (ed. 2) 1: 47. 1762..

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 2 Oct 1996, *J.L. Clark 2978* (MO, QCNE).

Herbaceous vine. 400-500 m. Amazonia, Mesoamerica.

Infrasp.: *Valeriana scandens* var. *candolleana* (Gardner) C.A. Mull.

#### VERBENACEAE

**Aegiphila alba** Moldenke, Phytologia 1: 185. 1937. Type: Ecuador: Los Rios: Canton Vices, Quevedo, *Mexia, Y. 6656* (T: US).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 5 May 1995, *J.L. Clark & C. Watt 749* (MO, QCNE).

- Tree, 4-12 m tall. Common in secondary forest. 0-600 m. Common name: "Lulu." Amazonia, Chocó.
- Aegiphila chrysantha** Hayek, Bot. Jahrb. Syst. 42: 171. 1908.  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4290* (MO, QCNE).  
Woody vine. 300-700 m. Amazonia.
- Aegiphila haughtii** Moldenke, Phytologia 2: 8. 1941. Type: Ecuador: Guayas: Cerro Cimalón, Hcda Vainillo, 50 m, *Haught, O. 2904* (T: US).  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 300-700 m, 7 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4303* (MO, QCNE).  
Tree, ca. 3 m tall. 100-700 m. Amazonia.
- Bouchea fluminensis** (Vell.) Moldenke, Repert. Spec. Nov. Regni Veg. 49: 117. 1940.  
Representative Specimen: Ecuador: Manabí: Reserva de Lalo Loor, 10 m, 9 Apr 1997, *J.L. Clark, T. Nuñez & C. Robles 4342* (MO, QCNE).  
Terrestrial herb, ca. 50 cm tall. 0-20 m. Amazonia.
- Citharexylum gentryi** Moldenke, Phytologia 35(4): 276. 1977. Type: Ecuador: Los Ríos: beside the gatehouse of the Río Palenque Biological Station at Km 56 on the road from Quevedo to Santo Domingo, 150-220 m, *C.H. Dodson & A.H. Gentry 6575* (HT: Herb. Mold.). (Fig. 4A-B, p.131).  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400-600 m, 18 May 1995, *J.L. Clark & C. Watt 924* (MO, QCNE).  
Tree, 15 m tall. 400-600 m. Endemic.
- Clerodendrum philippinum** Schauer, Prodr. 11: 667. 1847.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400 m, 21 Feb 1996, *J.L. Clark 2127* (MO, QCNE).  
Introduced, cultivated shrub, ca. 1 m tall. 400 m.
- Cornutia pyramidata** L., Sp. Pl. 2: 628. 1753.  
Representative Specimen: Ecuador: Esmeraldas: Quingüe, 250 m, 18 May 2000, *D. Neill & QCNE Botany interns 12720* (MO, QCNE).  
Tree, ca. 8 m tall in secondary forest. 250 m. Amazonia, Chocó, Mesoamerica.
- Petrea volubilis** L., Sp. Pl. 2: 626. 1753.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 10 Jan 1997, *J.L. Clark, E. Austen, S. Bennett & D. Kapan 3780* (MO, QCNE).  
Woody vine. 500 m. Amazonia, Chocó, Mesoamerica.
- Priva lappulacea** (L.) Pers., Syn. Pl. 2: 139. 1806  
Representative Specimen: Ecuador: Manabí: Cerro Pata de Pájaro, 700 m, 8 Mar 1007, *H. Vargas, X. Aguirre, R. Miranda & C. Robles 1251* (MO, QCNE).  
Terrestrial herb, ca. 50 cm tall. 700 m. Amazonia, Chocó, Mesoamerica.
- Stachytarpheta cayennensis** (Rich.) Vahl, Enum. Pl. 1: 208. 1804.  
Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 600 m, 13 Sep 1994, *J.R. Abbott 15047* (BEREA, QCNE).  
Terrestrial herb or subrhub. Common in disturbed and sunny sites. 400-600 m. Amazonia, Chocó, Mesoamerica.
- Verbena** sp.  
Esmeraldas: Bilsa Biological Station, 600 m, 13 Sep 1994, *J.R. Abbott 15064* (BEREA, QCNE).  
Common terrestrial herb in disturbed areas. 600 m
- Vitex flavens** Kunth, Nov. Gen. Sp. (quarto ed.) 2: 246. 1818.  
Representative Specimen: Ecuador: Manabí: Cordillera de Jama, 600 m, 16 Dec 1998, *D. Neill & QCNE botany interns 11598* (MO, QCNE).  
Tree to 25 m tall, Common in dry forest in southern portion of range, at Reserva de Lalo Loor. 0-50 m. Amazonia.

## VIOLACEAE

**Amphirrhox longifolia** (A. St.-Hil.) Spreng., Syst. Veg. 4(2): 99. 1827.

Representative Specimen: Ecuador: Esmeraldas: Muisne, sitio San Salvador, orillas del Río Sucio, 100–150 m, Mar 1995, *W. Palacios 13746* (MO, QCNE).

Common understory tree in mature moist forest below 150 m, ca. 6 m tall. 100–150 m. Mesoamerica.

**Gloeospermum grandifolium** Hekking, Phytologia 42: 461, f. 1979. Type. Ecuador: Esmeraldas: 2 km S of Playa de Oro, 30 Apr 1943, *E.L. Little 6405* (HT: US; IT: F).

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 18 Nov 1996, *J.L. Clark, F. Gurumendi & H. Weinert 3444* (MO, QCNE).

Common canopy to subcanopy tree. 400–600 m. Chocó.

**Gloeospermum longifolium** Hekking, Phytologia 43(5): 467, t. 1, f. 5. 1979.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 9 Oct 1994, *J.L. Clark 174* (MO, QCNE).

Subcanopy tree. 400–600 m. Amazonia, Chocó, Mesoamerica.

**Rinorea apiculata** Hekking, Phytologia 43(5): 469, pl. 2, f. 7. 1979.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 500 m, 8 Oct 1996, *J.L. Clark 3017* (MO, QCNE).

Understory tree in mature forest, 3–13 m tall. 500 m. Amazonia, Chocó.

## VISCACEAE

**Phoradendron piperoides** (Kunth) Trel., Phoradendron 43(5): 469, pl. 2, f. 7. 1916.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 27 Mar 1995, *J.L. Clark & Y. Troya 519* (MO, QCNE).

Parasitic shrub. 200–600 m. Amazonia, Chocó, Mesoamerica.

## VITACEAE

**Cissus neei** Croat, Ann. Missouri Bot. Gard. 63(2): 359, f. 1. 1976 [1977].

Representative Specimen: Ecuador: Esmeraldas: Fila de Bilsa, 280 m, 28 Jan 1991, *A. Gentry & C. Josse 72796* (MO).

Liana. 280 m. Amazonia, Chocó, Mesoamerica.

## VOCHYSIACEAE

**Vochysia** sp.

Representative Specimen: Ecuador: Esmeraldas: Paraíso de Papagayos, 200 m, 10 Oct 1996, *J.L. Clark 3045* (MO, QCNE).

Canopy tree. 200 m.

## ZINGIBERACEAE

**Alpinia purpurata** (Vieill.) K. Schum., Pflanzenr. IV. 46(Heft 20): 323, f. 40A. 1904.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 650 m, 19 Feb 1997, *J.L. Clark 3958* (MO, QCNE).

Commonly cultivated terrestrial herb, ca. 2 m tall. 0–650 m. Chocó, Mesoamerica.

**Alpinia zerumbet** (Pers.) B.L. Burt & R.M. Sm., Notes Roy. Bot. Gard. Edinburgh 31(2): 204. 1972.

Representative Specimen: Ecuador: Esmeraldas: Bilsa Biological Station, 400–600 m, 7 Dec 1994, *J.L. Clark 377* (MO, QCNE).

Commonly cultivated terrestrial herb, ca. 2 m tall. 0–650 m.

**Hedychium coronarium** J. König, Observ. Bot. 3: 73–74. 1783.

Representative Specimen: Ecuador: Manabi 34 km al norte de Pedernales 60 m, 28 Aug 1998, *D. Neill & QCNE botany interns 11440* (MO, QCNE).

Introduced and cultivated, naturalized herb, ca. 50 cm tall. Common along sunny and disturbed roads. 0–100 m.

**Renealmia alpinia** (Rottb.) Maas, Acta Bot. Neerl. 24(5–6): 474. 1975 [1976]

Representative Specimen: Ecuador:  
Esmeraldas: Paraíso de Papagayos, 200 m,  
10 Oct 1996, *J.L. Clark 3041* (MO, QCNE).  
Native and cultivated terrestrial herb. 200 m.  
Amazonia, Chocó, Mesoamerica.

**Renealmia ligulata** Maas, *Acta Bot. Neerl.* 24(5-6): 477-478. 1975 [1976]. Type: Colombia:  
El Valle: Cordillera Central, Río Nima,  
above Tenjo, 1850 m, *Maas, Plowman & Escobar 1826* (HT: U; IT: COL, F, GH, K,  
MO, NY, VALLE).

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 400-  
600 m, 16 Nov 1994, *N. Pitman & M.S. Bass 952* (MO, QCNE).

Terrestrial herb, ca. 2 m tall. 400-600 m.  
Amazonia, Chocó, Mesoamerica.

**Renealmia oligosperma** K. Schum., *Pflanzenr.* IV. 46: 300. 1904.

Representative Specimen: Ecuador: Manabí:

Cerro Pata de Pájaro, 400-600 m, 16 Nov  
1994, *N. Pitman & M.S. Bass 952* (MO,  
QCNE).

Terrestrial herb. 400-700 m. Amazonia.

**Renealmia variegata** Maas & H. Maas, *Notes Roy. Bot. Gard. Edinburgh* 44(2): 241-242, f. 3. 1987. Type: Ecuador: Pichincha: carretera Quito-Puerto Quito, km 113, virgin forest, 800 m, 26 Feb 1984, *C. Ulloa 87* (HT: QCA; IT: U).

Representative Specimen: Ecuador:  
Esmeraldas: Bilsa Biological Station, 500  
m, 14 Feb 1996, *J.L. Clark, N. Kerber & J. Plihal 1993* (MO, QCNE).

Terrestrial herb. 500 m. Amazonia, Chocó,  
Mesoamerica.

**Zingiber officinale** Roscoe, *Trans. Linn. Soc. London* 8: 348. 1807.

Introduced and cultivated terrestrial herb. 0-200  
m.

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