Vascular Flora of Andros Island, Bahamas

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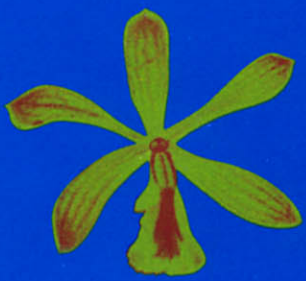

The Vascular Flora

of

Andros Island, Bahamas

by

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Comments on This Version of the Book

The original edition of "Vascular Flora of Andros Island, Bahamas" by D. L. Nickrent, W. H. Eshbaugh, and T. K. Wilson was published in 1988 by Kendall/Hunt Publishing Company, Dubuque Iowa (ISBN 0-8403-4756-1). There was only a single printing of the book and since then no other print runs took place. Kendall/Hunt relinquished the copyright ownership to the first author.

The pages for the original version of the book were generated in the mid 1980s when most personal computers could not readily generate various different fonts. The typeset appearance of text was achieved using a program called "LePrint", a long an laborious process involving the addition of in-line commands for bold, italics, etc.

The current reproduction of this book was made possible because of modern computer hardware and software technologies. The text and figures were scanned separately using a Sharp photocopier which generated high resolution PDF files. The PDF files were then opened in Adobe Acrobat and individual pages were then saved as TIF files. The text files were opened with ReadIris software which conducted optical character recognition (OCR), thereby generating Rich Text Format (RTF) files. These were opened with Microsoft Word and corrected against the original. This stage consumed the most time because much formatting was required. Attempts were made to preserve the overall appearance of the original document, including page breaks at the same locations. The latter was important because otherwise all pagination in the index would be incorrect. No attempt was made to preserve the original page breaks in the index.

This version of the book differs from the original in that an index to common names of Andros plants was added. This list was compiled by Linda M. Prince (University of North Carolina) in 1993. I wish to thank Linda for generating this list – a real help to those less comfortable with scientific names! The list was also in paper form, thus it was converted to text using the OCR methodology described above. A tabular form of the list was imported into Microsoft Excel to allow other manipulations.

The image files were opened in Adobe PhotoShop and digitally optimized by removing previous page numbers, dirty spots, etc., and saved as PICT files. In some cases, portions of the illustrations were repositioned on the page. Because of less generous margins than the original book, pages with illustrations are here reproduced slightly smaller. The images were then placed in their proper places within the Microsoft Word file and this was printed as a PDF. The PDF files generated in this way were assembled for the final document in Adobe Acrobat.

I intend to eventually try to update the nomenclature on the Andros Island plants included in this book. Now having the electronic files will make this effort much more straightforward.

Andros Island, Bahamas

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PREFACE

This flora is the result of several years of work by the authors who have offered a field course on Andros Island in association with International Field Studies, Columbus, OH. From the time of our first investigations of the flora of Andros, the need for a field manual was apparent. For this reason, we began developing species lists for the island and an early version of the manual was used by students over the course of several years. With the advent of the "Flora of the Bahama Archipelago" by Donovan S. and Helen B. Correll in 1982, our understanding of this flora has steadily increased. Ideally, each student would obtain a copy of Correll and Correll, however because of its size (1692 pages) and cost, it would better serve as a laboratory reference.

The purpose of this flora is to provide keys to and illustrations of the plants most often encountered on Andros Island. In addition, a listing of other taxa known to occur in area 9 of Correll and Correll (1982) are provided. This area includes North and South Andros, Big Wood Cay, North and South Bimini, Cat Cay, Frozen Cay, Goat Cay, Great Stirrup Cay, and Green Cay. Since specific locality information is not given in Correll and Correll for every species, we can not be certain that a plant listed for area 9 definitely occurs on Andros, at least without consulting the specimens deposited in various herbaria.

ACKNOWLEDGEMENTS

Three individuals in particular have contributed most to our knowledge of the Andros flora. Donovan S. Correll spent a delightful week with us (WHE and TKW) on one of our field trips in 1982. He also patiently annotated our early collections giving us insights into some of the more difficult aspects of the taxonomy of the Bahama flora. George Proctor provided our baptism in 1976 during a frantic week of field identification with our first class. William T. Gillis stimulated and encouraged us with his interest in our studies and his perceptive writings on the plants of the Bahamas.

At the onset of our investigations, Rose Blanchard, then the director of Forfar Field Station, introduced us to the many specialized habitats and unique field locations on North Andros Island. Without her keen eye and enthusiastic interest we would have learned much less about this flora.

We would also like to thank James Kramer at the University of Illinois who helped with the computer programs that resulted in the typeset appearance of the manual. Dr. Almut Jones, also at the University of Illinois, provided several useful suggestions on matters of nomenclature.

Several colleagues who served as instructors in our courses have been especially supportive of our efforts. These include W. J. Elisens, R. J. Hickey, D. R. Osborne, and C. R. Werth. Finally, we acknowledge the contributions of our many students. You have been our teachers and we have learned together.

INTRODUCTION

The Caribbean area is usually divided into three regions. The Bahama Archipelago in the north and northeast, the Greater Antilles (Cuba, Hispanola, Jamaica and Puerto Rico) occupying the central and western regions and the Lesser Antilles to the east and south to Granada. The Bahama Islands are the exposed parts of a chain of limestone platforms or banks (Howard, 1974). The Greater Antilles are the fragmented remains of two continental land masses: Cuba belongs to the North American Plate, while Jamaica, Hispanola and Puerto Rico are from the Caribbean plate. The Lesser Antilles are volcanic islands and were never joined with the continents (Proctor, 1977).

The Bahama archipelago extends southeast from Walker Cay (pronounced "key") for about 600 miles to Salt Cay, just north of the Dominican Republic. At its widest point the archipelago extends from the Cay Sal Bank, just north of Cuba to San Salvador, a distance of some 375 miles. The archipelago consists of some 35 islands, 700 cays and some 2,400 exposed rocks, most of which are covered (more or less) with vegetation (Correll 1979).

The land surface is almost totally limestone. There is some controversy over the formation of the rock, but most concede that it is in part aeolian and in part water deposits. The major depositions occurred during the Tertiary. There is some evidence of emergence and subsidence having taken place several times since which has had a pronounced effect on the general land form. The topography is low and very rugged. The soft limestone is easily weathered into a complex array of lakes, ponds, marshes, oceanic "blue holes", fresh water blue holes, sink holes of various sizes, and "a general rough surface of plated, pitted or honeycombed rock" (Correll, 1979). There are occasional ridges of higher elevation, e.g. on Andros, Morgans Bluff soars to a magnificent 60 feet above sea level, however, most of the landscape is rather monotonously level. There are no freshwater streams or rivers, but there are freshwater ponds here and there.

Andros Island, located approximately due east of Key West, Florida, is the largest of the Bahama Islands (ca. 100 miles long by 40 miles wide). It is in reality not one island but a series of smaller islands separated by wide bights or shallow channels. The western side of the island is a very inhospitable region called "swash" that is neither land nor sea.

Opinion is rather divided as to whether the climate should be considered tropical or subtropical. Correll (1979) notes that since the Tropic of Cancer crosses near the center of this vast region, the climate is tropical throughout. Since infrequent frosts do occur, however, it is probably best to consider the climate as subtropical, at least for Andros. The island is continually influenced by the warm trade winds that sometimes result in hurricanes or tropical storms during the months of August to October.

Plant Communities of Andros Island

The first attempt at any serious study of the flora of Andros Island was by Mrs. Alice Northrop from March to July 1890 (Northrop, 1902) During this period of time, Mrs. Northrop and her husband (a zoologist) made many plant collections. The following community descriptions, based partly on Northrop (1902), pertain directly to Andros with some changes to bring the nomenclature up to date. Northrop recognized five plant communities based on differences in the floras: Maritime or Coastal, Coppice, Pine Barren, Savanna, and "Swash". For a more general discussion of the plant communities in the Bahamas see Correll (1979) and Howard (1974) for the entire West Indies. From our experience on Andros, we recognize ten plant community types: Beach/Strand, Coastal Rock, Coastal Coppice, Interior Coppice, Pineland, Savanna, Scrub, Freshwater Marsh, Saltwater Marsh (= "Swash"), and Mangrove.

1. Beach/Strand Community

It is important to note that the sand on Andros is generally not of mineral origin. When the "sand grains" are viewed with a microscope or hand lens, they are seen to be small shell fragments, flattened carbondate scales (derived from the surfaces of certain marine algae and seagrasses), and/or tiny spheres of oolitic limestone.

The beach extends from the high tide mark to the strand. The substrate is very loose and is colonized by trailing vines and plants with prostrate growth habits, e.g. *Ipomoea pes-caprae, Sesuvium portulacastrum, Philoxerus vermicularis, Canavalia nitida, Chamaesyce mesembryanthemifolia* as well as salt-tolerant grasses and herbs such as *Uniola paniculata*, *Distichlis spicata*, *Scaevola plumeri*, and *Cakile lanceolata.*

Strand associations are found primarily along the beaches on the east side of Andros. The strand community seems to merge (often imperceptibly) with the beach, hence some observers do not make a distinction between the two areas (e.g. Correll 1979). The major difference we recognize is that the substrate in the strand area is more consolidated and hence more stable. Here one sees small to large shrubs such as *Suriana maritima, Mallotonia gnaphalodes, Chrysobalanus icaco, Erithalis fruticosa,Cocoloba diversifolia, Thespesia populnea,* and *Salmea petroboides*. Many of these plants have evolved special adaptations in response to high light intensity and the continual salt spray.

2. Coastal Rock Community

In many places the coastal beach and strand communities alternate with the coastal rock community. Because of the vastly different substrates, the two zones are quite distinct botanically. The limestone in this area is very jagged ("honeycombed" or "dogtooth") and the plants are rooted inside numerous crevices. Some examples of plants found in this area are *Coccoloba uvifera, C. diversifolia, Casasia clusiifolia, Conocarpus erectus, Rhachicallis americana, Strumpfia maritima, Manilkara bahamensis, Jacquinia keyensis, Borrichia arborescens,* and *Pithecelobium bahamense.*

3. Coastal Coppice Community

On Andros this community is located back from the strand or coastal rock communities where the effect of the salt spray is less severe. The substrate is usually rock or a mixture of rock and sand which supports larger shrubs and trees that may reach 15 feet in height. Representatives of this community include *Pithecellobium keyensis, Lantana involucrata, Amyris elemifera, Jacquinia keyensis, Byrsonema lucida, Malpigia polytricha, Eugenia confusa, Catesbaea parviflora, Psidium longipes, Erithalis fruiticosa, Reynosia septentrionalis,* and *Thrinax morisii.* Often the coastal coppice supports a diverse assemblage of epiphytes in the Bromeliaceae and Orchidaceae.

4. Interior Coppice Community

Perhaps the most difficult vegetation (to walk through and to characterize botanically!) is the dense growth generally occurring as "islands" within the pinelands. Here the flora is predominantly of broadleaved (angiospermous) plants, although some of the areas (such as London Creek Ridge) have scattered, isolated pines. Because of the density of the vegetation in the coppice, they are sometimes called "thickets". Cocker (as reported in Correll 1979) further subdivided the coppice into "high" and "low" types based upon the height of the vegetation. The floristic difference between these two types is subtle and certainly merits further study.

The low coppice has an appearance very much like the scrub formation but it is thicker and generally found on rough, dogtooth rock. Sauleda and Adams (1979) note that the canopy here is 2-4 meters high. Some plants typical of the low coppice are *Acacia choriophylla, Coccoloba diversifolia, Bursera simaruba, Metopium toxiferum, Manilkara bahamensis, Cordia bahamensis, Ateramnus lucidus,* and *Bumelia salicifolia.*

The high coppice has a much different appearance since the canopy is typically 5-12 meters high (Sauleda and Adams 1979). Very often this community occurs on the more elevated parts of the island, locally called the "sea ridges". Other coppices are not located on a ridge (e. g. "Attala Coppice"). The substrate surface of the high coppice is very much eroded and sink holes of various sizes are quite common. The largest sink holes, called "Banana holes" may be 5-7 meters in diameter and 5-7 meters deep. It is difficult to characterize the plant associations since this community is the most diversity on Andros Island. A sample of the woody species one might see are *Bursera simaruba, Metopium toxiferum, Ficus aurea, Exothea paniculata, Calyptranthes pallens, Drypetes diversifolia, Clusea rosea, Psychotria angustifolia,* and *Nectandra coriacea.*

5. Pineland Community

The pine "barrens" or "pineyards" occupy a large area of the central part of North Andros. On South Andros the pine forests are much less common and do not extend to the far eastern edge of the island, as occurs on North Andros. The land surface is comparatively level and covered almost exclusively with Bahamian pine *(Pinus caribbaea).* Within the pinelands, low coppice appear where slight elevational rises occur. Similarly, clumps of palmettos and other palms appear in slight depressions. The pines do not form thick stands, but are rather widely spaced, even when young, which

gives the pinelands a "planted" appearance. Most of the pineyards have been lumbered for the very heavy, hard, insect resistant wood, although all commercial lumbering ceased about ten years ago. *Pteridium aquilinum* (Maypole or Break) is quite common among the pines, often forming "impenetrable thickets, six or seven feet high" (Northrop, 1902).

Correll (1979) and others point out that there are two variations of pinelands to be found: wet and dry. The wet pinelands are characterized by having water within a few inches of the surface. Plants found among the pines in this rather open community are *Metopium toxiferum, Byrsonema lucida, Lantana involucrata, Bourreria ovata, Thrinax morrisii,* including many vines such as *Smilax laurifolia, Ipomoea microdactyla,* and *Centrosema virginiana.*

In the dry pinelands, *Coccothrinax argentata* is more often found. Other species include *Tetrazygia bicolor, Duranta repens, Chiococca pinetorum, Linum bahamensis Ernodea littoralis, Pteridium aquilinum, Vernonia bahamensis, Dichromena colorata, Bletia purpurea,* and *Hypericum hypericoides*, and *Cassia lineata*.

6. Savanna Community

According to Northrop (1902), this region is found only on Andros. Correll (1979) does not consider this a distinct type but rather under the heading of "Tidal Flats and Salt Marshlands". These level, prairie-like stretches lie between the pines and the swash and are most common in the northwest part of North Andros Island. Good examples of savanna may be found along the road to Red Bays. The ground is not rocky and is not as saline as the swash region of the west. The predominant plant is saw-grass (*Cladium jamaicensis* - a sedge). The landscape is broken by clumps of palms (*Cocothrinax argentata*) and sometimes rather extensive, but thin stands of brier tree (*Bucida spinosa*) which give the landscape an "African" appearance. This area also supports many interesting shrubs and herbs such as *Antirhea lucida, Flaveria linearis, Polygala northropiana, Eustoma exaltatum, Bletia purpurea* and *Aletris farinosa*.

7. Scrub Community

Howard (1974) considers this formation to be one of the most characteristic formations of the West Indies. Since the plants in it are often thorny, it is often called the "thorn scrub". On Andros, this formation seems to occur where the substrate is not the honeycomb limestone but a smoother pavement broken into many shallow sinkholes. Common plants in these areas are *Acacia choriophylla, Pithecellobium bahamense, Guettarda scabra, Tabebuia bahamensis, Bursera simaruba, Myrsine floridana, Bumelia americana, Stigmaphyllon sagraeanum, Manilkara bahamensis,* and *Randia aculeata.*

8. Freshwater Marsh Community

Inland on the island can be found swamps with fresh to brackish water such as at Goby Lake. These swamps often occur in the middle of a pineland formation. Here the vegetation is characterized by many shrubs and small trees such as *Iva cheiranthifolia, Myrsine floridana, Bumelia salicifolia, Ilex cassine,* and *Conocarpus erectus.* Herbs such

as *Phylla nodiflora, Typha domingensis, Cladium jamaicensis,* and *Nymphoides grayana* can also be seen in or around the standing water.

9. Saltwater Marsh Community

This area is equivalent to what Correll (1979) calls the "Tidal Flats" and "Marshlands" and may be covered with brackish water or, after periods of heavy rain, may be "washed" out by fresh water. Perhaps this is the derivation of the word "Swash" which was used by Northrop (1902) to describe this area. The saltwater marsh is perhaps the most desolate and inhospitable of all of the areas on Andros and occupies hundreds of square miles. This is certainly the impression one gets while viewing numerous ponds and lakes when approaching Andros by air from the west. The ground is a soft calcareous mud which is often covered by algal mats. Northrop (1902) states:

> "The scenery was monotonous and desolate. In many places as far as the eye could reach, the ground seemed perfectly flat and covered with small mangroves *(Rhizophora mangle),* salt bush *(Avicennia germinans)* and a low form of button wood *(Conocarpus erecta),* none more than a few feet in height. The plants were in reality quite scattered and a considerable distance apart ..."

Herbaceous plant life such as *Salicornia virginiana, Suaeda linearis, Batis maritima, Juncus roemerianus,* and *Atriplex arenaria* are prevalent here.

10. Mangrove Community

This distinctive community is also called "mangal" and is readily characterized by the presence of red mangrove, *Rhizophora mangle.* Mangroves are very common along the east shoreline of Andros as well as in portions of the saltwater marsh or swash community. The red mangroves are important colonizers of tidal shorelines and can be found in similar habitats all over the world. Their method of retaining the fruits on the parent plant until long after germination (vivipary) and the sprawling vegetative growth habit are just two examples of their adaptation to the coastal saltwater environment. Three other species on Andros are called mangroves: black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*), and buttonbush (*Conocarpus erectus*). Since these species are members of three families, "mangrove" is not a taxonomic category but a life form evolved in response to the particular environment.

Economic Botany

1. Agriculture

Before discovery by Columbus, the Bahamian Archipelago was sparsely settled by several different cultures including the Arawak and Carib Indians. These Indians existed primarily as hunter/gatherers harvesting the sea and collecting the few native crop plants. Most conspicuous of those crops was maize (*Zea mays*), a few root crops in the Araceae, and the spices allspice and chili pepper (*Capsicum*). With Columbus' arrival, a new

period of exploration and settlement began. This included colonization by the Spanish, Dutch, French, and English. Colonization brought with it the introduction of many exotic crop plants and the establishment of slave trade and slave plantations. Many new food and medicinal plants were introduced in the Caribbean as the direct result of the slave activities.

Traditional agriculture on Andros Island exists in two forms. First is the garden plot located in close proximity to the home. Second, are the farms, usually in a more remote locations reached by a set of paths or roads leading away from a community. The crops grown at the two sites do not differ significantly in regards to species but the farms are used for producing large quantities of food while the garden plots serve only to meet daily needs of the family. Typically the land is cleared using slash and burn techniques. The home garden may be maintained for years but the farm plots are used for an average of five years before they are abandoned and a new area cleared and burned.

Regardless of which farming area we consider, the techniques are virtually the same. Crop plants are most often grown in soil pockets that accumulate between the highly eroded or flattened pieces of limestone. Such pockets serve not only to trap soil but also as reservoirs for water when it rains. Perhaps the most fertile areas on the island are the "Banana Holes". A large amount of organic matter accumulates in these holes leading to significant soil build-up, ideal for growing fruit trees.

Although shifting agriculture still dominates most islands in the Bahamas, modern practices have been introduced in several areas. On Andros, the center of such activity is the Bahamian Agricultural Research Center (BARC). Estimates suggest that as much as 82,000 hectares on North Andros may be tillable, with as many as 8,200 hectares now under cultivation in one form or another.

The clearing and preparation of the generally rugged limestone landscape has been a major deterrent to the introduction of modern tropical agriculture. However, the bulldozer, with appropriate rollers and disks, can crush and pulverize the rock into an acceptable soil, although of relatively poor quality. Typically, in the first year of cultivation, various nitrogen-fixing legumes are grown as green manure. In subsequent years, vegetable crops are grown including tomatoes, cabbage, cassava, bell peppers, potatoes, pumpkins, cucumbers, and watermelons. Attempts are made to grow corn, however, yields average only 74 bushels per hectare (compare this to ca. 500 bushels per hectare in the Midwestern U.S.). In genera, most crops can not compete with more cheaply grown crops from neighboring Florida. However, the government taxes food imports at a higher rate enabling the Bahamian farmer to compete on the Nassau market.

What are the crops most commonly grown on Andros? The pigeon pea (*Cajanus cajan*), an African introduction, is an important food staple. It is often served with rice (*Oryza sativa*), most of which is imported. "Root" crops include cassava (*Manihot esculenta*), sweet potato (*Ipomea battatus*), and yam (*Dioscorea alata*). Rarely, various species of aroids (e.g. edoe or taro, *Colocassia esculenta*) may be grown as starch root crops. Before European settlement, the natives used starch obtained from the underground parts of coontie *(Zamia pumila,* Cycadaceae).

Many vegetables are not grown in quantity, perhaps because they are very susceptible to tropical diseases. One finds a few legumes including the common bean (*Phaseolus vulgaris*) and rarely the lima bean (*Phaseolus lunatus*). Other vegetables include the tomato (*Lycopersicon esculentum*) and onions (*Allium cepium*). Several cucurbitaceous crops are grown including cucumbers (*Cucumis sativus*), squash (*Cucurbita* sp.), and watermelon (*Citrullus lanatus*). A recent student report (S. Schmidt, unpubl.) listed 46 species of plants grown for food or fodder on North Andros Island.

Perhaps the most commonly used food items are the fruits. Again, most of these fruits have been introduced in post-Colombian times. A very popular fruit locally is the mango (*Mangifera indica*) which was introduced to the islands from India. Three annonaceous fruits, sugar apple (*Annona squamosa*), custard apple (*A. reticulata*), and soursop (*A. muricata*) are used as sweet fruits in drinks and ice cream. Another introduction from India is the tamarind (*Tamarindus indica*), a legume with a sweet sour flavor. Important native American fruit trees include the avocado (*Persea americana*), papaya (*Carica papaya*) which is the source of a proteolytic enzyme useful in treating insect bites and tenderizing meat, and sapodilla (*Manilkara zapota*) a rough-textured sweet fruit filled with latex which disappears upon ripening. Virtually all the important citrus fruits have been introduced to the island including the sweet orange (*Citrus sinensis*), sour orange (*C. aurantium*), grapefruit (*C.* X *paradisi*), and lime (*C. aurantifolia*). Limes frequently escape and survive quite well on Andros Island. The banana (*Musa* X *paradisiaca*) is widely grown and is most often found in the sink holes throughout the island. Other fruits one may encounter include guava (*Psidium guajava*), bread fruit *(Artocarpus altilis),* West Indian cherry (*Malpighia puncifolia*), and tropical plum (*Spondias purpurea*). The most important of all fruits is the coconut (*Cocos nucifera*) which not only is eaten as a fruit but also provides essential items such as roofing material (from the leaves), fuel (from the husk), oil (from the meat), and fiber (from the husk and leaves).

The need to use locally grown plant fibers has nearly disappeared from Andros Island. Only at Red Bays do we find people who still use a palm fiber *(Cocothrinax argentata)* to make a unique coiled basket that combines the traditional techniques of the Seminole Indians long since lost in nearby Florida. Here and there, but especially on South Andros, one finds individuals making baskets and hats from woven palm leaves. Often woven strips are sewn together to create such items. On North Andros, *Agave sisalana* is frequently seen. These plants are the descendants of an unsuccessful fiber industry started by Neville Chamberland in the area around Mastic Point.

How will cultivation and disturbance of the land by human activity affect the native vegetation of Andros? One researcher (Byrne 1980) observed that island floras are inherently weedy and man's activities have made little impact on their composition. Correll and Correll (1982, p. 25) agree that many of the native species resemble weeds in terms of their ability to colonize disturbed areas and compete with introduced plants. However, the overall scale of disturbance has increased in recent years and Corrells' observation that "the agricultural methods now being introduced into some of the islands will undoubtedly, in time, have a telling effect on the native vegetation" seems prophetic. Practices that will certainly have long-term effects on the floristic diversity of Andros include selective harvesting of desirable species (e.g. mahogany trees), water mining,

which lowers the water table allowing encroachment of salt water, and development for homes and agriculture.

2. Medicinal Botany

For several centuries the naturalized Africans in the West Indies have been sampling their environment and have compiled a substantial knowledge of those plants which are beneficial and harmful to man, The Caribbean Island society has relied upon medicinal practitioners, in the past referred to as "grannies", who utilize the knowledge compiled by their ancestors to care for the daily needs of the community. The list of medicinal plants used throughout the Bahamas has been documented by various authors. The two best and perhaps most interesting treatments of this topic can be found in the papers by Eldridge (1975) and Halberstein and Saunders (1978).

Today Andros Island is influenced to an increasing extent by the Bahamian government as well as by contacts with travelers from other countries, Various developments have brought about a gradual alteration of traditional community life and the use of "bush medicine". Nonetheless, medical attention is not easily available and for many minor illnesses bush medicine is still used, especially in the more remote areas of South Andros. The use of herbal love potions involves drinking teas made from a number of plants purported to have value in maintaining or increasing sexual stamina. All practitioners have their own special love potion recipe but certain plants are almost always present in these teas. The most commonly used plants include *Tabebuia bahamensis* (five-fingers), *Bourreria ovata* (strong-back), *Diospyros crassinervis* (stiff-cock), *Erythroxylum rotundifolium* (bohog), and *Cassytha filiformis* (love-vine). For details on the use of these plants on Andros, see the article by McClure and Eshbaugh (1983).

Sequence of Taxa in the Keys

Original character state determinations as well as information from floras such as Britton and Millspaugh (1920), Long and Lakela, 1976), and Correll and Correll (1982) were used to construct the keys. The order of appearance of the major plant groups is pteridophytes, gymnosperms, monocots, and dicots. Following the keys to major groups, all families are arranged alphabetically. Below the level of family, generic and specific keys were combined. For the grasses and composites, keys to tribes are included below the family level. Similarly, the legumes are first keyed to subfamily. For all families except the Leguminosae and the Umbelliferae, the **-aceae** ending was used, e.g. Arecaceae vs. Palmae. The remaining family names generally conform to Cronquist (1981). The listing of "Other taxa" following some families was derived mainly from Britton and Millspaugh (1920) and updated from information in Correll and Correll (1982). Of the 857 total taxa reported to occur on Andros, ca. 500 taxa are contained in the keys and 430 of the plants in the keys are illustrated.

Nomenclature and Synonomy

The nomenclature used is up to date and follows the changes cited in Gillis (1974), Correll and Correll (1982), and our own taxonomic judgment. We have followed published floristic works and monographs when assigning names and no new combinations are reported here. The reader is encouraged to consult Correll and Correll (1982) and other referenced sources to obtain other synonyms.

Indigenous vs. Cultivated Taxa

When the species list for the Bahama archipelago is examined, 44 taxa are listed as occurring only in region 9 of Correll and Correll (1982). Most of these taxa also have distributions encompassing the southern United States, Mexico, Central or South America. At least four taxa appear to be truly endemic to Andros Island: *Encyclia cochleata* var. *triandra* (Orchidaceae; shown on the cover of this manual), *E. withneri*, *Phoradendron northropiae* (Viscaceae), and *Psidium androsianum* (Myrtaceae).

An important aspect of our botanical research on Andros is the economic and medicinal use of plants by residents of the island, therefore we included a number of plant species indigenous to other areas but which have become naturalized (e.g. sisal, tamarind, and papaya). Also included are plants which escape and persist from cultivation (e.g. dill, tomato, pomegranate, yam, sweet potato, oleander, and avocado).

Illustrations

The illustrations were prepared from fresh material, Kodachrome slides, pressed or fixed material, and a few were redrawn from published illustrations. A key to the abbreviations accompanying many of the figures is provided below.

A	= Androecium or Stamen(s)	LS	= Longitudinal section
B	= Bud	OXS	= Ovary cross section
BR	= Bract	RAY	= Ray floret (Asteraceae)
CA	= Calyx or sepal(s)	SD	= Seed
DISC	= Disc floret (Asteraceae)	SOR	= Sorus (ferns)
F	= Flower	SPKL	= Spikelet (grasses)
FLS	= Flowers	ST	= Stem
FR	= Fruit	XS	= Cross section
G	= Gynoecium	♂	= Staminate
INF	= Inflorescence	♀	= Carpellate
L	= Leaf	⚥	= Bisexual

KEY TO DIVISIONS

1. Ferns or fernlike plants reproducing by means of spores produced in a sporangium. **PTERIDOPHYTES.**
1. Plants reproducing by means of seeds. **SEED PLANTS.**

KEY TO FAMILIES OF PTERIDOPHYTES

Pteridophyte nomenclature for the most part follows Lellinger (1985).

1. True leaves and roots lacking.
    2. Sporangium 3-chambered (synangiate); stems dichotomously branched. **Psilotaceae.**
    2. Sporangia borne in strobili; spores of two sizes; “leaves” present as microsporophylls. **Selaginellaceae.**
1. True leaves and roots present, often arising from a rhizome.
    3. Sporangial annulus a complete ring of cells; fronds non-indusiate; pinnae dimorphic. **Schizaeaceae.**
    3. Sporangial annulus incomplete (with stomium or lip); true or false indusia sometimes present.
        4. Stipe with joint at point of attachment to rhizome; indusia lacking; fronds simple, entire or pinnatifid, coriaceous. **Polypodiaceae.**
        4. Stipe without joint; fronds simple or pinnate.
            5. Fronds simple, sessile, linear; sori in linear series. **Vittariaceae.**
            5. Fronds pinnate.
                6. True indusium absent (false indusium may be present). **Pteridaceae**
                6. True indusium present.
                    7. Sporangia forming an elongate sorus.
                        8. Sori parallel to a vein on each side of the midrib. **Blechnaceae.**
                        8. Sori oblique to midrib; sorus elongate. **Aspleniaceae.**
                    7. Sporangia forming relatively circular sori; indusium often peltate and reniform. **Aspidiaceae.**

Psilotaceae. Whisk-Fern Family.

***Psilotum nudum* (L.) Pal. Beauv.** (Whisk-Fern). Fig. 1.

Selaginellaceae. Spikemoss Family.

***Selaginella eatonii* Hieron. ex Small.** (Eaton's Spike-moss).

Schizaeaceae. Ray-Fern, Pine-Fern, Curley-grass Family.

l. Fronds < 4 dm long (usually < 10.0 cm). ***Anemia wrightii* Baker in Hook.** (Wright's Anemia). Fig. 2.
1. Fronds 4-8 dm long, nearly twice compound. ***Anemia adiantifolia* (L.) Swartz.** (Maiden-Hair Anemia. Pine-Fern). Fig. 3.

Other taxon: ***Anemia circutaria*** Kuntze.

Polypodiaceae. Polypody Fern Family.

l. Fronds simple, unlobed.
  2. Fronds dimorphic (variable in size); rhizome viny. ***Microgramma heterophylla* (L.) Wherry** [= ***Polypodium heterophyllum* L.**]. (Climbing Polypody). Fig. 4.
  2. Fronds not dimorphic.
    3. Sori circular, enclosed in areolae between pinnate lateral veins of the frond. *Campyloneurum phyllitidis* (L.) Presl. [= ***Polypodium phyllitidis* L.**] (Strap Fern). Fig. 5.
    3. Sori in marginal band along distal portion of frond. ***Neurodium lanceolatum* (L.) Fee** [= ***Paltonium lanceolatum* (L.) Presl.**]. (Ribbon Fern). Fig. 6.
1. Fronds simple, lobed or pinnatifid.
  4. Stipe and rachis peltate scaly. ***Polypodium polypodioides* (L.) Watt.** (Resurection Fern. Grey Polypody). Fig. 7
  4. Stipe and rachis not peltate scaly.
    5. Fronds large, 3-6 dm long, lobes> 1.0 cm wide;. epiphytic. ***Phlebodium aureum* (L.) J. Smith**. [= ***Polypodium aureum* L.**]. (Golden Polypody). Fig. 8.
    5. Fronds smaller, lobes < 1.0 cm wide, 4-8 times as long as wide; epiphytic and terrestrial. ***Polypodium plumula* Humb. & Bonpl. ex Willd.** (Feather Fern. Comb Fern). Fig. 9.

Other taxon: ***Polypodium squamatum* L.**

Vittariaceae. Shoestring-Fern Family.

***Vittaria lineata* (L.) J. E.** Smith. (Shoestring-fern). Fig. 10.

Pteridaceae. Bracken Fern Family.

1. False indusium lacking (leaf margin not rolled over the sori).
  2. Sori covering entire abaxial side of fertile pinnae (acrostichoid) fronds once pinnate.
    3. Sterile pinnae rounded at apex; plant 2.0 m tall or less ***Acrostichum aureum* L.** (Giant Fern. Coast Leather Fern). Fig. 11.
    3. Sterile pinnae acute at apex; plant to 3.0 m tall. ***Acrostichum danaefolium* Langsd. & Fisch** [=***A. excelsum* Maxon**], (Giant Fern. Inland Leather Fern).

2. Sori not covering entire abaxial side of pinnae; fronds twice-pinnate. ***Pityrogramma calomelanos* (L.) Link.** (Silver Fern). Fig. 12.

1. False indusium present.
   4. Sori marginal.
      5. Fronds 0.5-2.0 m tall, arising from an extensive rhizome; sori born beween inner indusial membrane and outer reflexed leaf margin. ***Pteridium aquilinum* (L.) Kuhn var. *caudatum* (L.) Sadebeck. [= *Pteridium caudatum* (L.) Maxon]**. (Southern Bracken). Fig. 13.
      5. Fronds smaller; sori born on abaxial surface of reflexed leaf margin.
         6. Fronds pinnately compound; pinnae linear. ***Pteris longifolia*** L. **var. *bahamensis* (Ag.) Hieron.** (Brake Fern). Fig. 14.
         6. Fronds anisotomously divided; ultimate pinnules deltoid. ***Adiantum tenerum* Swartz.** (Slender Maidenhair Fern). Fig. 15.
   4. Sori terminal, at tip of club-shaped pinnule. ***Sphenomeris clavata* (L.) Maxon.** (Parsley Fern. Pineland Fern). Fig. 16.

Other taxon: ***Pteris vittata*** L.

Blechnaceae. Blechnum Family.

***Blechnum serrulatum* Richard.** (Mid-Sorus Fern. Marsh Fern). Fig. 17.

Aspleniaceae. Spleenwort Family.

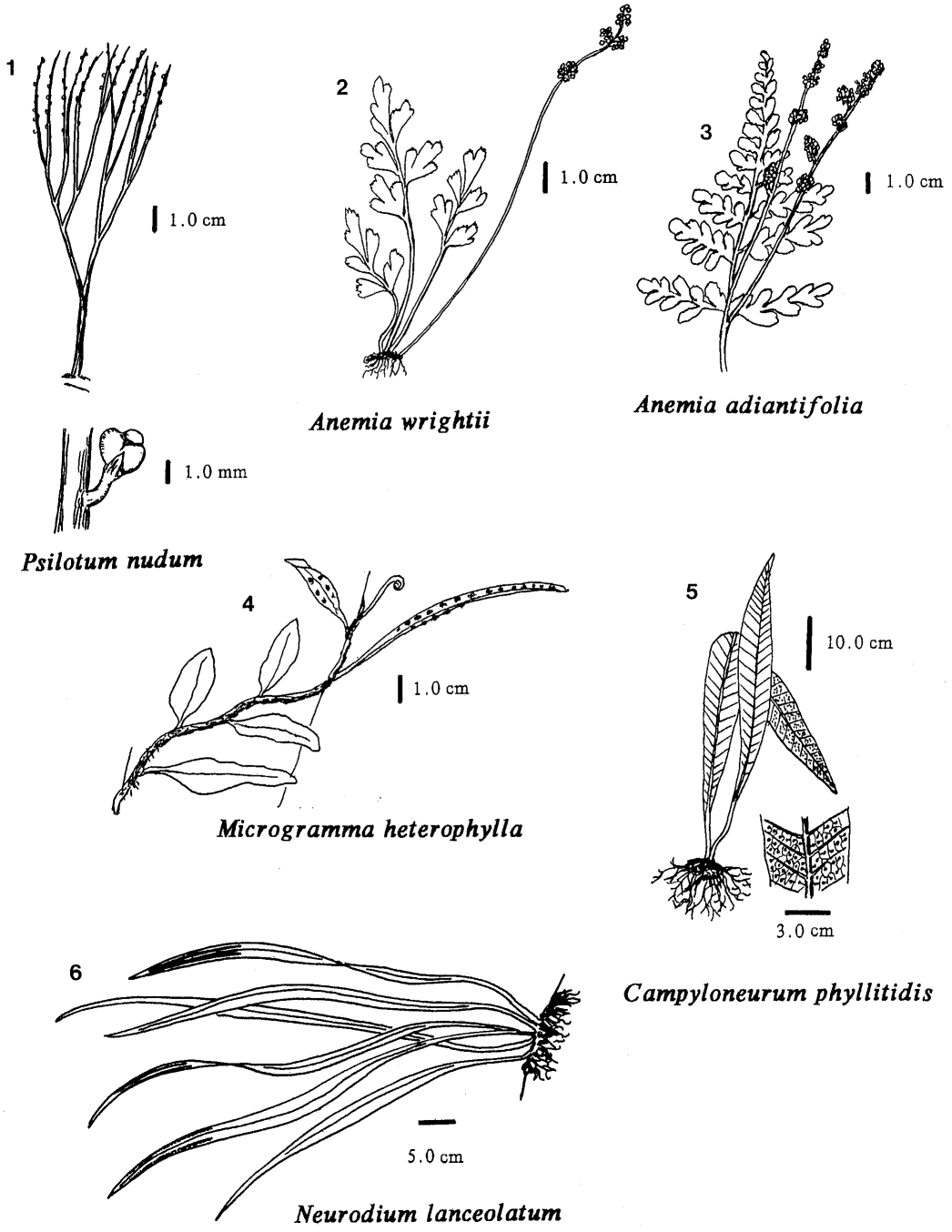
Asplenium dentatum L. [= ***A. trichomanes-dentatum*** L.]. (Toothed Spleenwort). Fig. 18.

Aspidiaceae. Aspidium Family.

1. Fronds small, 1-3 times pinnate-pinnatifid; pinnae deltoid. ***Tectaria lobata* (Poir.) Morton.** (Halberd Fern). Fig. 19.

1. Fronds larger, 1-2 times pinnate-pinnatifid.
   2. Plants erect.
      3. Pinnae reduced in size gradually toward the apex; pinnae lobes adjacent to rachis larger than lobes more distal. ***Thelypteris kunthii* (Desvaux) Morton.** (Southern Shield Fern). Fig. 20.
      3. Pinnae reduced in size abruptly toward apex; pinnae lobes adjacent to rachis equal in size to more distal ones. ***Thelypteris augescens* (Link) Muntz & Johnson.** (Abrupt-Tip Shield Fern). Fig. 21.
   2. Fronds reclining, often rooting at tip.
      4. Abaxial side of pinnae with simple and stellate hairs along veins; veins with several branches, the basal ones joined. ***Thelypteris replans*** (J. F. **Gmel.) Morton [= *Goniopteris reptans*** Presl.]. (Walking Wood Fern. Creeping Star-Hair Fern). Fig. 22.
      4. Abaxial side of pinnae with stellate hairs along veins; veins forked, mostly free. ***Thelypteris cordata* (Fee) Proctor [= *Dryopteris cordata* (Fee) Urban].**

Other taxa: ***Tectaria coriandrifolia* (Sw.) Underw, *Thelypteris ovata.***



Anemia wrightii

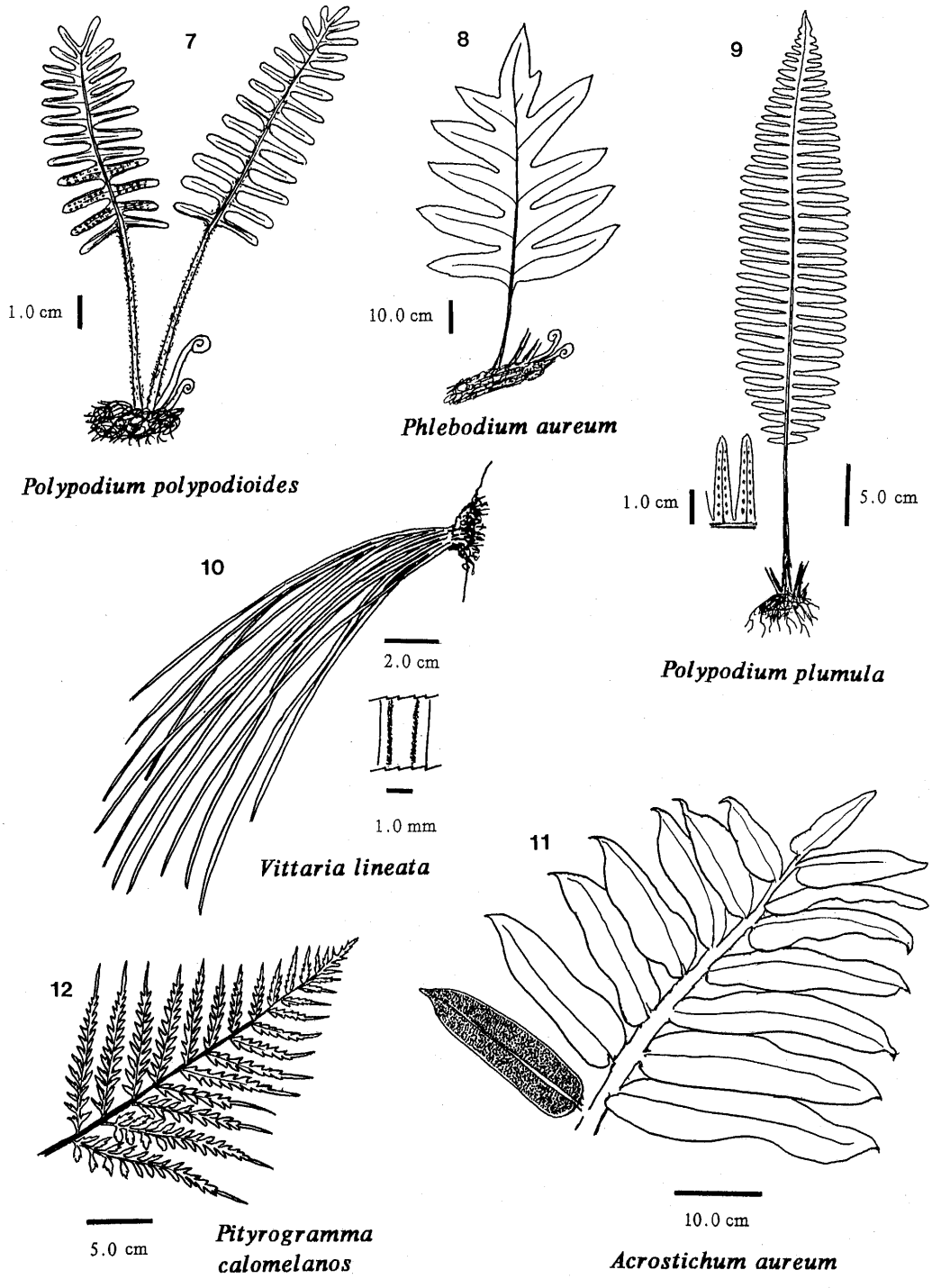
Anemia adiantifolia

Psilotum nudum

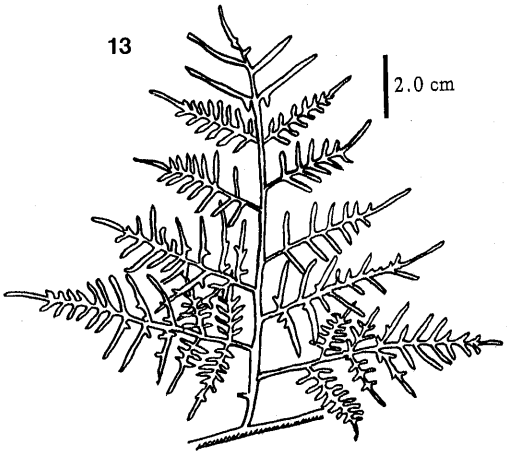
Microgramma heterophylla

Campyloneurum phyllitidis

Neurodium lanceolatum

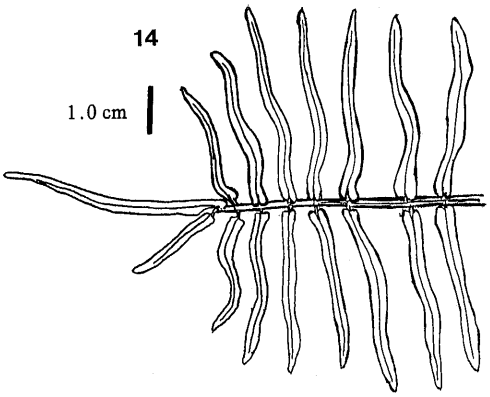

7
1.0 cm
Polypodium polypodioides
8
10.0 cm
Phlebodium aureum
9
1.0 cm
5.0 cm
Polypodium plumula
10
2.0 cm
1.0 mm
Vittaria lineata
11
10.0 cm
Acrostichum aureum
12
5.0 cm
Pityrogramma calomelanos

13



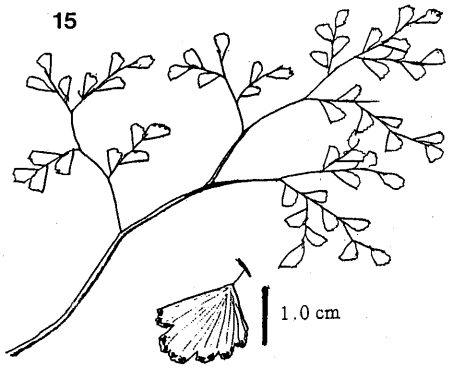
Pteridium aquilinum

14



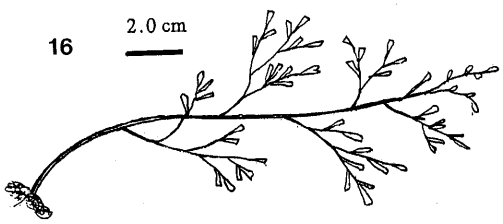
Pteris longifolia var. bahamensis

15



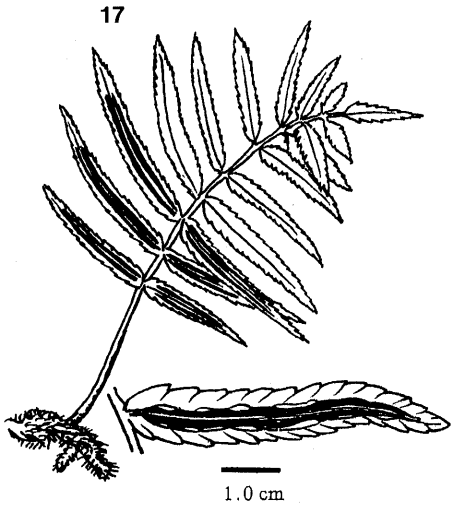
Adiantum tenerum

16

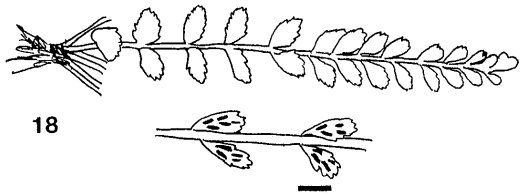


Sphenomeris clavata

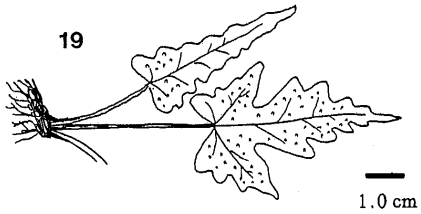
17



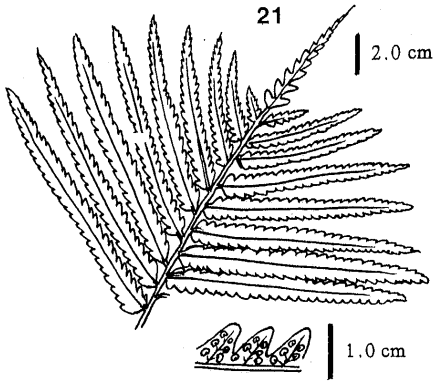
Blechnum serrulatum



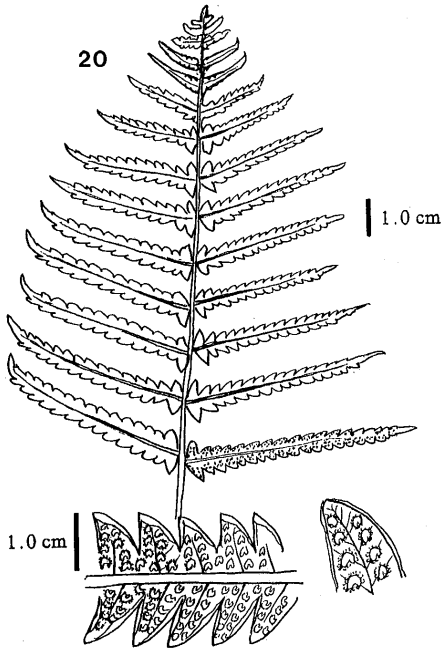
Asplenium dentatum



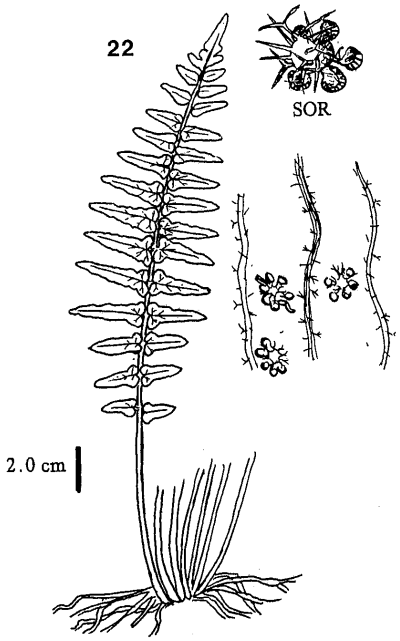
Tectaria lobata



Thelypteris augescens



Thelypteris kunthii



Thelypteris reptans

KEY TO SEED PLANTS

1. Ovules naked; seeds born on cones; leaves often scale or needle-like. **GYMNOSPERMS**.
1. Ovules enclosed in an ovary of a flower. **ANGIOSPERMS**.
    2. Leaves often with parallel venation, blades often sheathing at point of attachment to stem; vascular bundles scattered in x. s. of stem; seed leaves (cotyledons) one. **MONOCOTYLEDONS**, p. 19.
    2. Leaves often with reticulate venation; herbaceous stems with vascular bundles arranged concentrically around a vascular cambium; woody stems with annular rings (or not); seed leaves two. **DICOTYLEDONS**, p. 54.

KEY TO FAMILIES OF GYMNOSPERMS

1. Leaves needle or scale-like.
    2. Leaves needle-like, fascicled in groups of 2-3; cones large, scaly. **Pinaceae**.
    2. Leaves scale-like; cones small, resembling berries. **Cupressaceae**.
1. Leaves pinnately compound, born at the apex of a short stem as a crown. **Cycadaceae**.

Pinaceae. Pine Family.

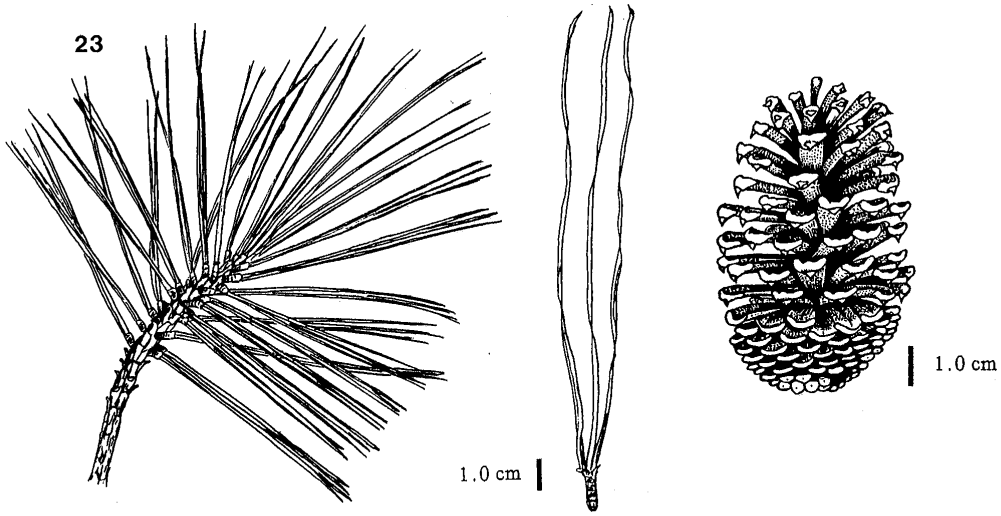
Pinus caribaea Morelet var. *bahamensis* (Griseb.) Barrett et Golfari. (Caribbean Pine. Yellow Pine. Bahamian Pine). Fig. 23.

Cupressaceae. Cypress Family.

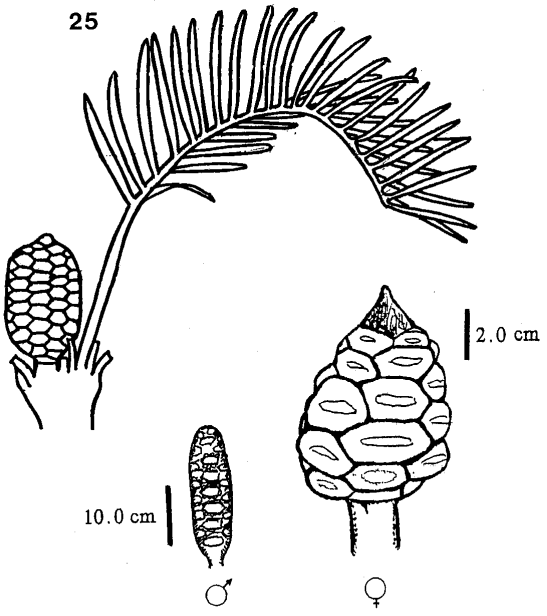
Juniperus barbadensis L. (West Indian Red Cedar). Fig. 24

Cycadaceae. Cycad Family.

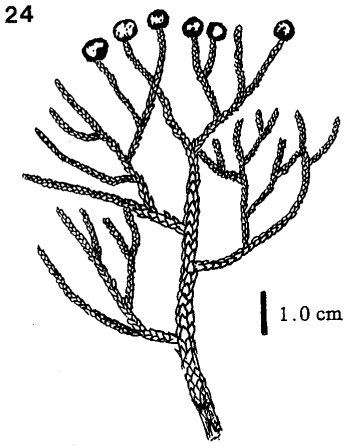
Zamia pumila L. (Coontie. Bay-Rush). Fig. 25.



Pinus caribaea var. bahamensis



Zamia pumila



Juniperus barbadensis

KEY TO FAMILIES OF MONOCOTYLEDONS

1. Plants very large and/or with "woody" stems.
    2. Palmlike plants; leaves compound. **Arecaceae (Palmae).**
    2. Fleshy, succulents and vines.
        3. Large, succulent herbs; leaves fleshy in a rosette. **Agavaceae**.
        3. Vines; leaves simple with tendrils. **Liliaceae**.
1. Plants smaller and/or with herbaceous stems.
    4. Plants epiphytic, with aerial roots.
        5. Leaves with scurfy, grayish scales, often in spiralled crowns. **Bromeliaceae**.
        5. Leaves without scurfy scales, often folded or strap-shaped. **Orchidaceae**.
    4. Plants terrestrial, emergent, or aquatic.
        6. Plants aquatic (submerged) in brackish or marine ecosystems;
            7. Perianth generally without sepals and petals.
                8. Plants of fresh or brackish water, seldom marine.
                    9. Flowers bisexual.
                        10. Tepals 0; flowers with 4 long-stipitate carpels; fruits urn-shaped, long-stalked. **Ruppiaceae**.
                        10. Tepals 4; carpels sessile; fruits ovate. **Potamogetonaceae**.
                    9. Flowers unisexual. **Najadaceae**.
                8. Plants marine. **Cymodoceaceae**.
            7. Perianth generally with sepals and petals. **Hydrocharitaceae**.
        6. Plants terrestrial or emergent.
            10. Flowers borne in spikelets with scale-like perianth; fruit one-seeded (achene or grain)
                11. Culms (stems) solid, often trigonous; leaves 3-ranked, sheath tubular; achene subtended by simple or saccate scales; anthers basifixed. **Cyperaceae**.
                11. Culms hollow, solid (and often swollen) at the nodes, sheath margins free; leaves 2-ranked; floret subtended by two scales (palea and lemma); anthers versatile. **Poaceae**.
            10. Flowers not in spikelets; fruits not as above.
                12. Plants monoecious.
                    13. Inflorescence a fleshy spadix with unisexual flowers; subtending spathe present. **Araceae**.
                    13. Inflorescence a large terete spike; perianth composed of bristles or scales; plants in marine or brackish habitats. **Typhaceae**.
                12. Plants not monoecious.
                    14. Gynoecium apocarpous; perianth showy. **Alismataceae**.
                    14. Gynoecium syncarpous; perianth showy or not showy.
                        15. Ovary superior.
                            16. Inflorescence often subtended by a spathe; flowers deliquescent; staminal filaments fimbriate. **Commelinaceae**.

16. Inflorescence not with spathe; flowers not deliquesent.
    17. Perianth of six scalelike tepals; fruit a loculicidal capsule. **Juncaceae**.
    17. Perianth not scalelike. **Liliaceae**.
15. Ovary inferior.
    18. Flowers actinomorphic.
        19. Plant a vine. **Dioscoreaceae**.
        19. Plant not a vine. **Liliaceae** (including the **Amarylidaceae**).
    18. Flowers zygomorphic.
        20. Tree-like perennial herbs; leaves large, sheaths farming pseudostems; inflorescence bracteate.
            21. Leaves spirally arranged. **Musaceae**.
            21. Leaves alternate, 2-ranked. **Strelitziaceae**.
        20. Herbs, not tree-like.
            22. Leaves broad, pinately veined; flowers subtended by bracts; one stamen attached to the corolla. **Marantaceae**.
            22. Leaves with parallel venation; anther, stigma, and style fused into a stylopodium. **Orchidaceae**.

Agavaceae. Agave Family.

1. Plants not suckering from the base; leaf margins with prickles. ***Agave bahamana* Trelease**. (Bahama Century Plant). Fig. 30.
1. Plants suckering from the base; leaf margin without prickles; terminal spine dark brown. ***Agave sisalana* Perrine**. (Sisal). Fig. 32.

Other taxa: ***Agave braceana* Trel., *Sansevieria hyacinthoides* (L.) Druce.**

Alismataceae. Water Plantain Family.

***Sagittaria lancifolia* L.** (Lance-Leaved ArrowheadL Fig. 35.

Other taxon: ***Echinodorus berteroi* (Spreng.) Fassett**.

Araceae. Arum Family.

Colocasia esculentum (L.) Schott. (Taro. Edoe. Kalo. Elephant's EarL Fig. 33.

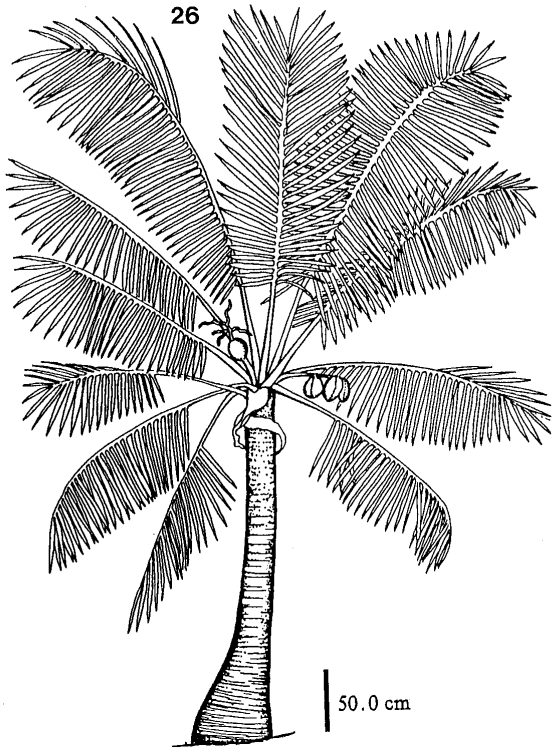
Arecaceae [= Palmae]. Palm Family.

1. Leaves pinnate or costa palmate.
    2. Leaves pinnate.
        3. Spathes in leaf axils. ***Cocos nucifera* L.** (Coconut). Fig. 26.
        3. Spathes at base of crownshaft. ***Roystonia hispaniola* L.** (Hispaniolan Royal Palm). Fig. 27.
    2. Leaves costa palmate. ***Sabal palmetto* (Walt.) Lodd. ex Roem. & Schultes.** (Cabbage Palm. Pond Top. Pond Thatch. Hat Palmetto). Fig. 31.
1. Leaves palmate.
    4. Leaves silvery below; base of petiole split; perianth segments 6; endosperm uniform. ***Thrinax morrisii* H. Wendt**. (Small-fruited Thatch Palm. Buffalo-top) Fig. 28.
    4. Leaves silvery scurfy below; base of petiole not split; perianth segments ususally 10; endosperm ruminate. ***Cocothrinax argentata* (Jacq.) Bailey.** (Silver Palm). Fig. 29.

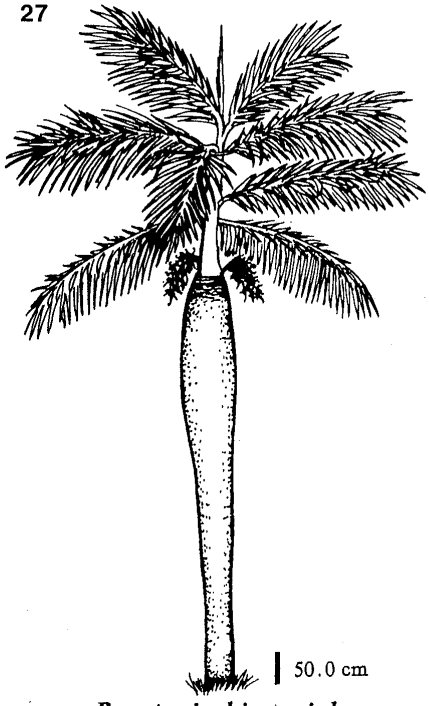
    Other taxa: ***Acoelorrhaphe wrightii* (Griseb. & H. Wendt.) H,. Wendl**., ***Thrinax radiata* Lodd. ex J. A. & H. J. Schultes** [= ***T. floridana* Sarg.**]

Bromeliaceae. Pineapple Family.

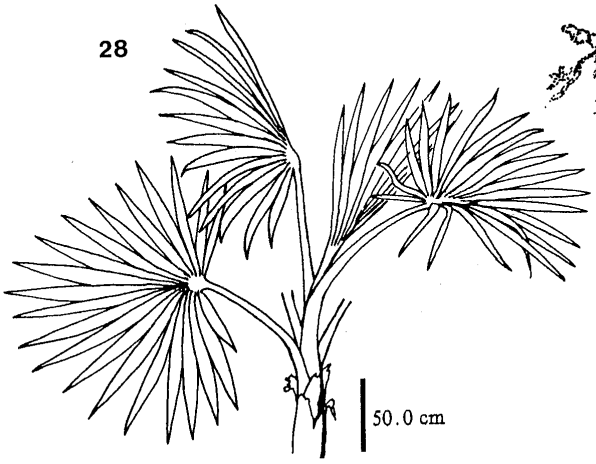
1. Flowers in distichous spikes; leaves grey green.
    2. Leaves inflated (dilated) at base.
        3. Leaves banded and twisted at base. ***Tilandsia flexuosa* Sw.** [= ***T. aloifolia* Hook**.]. (Flexuous Wild Pine. Twisted Air Plant). Fig. 37.
        3. Leaves not twisted at base but inflated into pseudobulbs. ***Tilandsia balbisiana* J. A. & J. H. Schultes**. (Balbis' Wild Pine. Cuttlefish). Fig. 34.



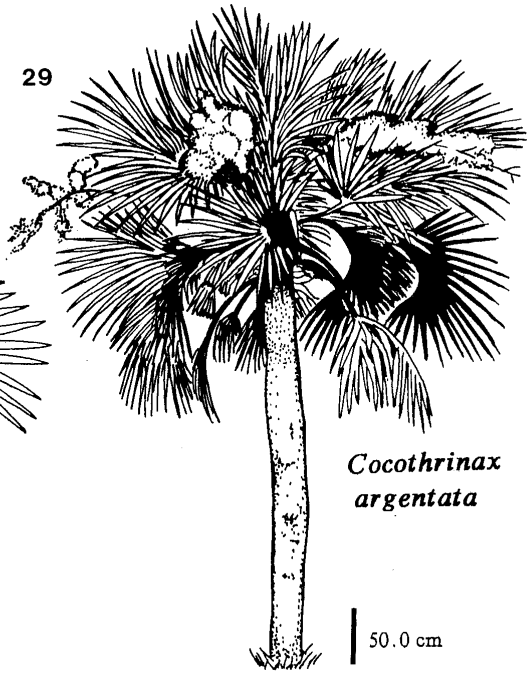
Cocos nucifera



Roystonia hispaniola

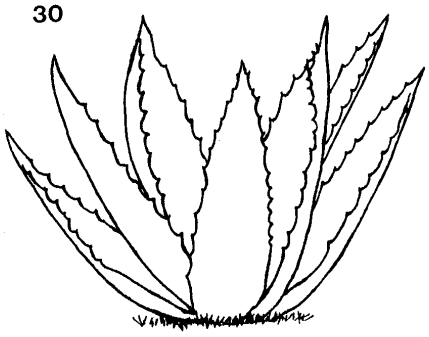


Thrinax morrisii

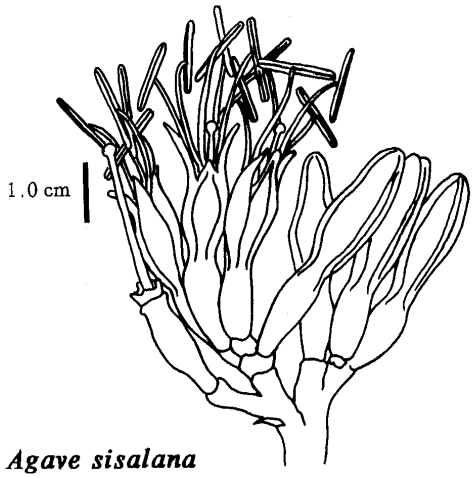


Cocothrinax argentata

30

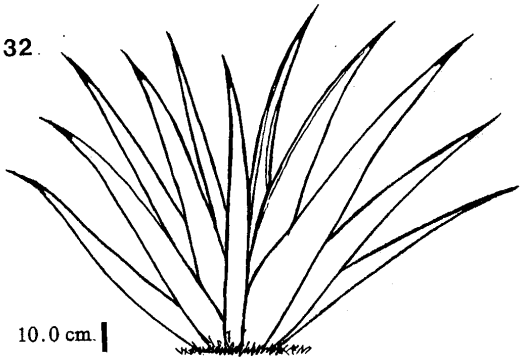


Agave bahamana



Agave sisalana

32



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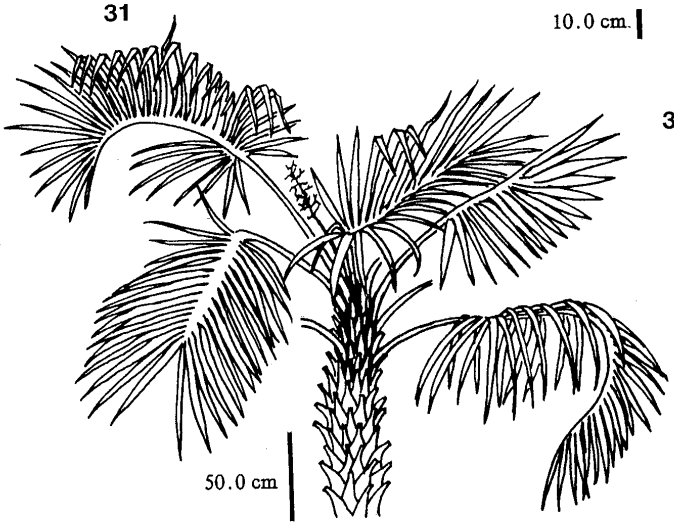
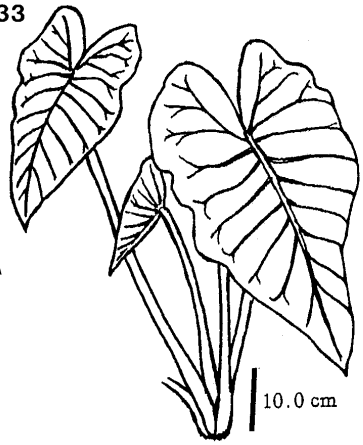
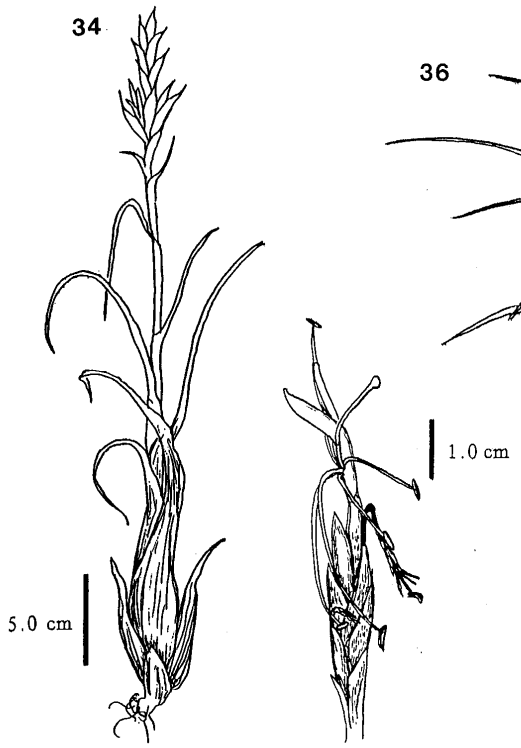


Sabal palmetto

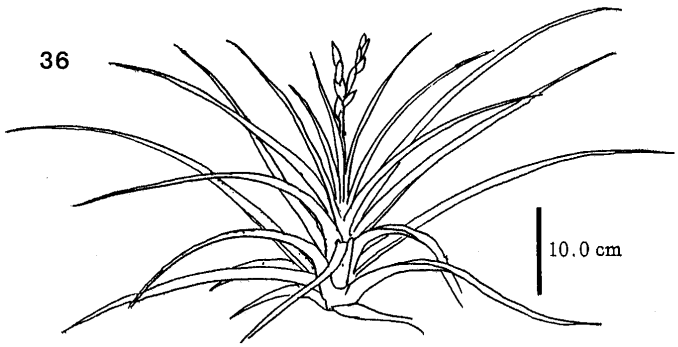
33



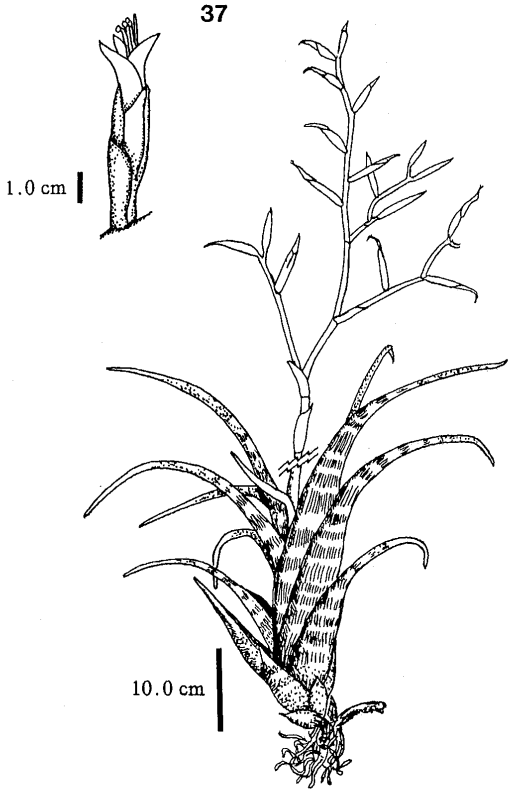
Colocasia esculentum



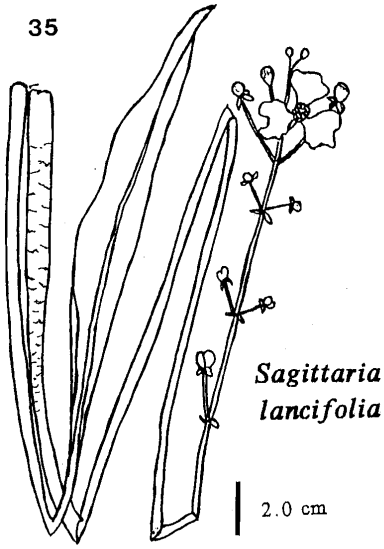
Tilandsia balbisiana



Tilandsia valenzuelana



Tilandsia flexuosa



Sagittaria lancifolia

2. Leaves not inflated at base, linear.
    4. Leaves spreading from a symetrical crown, pale green; often terrestrial. ***Tilandsia valenzuelana* A. Richard.** (Valenzela's Wild Pine). Fig. 36.
    4. Leaves setaceous-filiform; flowering stem scape-like; flowers 2, terminal. ***Tilandsia recurvata* L.** (Thread-Leaved Wild Pine. Ball Moss).

1. Flowers in polystichous spikes; leaves yellow-green, strap-shaped, forming water holding cylinder. ***Catopsis bertoniana* (J. A. & J. H. Schultes) Mez ex DC.** (Mealy Wild Pine).

Other taxa: ***Ananas comosus* (L.) Merr.**, ***Catopsis floribunda* (Brongn.) L. B. Smith**, ***Tilandsia bulbosa* Hook.**, ***T. circinata* Schlecht.**, ***T. fasciculata* Sw.**, ***T. utriculata* L.**

Commelinaceae. Spiderwort Family.

1. Subtending spathe single; perfect stamens 2 or 3. ***Commelina diffusa* Burm. f.** (Creeping Day Flower).
1. Subtending spathes paired; perfect stamens 5 or 6. ***Rhoeo spathacea* (Sw.) Stearn**. (Moses-in-the-Boat. Oyster Plant. Boat Lily).

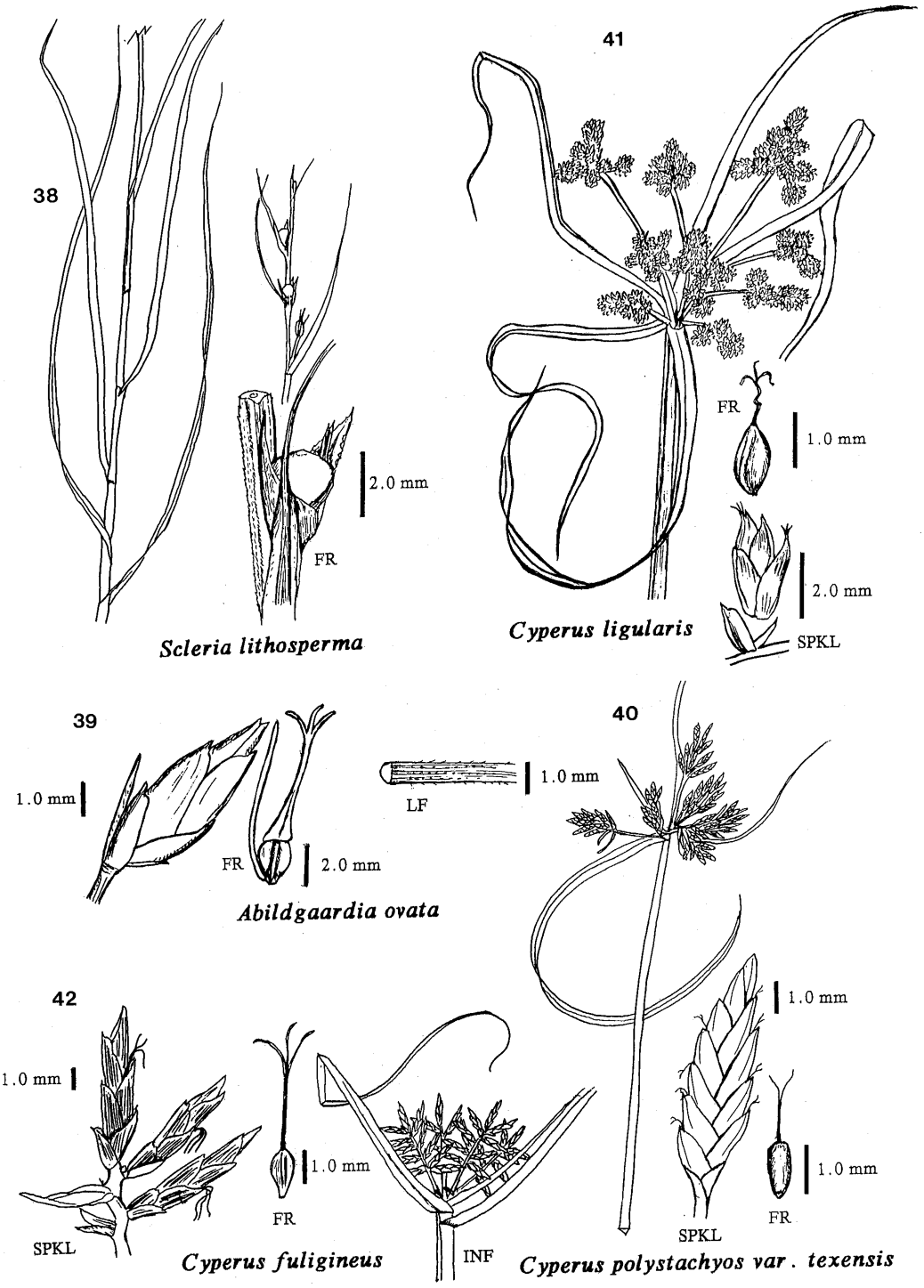
Cymodoceaceae. Manatee-grass Family

1. Leaves flat, notched on the ends. ***Halodule beaudettei* (den Hartog) den Hartog.**
1. Leaves terete, acute at apex. ***Syringodium filiforme* Kutz. (Manatee-grass).**

Other taxon: ***Halodule wrightii* Aschers.**

Cyperaceae. Sedge Family.

1. Flowers unisexual; plants monoecious, male and female flowers in distinct spikes; achene bony, globose, white. ***Scleria lithosperma* (L.) Sw.** (Slender Nut-Sedge). Fig. 38.
1. Flowers bisexual (perfect).
    2. Scales of spike1et appearing two ranked (distichous); perianth of bristles lacking.
        3. Leaves generally less than 1.0 mm wide; spikelets few, solitary, subterminal, subtended by a bract (shorter than spikelet); style base swollen. ***Abildgaardia ovata* (Burm f.) Kral.** (Flat-Spiked S.). Fig. 39.
        3. Leaves generally wider than 1.0 mm; spikelets few to many, often in compound inflorescences; style base not swollen.
            4. Style branches 2; achene lenticular. ***Cyperus polystachyos* var. *texensis* (Torr.) Fern.** (Panicled Cyperus). Fig. 40.
            4. Style branches 3; achenes trigonous; involucralleaves much surpassing the inflorescence.
                5. Spikelets in compound umbels; plants robust (to 1.2 m high); involucral leaves deflexed; spikelet 3-6 mm long. ***Cyperus ligularis* L.** (Large Cyperus). Fig. 41.
                5. Spikelets in glomerate or capitate umbels; plant < 7 dm tall; spikelets 6-10 mm long; achene 1.5 mm long. ***Cyperus fuligineus* Chapm.** (Sooty Cyperus). Fig. 42.

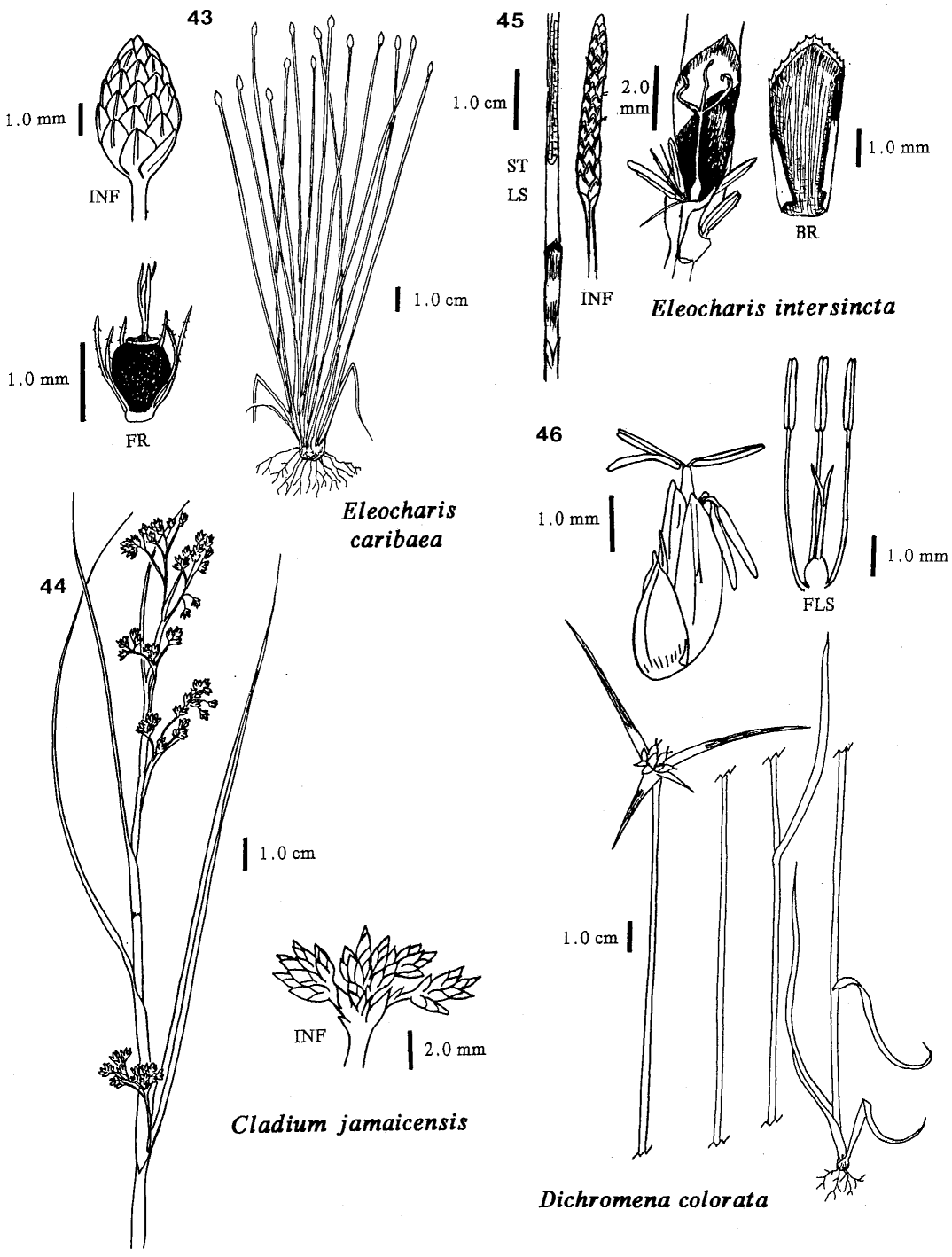

38
2.0 mm
FR
Scleria lithosperma
41
FR
1.0 mm
2.0 mm
SPKL
Cyperus ligularis
39
1.0 mm
FR
2.0 mm
Abildgaardia ovata
LF
1.0 mm
40
1.0 mm
1.0 mm
SPKL
FR
42
1.0 mm
SPKL
1.0 mm
FR
INF
Cyperus fuligineus
Cyperus polystachyos var. texensis

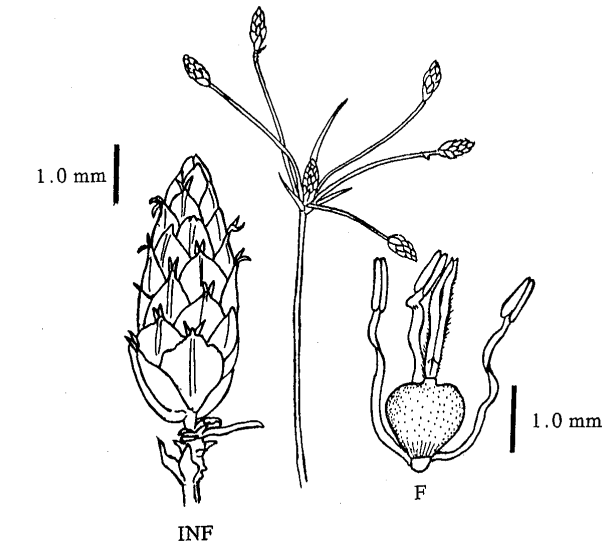
2. Scales of spikelet spirally imbricated; perianth of bristles present or lacking.
    6. Bristles absent.
        7. Style two-branched.
            8. Involucralleaves conspicuous, white. ***Dichromena colorata*** **(L.) Hitchc.** (White-Headed Sedge). Fig. 46.
            8. Involucralleaves absent. ***Fimbristylis ferruginea*** **(L.) Vahl.** (Rusty Fimbristylis). Fig. 47.
        7. Style 3-branched; achene with tubercle; leaf margins spinulose. ***Cladium jamaicensis*** **Crantz.** (Saw Grass). Fig. 44.
    6. Bristles present (lacking in *R. divergens*).
        9. Fertile flowers several to many in the spikelet; spike terminal, conical; culm septate nodulose, leafless; achene crowned by tubercled base of style.
            10. Culms tall, > 2 mm thick. ***Eleocharis intersincta*** **(Vahl.) R. & S.** (Knotted Spike-Rush. Club-Rush). Fig. 45.
            10. Culms short, < 2 mm thick. ***Eleocharis caribaea*** **(Rottb.) Blake.** (Capitate Spikerush). Fig. 43.
        9. Fertile flowers relatively few in the spikelet (1-2), the lower scales flowerless; spike capitate, not conical; culms not septate.
            11. Style stout, undivided part much longer than divided part; spikelets densely capitate. ***Rhynchospora cyperoides*** **(Sw.) Mart.** (Capitate Beak-Rush). Fig. 50.
            11. Style slender, undivided part ca. equal in length to divided part or achene crowned by persistent style base.
                12. Bristles lacking; achene reticulate. ***Rhynchospora divergens*** **Chapm.** (Low Beak Rush). Fig. 48.
                12. Bristles present, as long as the achene (1.0 mm), honeycomb-pitted. ***Rhynchospora microcarpa*** **Baldw.** (Small-Fruited Beak Rush). Fig. 49.

Other taxa: ***Cyperus alternifolius*** **L.,** **C.** ***aristatus*** **Rottb.,** **C.** ***elegans*** **L.,** **C.** ***floridanus*** **Britt.,** ***C. globulosus*** **Aubl.** ***C. planifolius*** **Rich.,** ***C. rotundus*** **L.,** ***C. surinamensis*** **Rottb.,** ***Dichromena floridensis*** **Britt.,** ***Eleocharis bahamensis*** **Boekl.,** ***E. cellulosa*** **Torr.,** ***Fimbristylis dichotoma*** **(L.) Vahl.,** ***F. inaguensis*** **Britt.,** ***F. schoenoides*** **(Retz.) Vahl.,** ***F. spadicea*** **(L.) Vahl.,** ***F. spathacea*** **Roth.,** ***Rhynchospora elliottii*** **A. Dietr.,** ***R. lindeniana*** **Griseb. var.** ***bahamensis*** **(Britt.) Gale,** ***R. tenuis*** **Link,** ***R. traceyi*** **Britt.,** ***Schoenus nigricans*** **L.,** ***Torulinium confertum*** **Desv. ex Hamilt.**

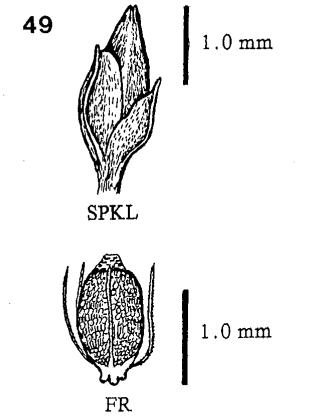
Dioscoreaceae. Yam Family.

1. Leaves ovate, cordate at base; fruit a 3-angled capsule. ***Dioscorea alata*** **L. (Yam).**
1. Leaves lanceolate-ovate, hastate at base; fruit a I-seeded samara. ***Rajania hastata*** **L.** [= ***R. microphylla*** **Knuth.**]. (Wild Yam). Fig. 51.

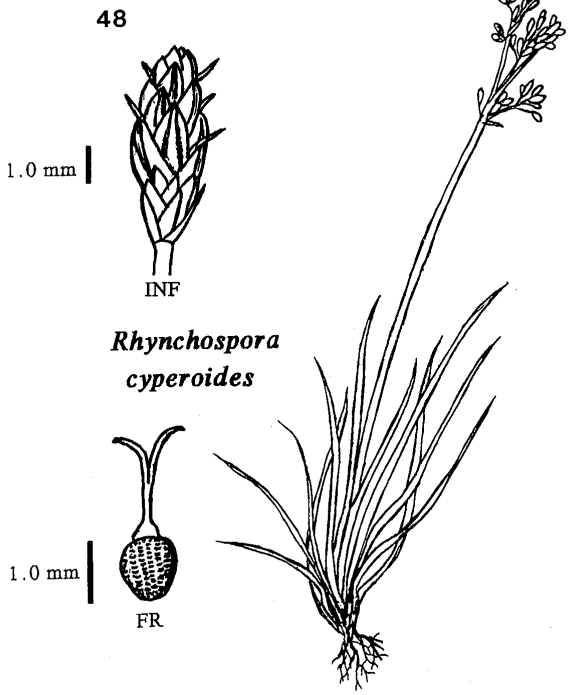

43
1.0 mm
INF
1.0 mm
FR
1.0 cm
Eleocharis caribaea
45
1.0 cm
ST
LS
INF
2.0 mm
BR
1.0 mm
Eleocharis intersincta
46
1.0 mm
FLS
1.0 mm
44
1.0 cm
INF
2.0 mm
Cladium jamaicensis
1.0 cm
Dichromena colorata



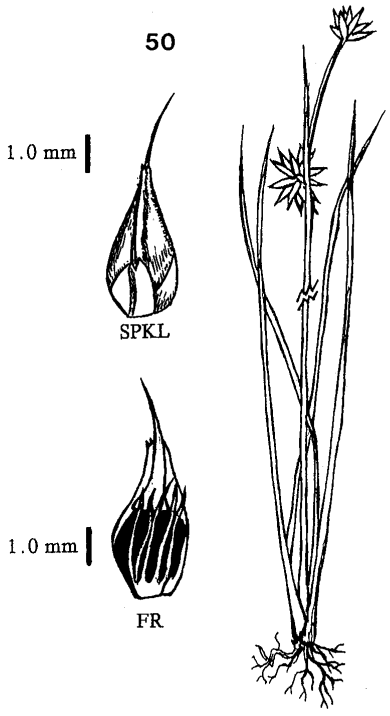
Fimbristylis ferruginea



Rhynchospora microcarpa



Rhynchospora cyperoides



Rhynchospora divergens

Hydrocharitaceae. Frog's-Bit Family.

***Thalassia testudinum* Banks & Solander ex Koenig.** (Turtle Grass). Fig. 52.

Other taxon: ***Halophila engelmanni* Aschers**

Juncaceae. Rush Family.

***Juncus roemerianus* Scheele.** (Salt Marsh Rush).

Liliaceae. Lily Family.

This treatment includes the Amaryllidaceae and Smilacaceae

1. Ovary inferior; plants entirely herbaceous.
    2. Inflorescence a tall, scapose raceme; flowers small and white; leaves mostly basal in a rosette. ***Aletris farinosa* L.** (Southern Colic-Root). Fig. 57.
    2. Inflorescence not a raceme.
        3. Plant arising from a rootstock or corm; leaves up to 30 cm long, villous; flowers yellow. ***Hypoxis wrightii* (Baker) Brackett.** (Fringed Star-Grass). Fig. 58.
        3. Plant arising from a bulb; leaves linear; inflorescence an umbel at apex of scape. ***Hymenocallis arenicola* Northrop** [= ***Hymenocallis declinata* Britt. & Millsp**.]. (Spider Lily. Day Lily). Fig. 59.
1. Ovary superior; "woody" vines; leaves simple and with tendrils.
    4. Leaf bases never lobed.
        5. Margins entire, rolled, parallel with the submarginal vein. ***Smilax laurifolia* L.** (Laurel-Leaved Greenbriar). Fig. 55.
        5. Margins entire or spiny, not rolled; submarginal vein lacking. ***Smilax havanensis* Jacq.** (Prickly Green-briar. Saw Briar. China Briar). Fig. 56.
    4. Leaf bases lobed. ***Smilax auriculata* Walt.** (Auricled Green-briar).

Other taxa: ***Aloe vera* (L.) Burm. f.,** ***Asparagus setaceous* (Kunth) Jessop,** ***Hymenocallis latifolia* (Mill.) M. J. Roem.,** ***Lithophylla muscoides* Sw.,** ***Zephranthes* rosea Lindl.**

Marantaceae. Prayer Plant, Arrowroot Family.

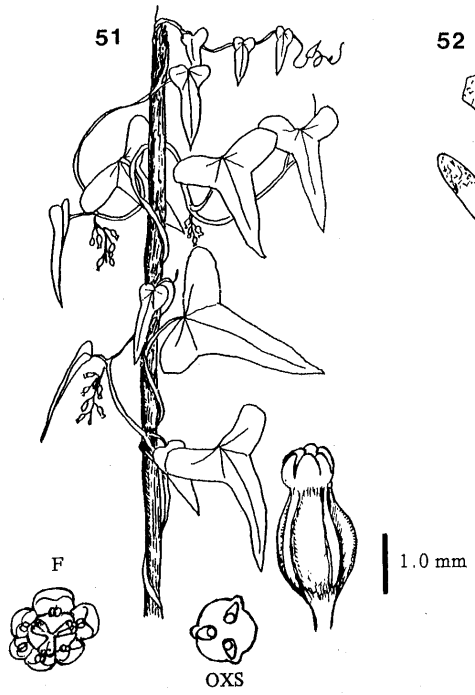
***Maranta leuconeura* E. Morr.** (Prayer Plant). Fig. 53.

Musaceae. Banana Family.

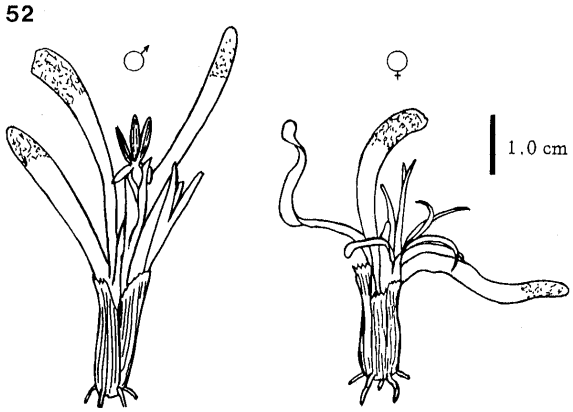
Musa* x *paradisiaca* L.** [= ***M. sapientum L.]. Fig. 54. This hybrid between ***Musa acuminata* Colla** and ***M. balbisiana* Colla** includes the cooking bananas (plantains) and the dessert bananas.

Najadaceae. Water-nymph Family.

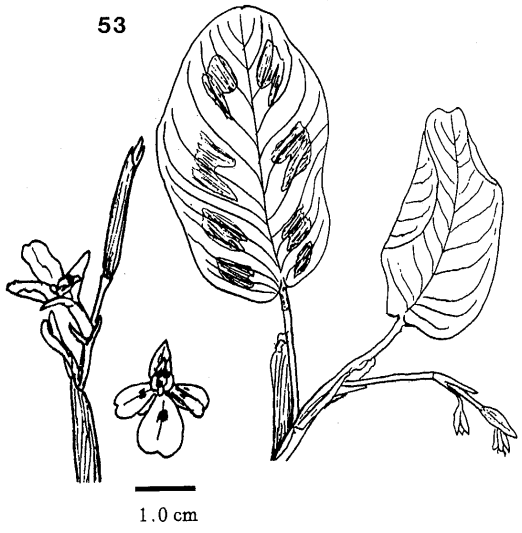
Both ***Najas marina* L**. and ***N. guadalupensis* (Spreng.) Magnus** occur on Andros.



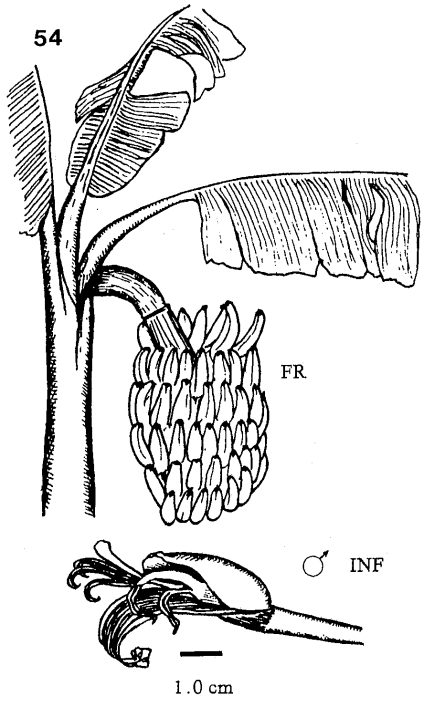
Rajania hastata



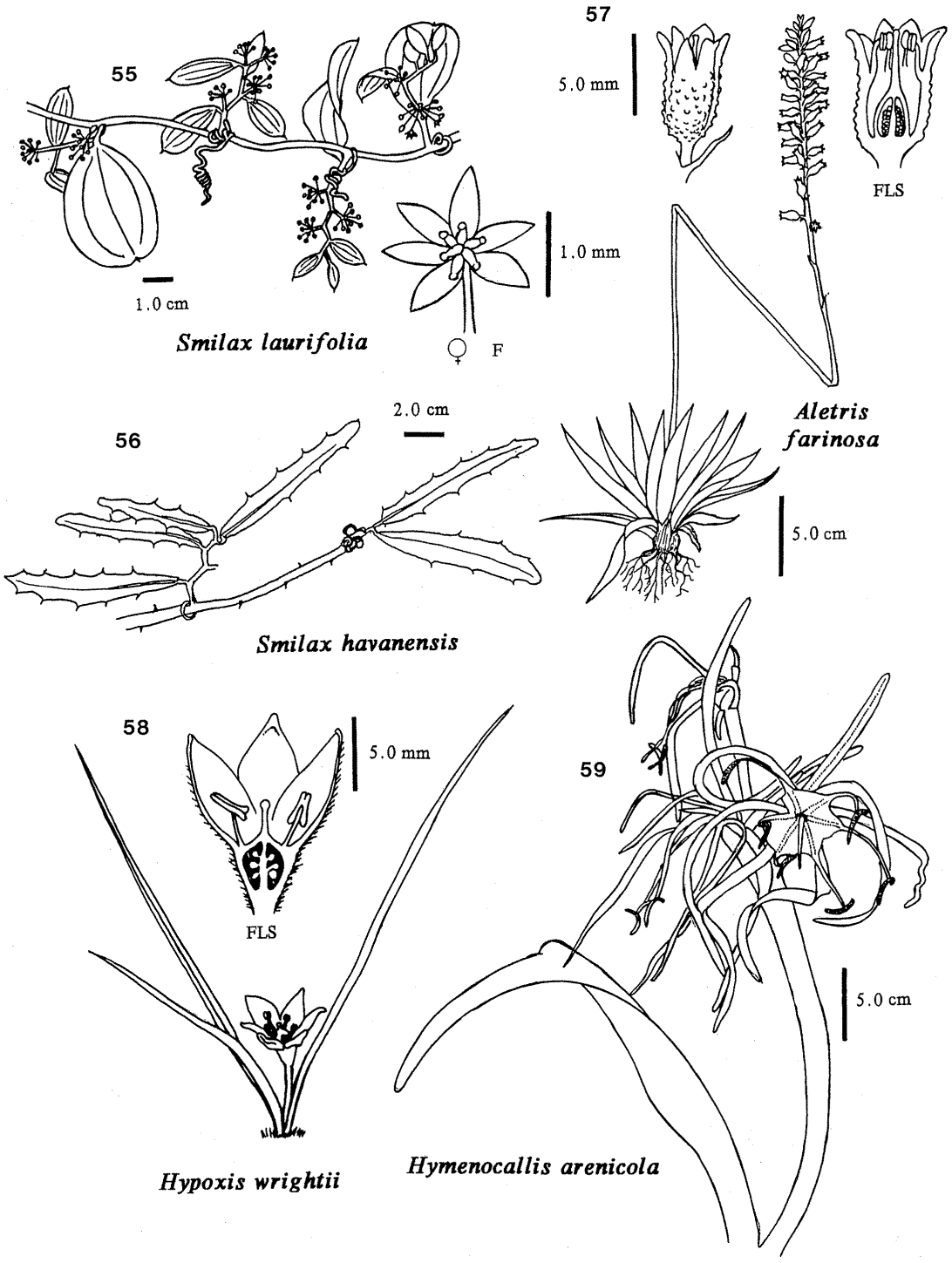
Thalassia testudinum



Maranta leuconeura

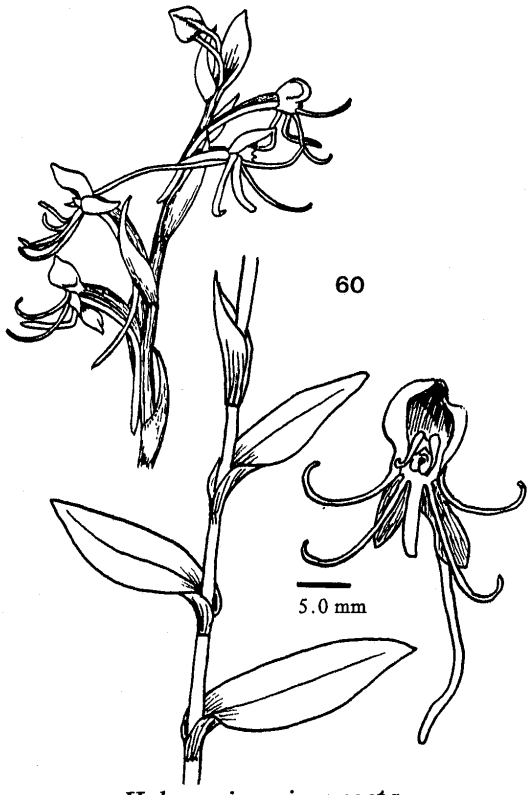


Musa X paradisiaca

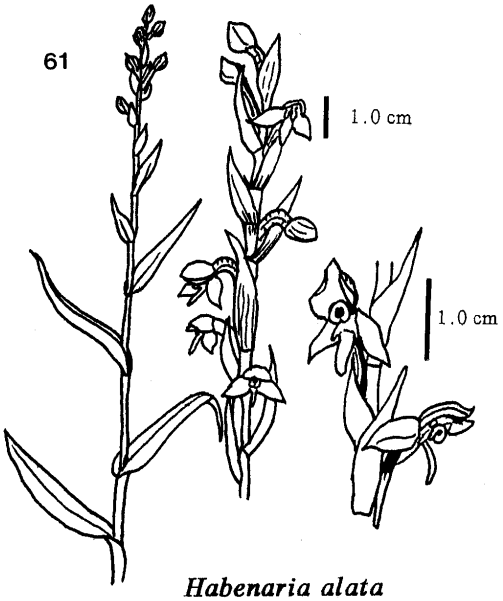

55
1.0 cm
1.0 mm
♀ F
Smilax laurifolia
57
5.0 mm
FLS
Aletris farinosa
5.0 cm
56
2.0 cm
Smilax havanensis
58
5.0 mm
FLS
Hypoxis wrightii
59
5.0 cm
Hymenocallis arenicola

Orchidaceae. Orchid Family.

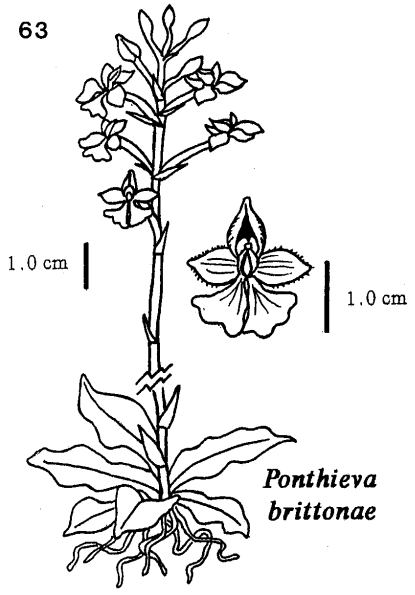
1. Plants rooted in the soil, terrestrial.
    2. Leaves present at anthesis.
        3. Lateral sepals free.
            4. Lip modified into a long spur.
                5. Spur slender; pollinia caudate with disk, exposed; sepals disimilar, the dorsal forming hood over column.
                    6. Lip simple or obscurely dentate at base on either side; basal appendage of petals absent or short.
                        7. Petals lanceolate, acute, ovary distinctly 3-winged. ***Habenaria alata*** **Hook.** (Winged Habenaria). Fig. 61.
                        7. Petals oblong-quadrate to linear-oblong, apex 3-lobed; ovary ribbed. ***Habenaria odontopetala*** **Reichb. f.** (Toothed Habenaria). Fig. 62.
                    6. Lip distinctly tripartite; basal appendage of petals as long as or longer than petal; ovary ribbed. ***Habenaria quinqueseta*** **(Michx.) Eaton.** (Five-bristled Habenaria). Fig. 60.
                5. Spur saccate; pollinia concealed in a clinandrium; lateral sepals simple, the dorsal conivent with the petals helmet fashion. ***Platyhelys querceticola*** **(Lindl.) Garay** [= ***Erythrodes querceticola*** **(Lindl.) Ames**.].
            4. Lip spurless.
                8. Lip the uppermost petal (flowers nonresupinate).
                    9. Stem arising *from* a short rhizome with fleshy, tuberous roots; leaves not plaited.
                        10. Sepals free, glandular pubescent. ***Ponthieva brittonae*** **Ames**. (Shadow Witch), Fig. 63.
                        10. Sepals united into a sepaline cup; spike slender; lip 2.0 mm wide. ***Prescotia oligantha*** **(Sw.) Lindl.** (Small Prescotia).
                    9. Stem arising *from* corms; roots fibrous; leaves plaited. ***Calopogon tuberosus*** **(L.) BSP**. (Southern Grass Pink). Fig. 64.
                8. Lip the lowermost petal (flowers resupinate).
                    11. Leaf blades dilated, narrowed to petioles. ***Spiranthes polyantha*** **Reichb. f.** (Green Ladies' Tresses).
                    11. Leaves narrowly linear, pubescent. ***Spiranthes torta*** **(Thunb.) Garay & Sweet. (**Southern Ladies' Tresses).
        3. Lateral sepals united at base into a long spur. ***Eltroplectris calcarata*** **(Sweet) Garay & Sweet.** (Long-Spurred Eltroplectris). Fig. 65.
    2. Leaves absent during anthesis.
        12. Raceme terminal.
            13. Stem pseudobulbous; roots fibrous. ***Govenia utriculata*** **(Sw.) Lindl.** (Swollen Govenia). Fig. 66.
            13. Stem rhizomatous; roots fasciculate, thickened; flowers scarlet, to 3.0 cm long. ***Stenorrhynchos lanceolata*** **(Aubl.) L. C. Rich ex Spreng.** (Leafless Beaked Orchid). Fig. 67.
        12. Raceme lateral from corms, distinct from leaf bearing shoots. ***Bletia purpurea*** **(Lam.) DC**. (Pine Pink. Purple Bletia). Fig. 68.



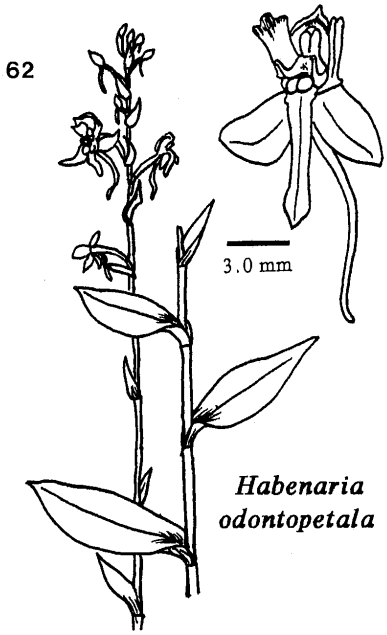
Habenaria quinqueseta



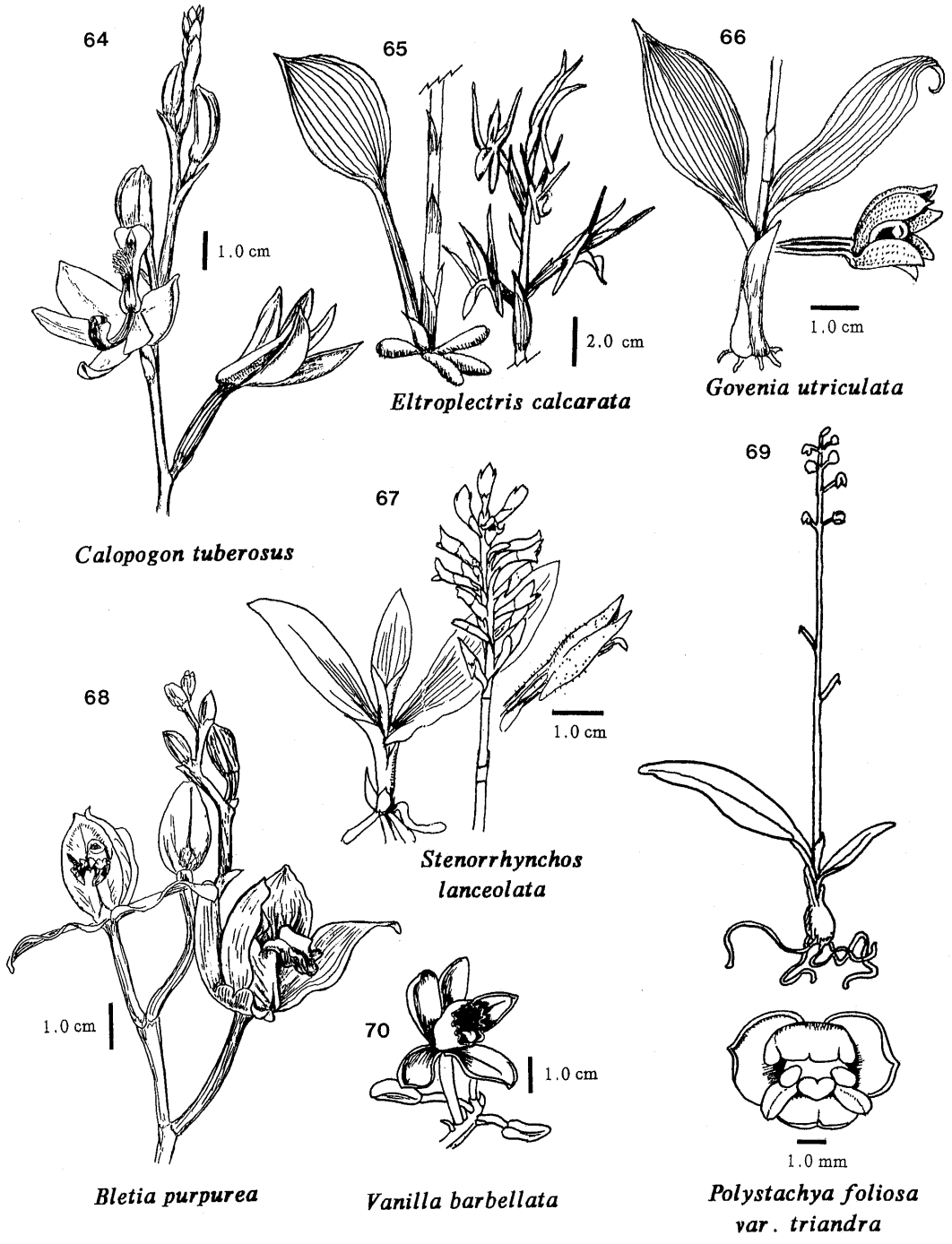
Habenaria alata



Ponthieva brittonae



Habenaria odontopetala



Calopogon tuberosus

Eltroplectris calcarata

Govenia utriculata

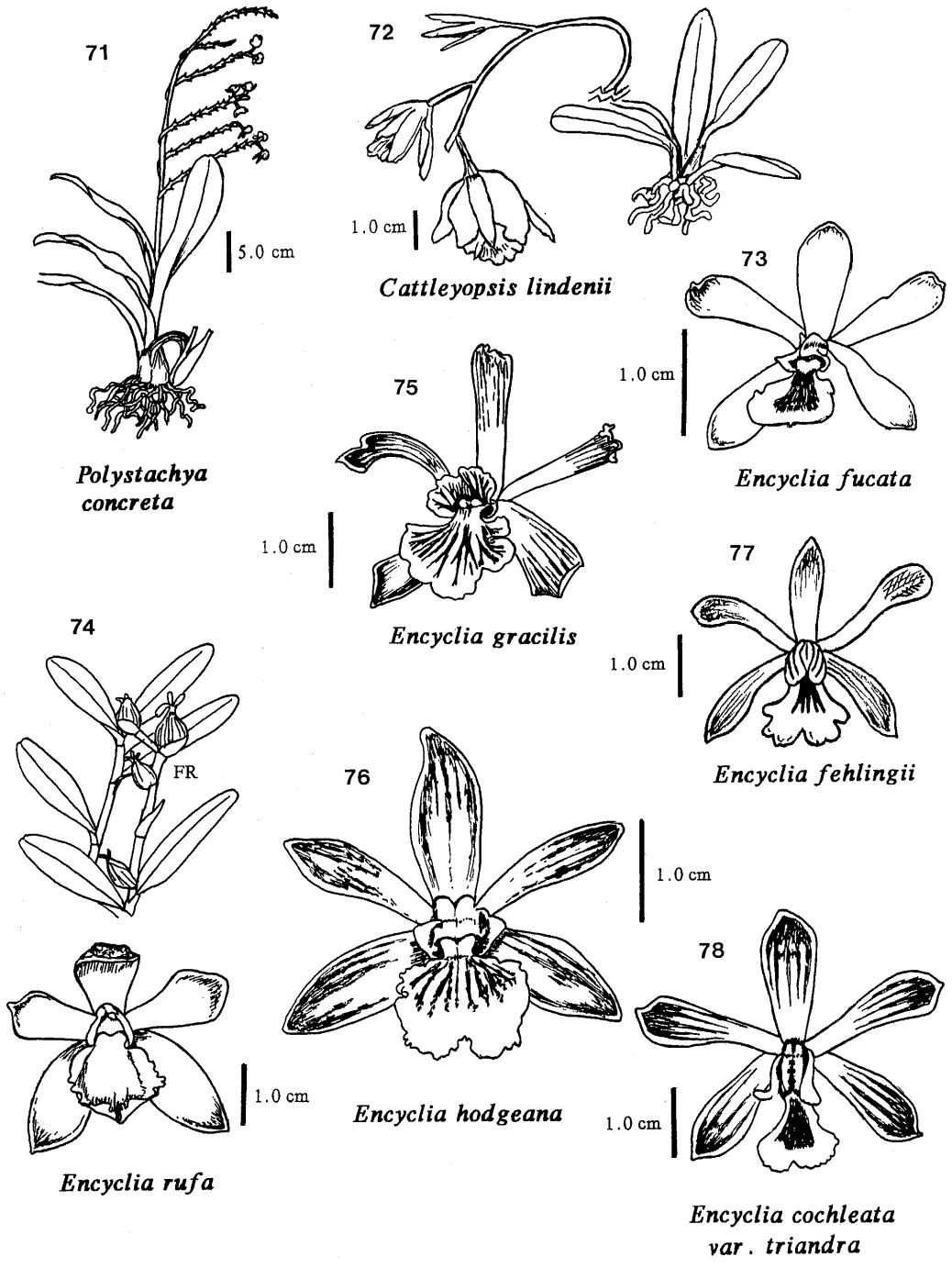
Stenorrhynchos lanceolata

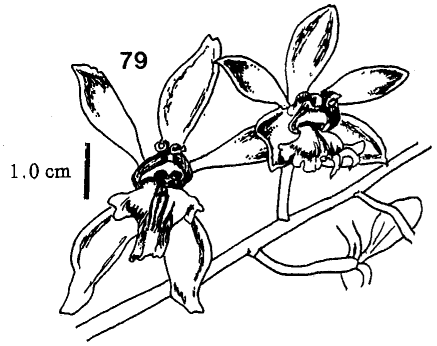
Bletia purpurea

Vanilla barbellata

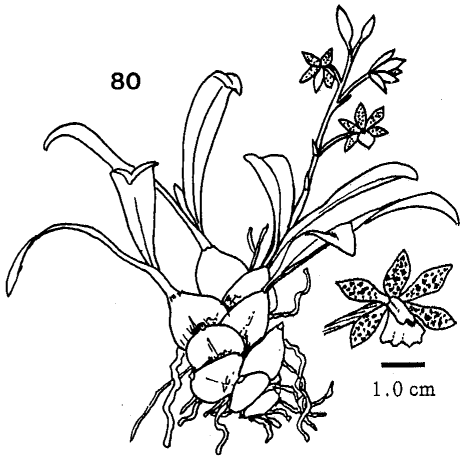
Polystachya foliosa var. triandra

1. Plants rooted on trees or rocks, not in soil (epiphytic and epilithic).
    14. Plant scandent, epiphytic, viny; lip enfolding the column; capsule fleshy.
        15. Plants appearing leafless. ***Vanilla barbellata*** **Reichb. f.** (Link Vine. Worm Vine). Fig. 70.
        15. Plants with leaves. ***Vanilla correlii*** **Sauleda & Adams.** (Correll's Link Vine).
    14. Plant not viny.
        16. Flowering stem lateral.
            17. Pseudobulbs large; leaves 3-10 dm long, margins entire; scape 1.0 meter or more high. ***Oncidium floridanum*** **Ames.** [= ***O. sphacelatum*** **Lindl.**]. (Florida Oncidium). Fig. 92.
            17. Pseudobulbs small; leaves less than 3.0 dm long, margins serrulate or crenulate ; scape 3-5 dm high.
                18. Rhizome stoloniferous.
                    19. Leaves elongate-linear, 2 dm long. ***Oncidium bahamense*** **Nash ex Britt. & Millsp.** (Bahama Oncidium). Fig. 91.
                    19. Leaves to 8 cm long, with minute, reddish-purple dots. ***Oncidium sasseri*** **Moir.** (Sasser's Oncidium). Fig. 93.
                18. Rhizome short, plant clumped; leaves oblong-falcate, 1-1.5 cm X 3 mm. ***Oncidium lucayanum*** **Nash ex Britt. & Millsp.** (Lucayan Oncidium). Fig. 90.
        16. Flowering stem terminal.
            20. Lip the uppermost segment of flower (nonresupinate); leaves duplicate.
                21. Stems pseudobulbous; flowers yellow-green.
                    22. Floral bracts vestigial or minute.
                        23. Leaves several, oblong-ligulate, racemes numerous; column with prominent foot. ***Polystachya concreta*** **(Jacq.) Garay & Sweet.** (Large Polystachya). Fig. 71.
                        23. Leaves 2, linear or linear-1anceo1ate; racemes few; column without prominent foot. ***Polystachya foliosa*** **(Hook.) Reichb. f. ex Walp. var.** ***triandra*** **Sauleda & Adams.** Fig. 69.
                    22. Floral bracts ovate, 2.0 mm long; flowers pink; ovary produced into a hollow neck. ***Cattleyopsis lindenii*** **(Lindl.) Cogn.** [= ***Broughtonia lindenii*** **(Lindl.) Dressler in Sauleda & Adams**] (Cattleyopsis). Fig. 72.
                21. Stems not pseudobulbous; floral bracts present. ***Epidendrum rigidum*** **Jacq.** (Stiff Epidendrum).
            20. Lip the lowermost segment of the flower (except in ***Encyclia cochleata*** **var.** ***cochleata***). to 24
24. Stems pseudobulbous; column partly adnate to the lip.
    25. Lip 3-lobed, longitudinally crested or appendaged; sepals and petals not attenuate.
        26. Lip deeply 3-lobed, the middle lobe broad; pseudobulbs terete; scape without a long basal sheath.
            27. Middle lobe of lip acute or tipped. ***Encyclia fucata*** **(Lindl.) Britt. & Millsp.** (Small-Flowered Encyclia). Fig. 73.
            27. Middle lobe rounded or retuse.

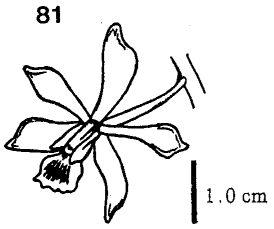

71
5.0 cm
Polystachya concreta
72
1.0 cm
Cattleyopsis lindenii
73
1.0 cm
Encyclia fucata
75
1.0 cm
Encyclia gracilis
77
1.0 cm
Encyclia fehlingii
74
FR
1.0 cm
Encyclia rufa
76
1.0 cm
Encyclia hodgeana
78
1.0 cm
Encyclia cochleata var. triandra



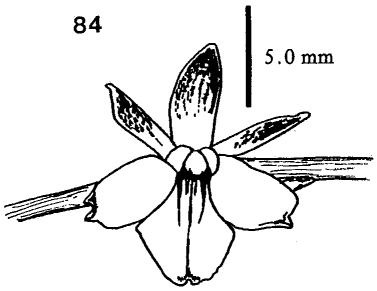
Encyclia plicata



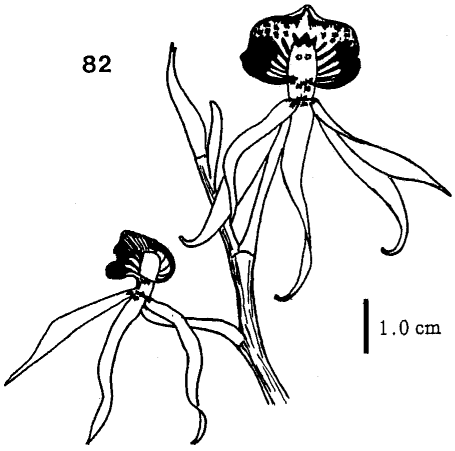
Encyclia boothiana



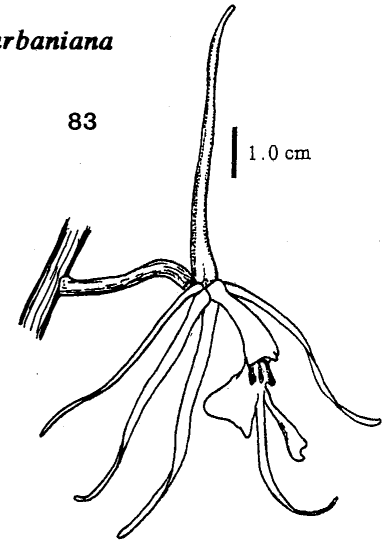
Encyclia tampensis



Tetramicra urbaniana



Encyclia cochleata var. cochleata



Epidendrum nocturnum

28. Flowers panicled.
    29. Column short, < 6.0 mm long; lip yellow without markings; leaves with absision layer. ***Encyclia rufa* (Lindl.) Britt. & Millsp. in Sauleda** [= ***E. bahamensis* (Griseb.) Britt. J.** (Reddish Encyclia). Figs. 74, 87.
    29. Column greater than 6.0 mm long; lip yellow or white with markings; leaves without an absision layer at base.
        30. Leaves > 3.0 cm wide, < 40 cm long; pseudobulbs not markedly ovoid or elliptical; lip white with purple lines. ***Encyclia gracilis* (Lindl.) Schltr**. (Slender Encyclia). Figs. 75, 88.
        30. Leaves < 3.0 cm wide, >40 cm long; pseudobulbs ovoid or elliptical; lip white or yellow with markings.
            31. Lip white with purple stripes.
                32. Petals and lateral sepals green, yellow-orange; or purple, not yellow-brown.
                    33. Sepals ana petals greenish or purplish. ***Encyclia hodgeana* (Hawkes) Beckner.** (Hodge's Encyclia). Fig. 76.
                    33. Sepals and petals green to yellow-orange with reddish-brown stripes. ***Encyclia* X *lucayana* Sauleda & Adams.** (Lucayan Encyclia). Female sterile hybrid: ***E. gracilis* X *E. fehlingii***. Fig. 86.
                32. Petals and lateral sepals yellow-brown. ***Encyclia tampensis* (Lindl.) Small.** (Tampa Encyclia). Fig. 81.
            31. Lip yellow with markings.
                34. Column with a footlike projection.
                    35. Ovary > 2. 0 cm long, curved; petals oblanceolate to spatulate. ***Encyclia* X *bajamarensis* Sauleda & Adams.** Hybrid between ***E. gracilis*** and ***E. rufa***). Fig. 85.
                    35. Ovary < 2.0 cm long, straight; petals spatulate. ***Encyclia fehlingii* (Sauleda) Sauleda & Adams**. (Fehling's Encyclia). Figs. 77, 89).
                34. Column without a footlike projection. ***Encyclia cochleata* (L.) Lemee var. *triandra* (Ames) Dressler.** (Shell Orchid). Fig. 78.
28. Flowers racemose; lateral petals curled or rolled. ***Encyclia plicata* (Lindl.) Britt. & Millsp.** (Pleated Encyclia). Fig. 79.

26. Lip obscurely 3-lobed, the middle lobe minute; pseudobulbs flattened; scape with a long basal sheath.
    36. Column with one anther. ***Encyclia boothiana* (Lindl.) Dressler var. *boothiana***. (Dollar Orchid). Fig. 80.
    36. Column with three anthers. ***Encyclia boothiana* var. *erythronioides* (Small) Luer**. (Dollar Orchid).

25. Lip entire, neither crested nor appendaged.
    37. Lip concave, shellike, sepals and petals attenuate, reflexed at anthesis.

Encyclia cochleata* (L.) Lemee var. *cochleata. (Shell Orchid). Fig. 82.

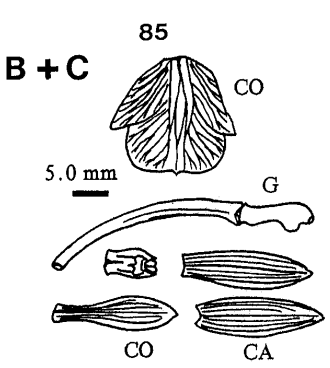
37. Lip nearly linear (or triandrous in our variety). ***Nidema boothii* (Lindl.) Schltr. var. *triandra* Schltr.**

24. Stems not pseudobulbous.

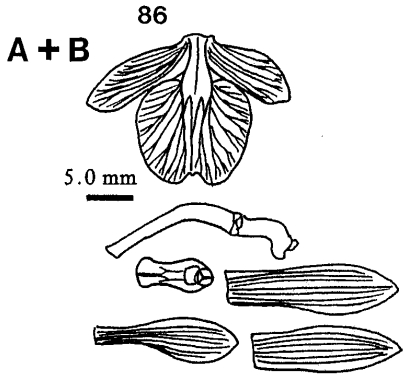
38. Column wholly adnate to lip; perianth segments long, attenuate, yellow, green, and white. ***Epidendrum nocturnum* Jacq.** (Slender Epidendrum). Fig. 83.

38. Column not wholly adnate to lip; perianth not attenuate. pink; a rare orchid. ***Tetramicra*** *urbaniana* Cogn. (Bahama Tetramicra). Fig. 84.

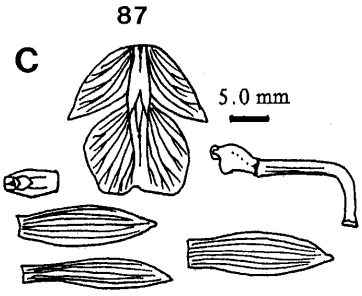
Other taxa: ***Basiphyllaea corallicola* (Small) Ames, *Cranichis muscosa* Sw., *Encyclia selligera* (Batem.** ex **Lindl.) Schltr., *Encyclia withneri* (Sauleda) Sauleda & Adams, *Malaxis spicata* Sw. *Oeceoclades maculata* (Lindl.) Lindl., *Pelexia adnata* (Sw.) Spreng.), *Spiranthes vernalis* Englem.** & **Gray, *Zeuxine strateumatica* (L.)** Schltr.



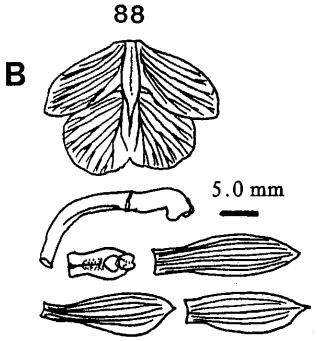
Encyclia X bajamarensis



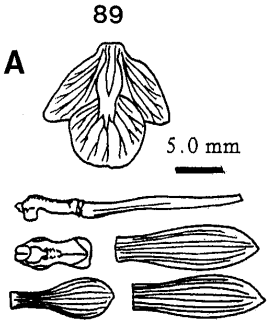
Encyclia X lucayana



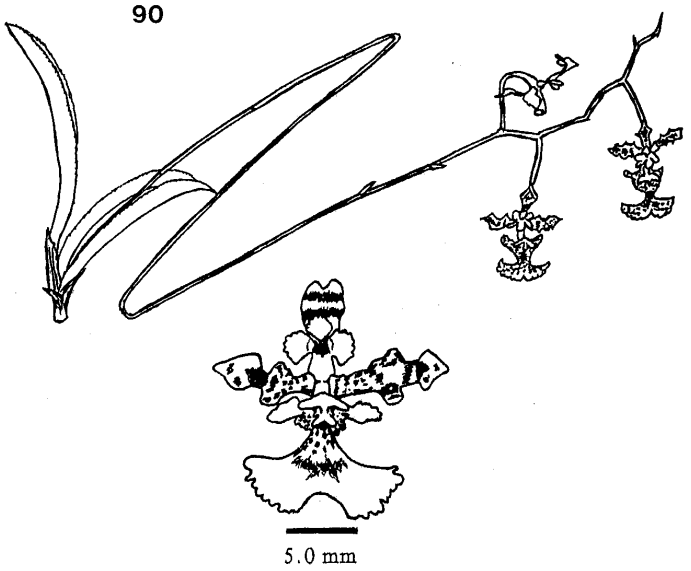
Encyclia rufa



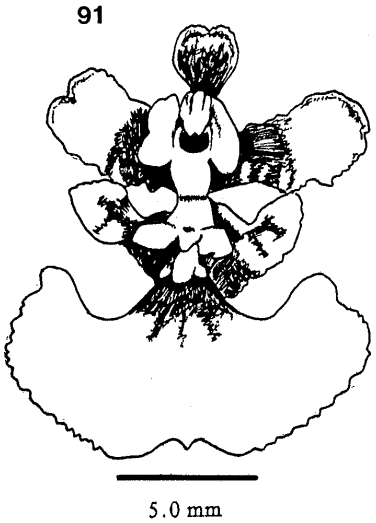
Encyclia gracilis



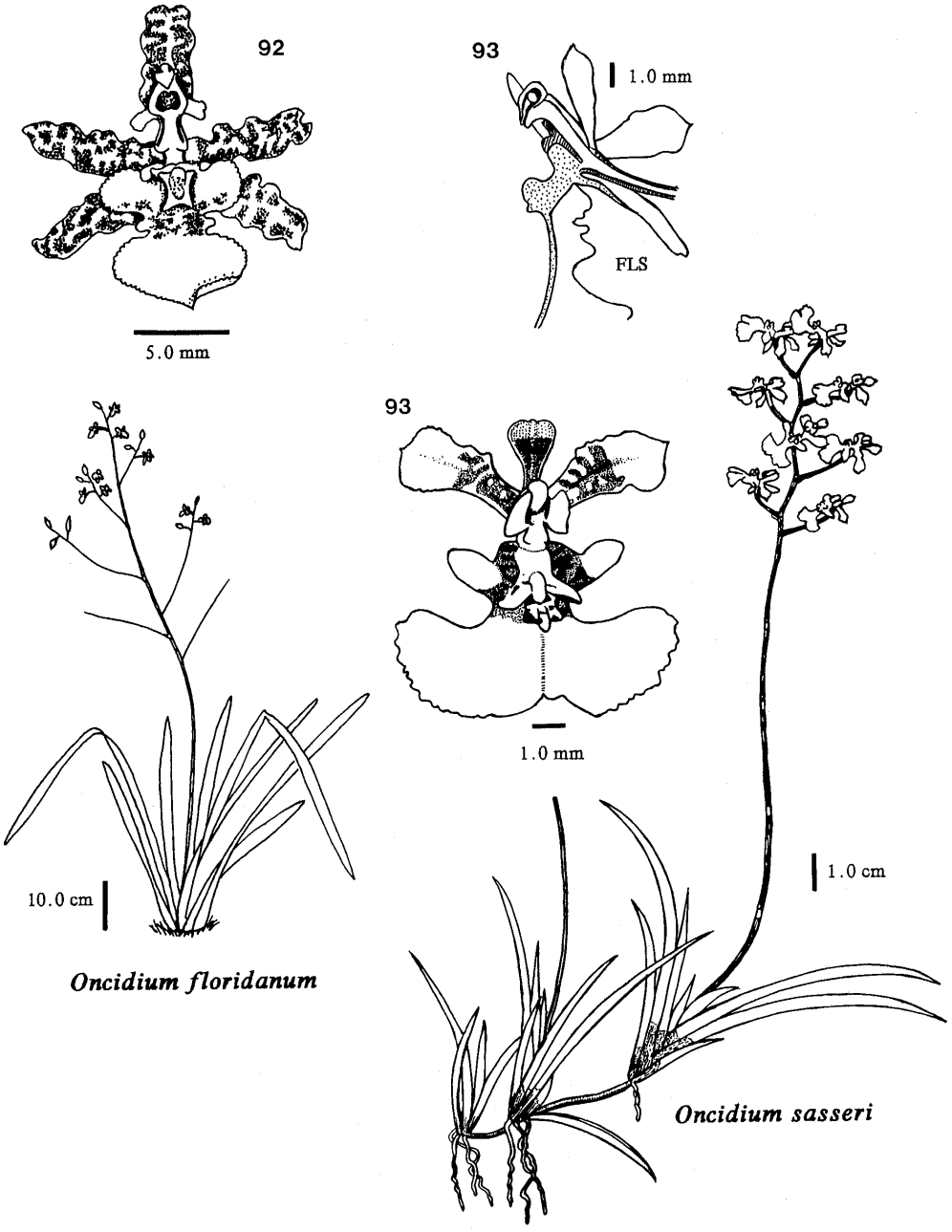
Encyclia fehlingii



Oncidium lucayanum



Oncidium bahamense



Oncidium floridanum

Oncidium sasseri

ANDROS ORCHIDS

1. ***Basiphyllaea corallicola*** **(Small) Ames**
2. ***Bletia purpurea*** **(Lam.) DC.**
3. ***Calopogon tuberosus*** **(L.) B. S. P.**
4. ***Cattleyopsis lindenii*** **(Lindl.) Cogn.**
5. ***Cranichis muscosa*** **Sw.**
6. ***Eltroplectris calcarata*** **(Sw.) Garay**
7. ***Encyclia X bajamarensis*** **Sauleda & Adams (=** ***E. gracilis X E. rufa)***
8. ***E. boothiana*** **(Lindl.) Dressl. var.** ***boothiana.***
9. ***E. boothiana*** **var.** ***erythronioides*** **(Small) Luer.**
10. ***E. cochleata*** **(L.) Lemee var.** ***cochleata***
11. ***E. cochleata*** **var.** ***triandra*** **(Ames) Dressler**
12. ***E. fehlingii*** **(Sauleda) Sauleda & Adams**
13. ***E. fucata*** **(Lindl.) Britt. & Millsp.**
14. ***E. gracilis*** **(Lindl.) SchUr.**
15. ***E. hodgeana*** **(Hawkes) Britt.**
16. ***E. X lucayana*** **Sauleda & Adams [=** ***E. gracilis X E. fehlingii]***
17. ***E. plicata*** **(Lindl.) Britt. & Millsp.**
18. ***E. rufa*** **(Lindl.) Britt. & Millsp. [=** ***E. bahamensis*** **(Griseb) Britt.]**
19. ***E. selligera*** **(Batem. ex Lindl.) SchUr**
20. ***E. tampensis*** **(Lindl.) Small.**
21. ***E. withneri*** **(Sauleda) Sauleda & Adams**
22. ***Epidendrum nocturnum*** **Jacq.**
23. ***E. rigidum*** **Jacq.**
24. ***Govenia utriculata*** **(Sw.) Lindl.**
25. ***Habenaria alata*** **Hook.**
26. ***H. odontopetala*** **Reichb. f.**
27. ***H. quinqueseta*** **(Michx.) Eaton var.** ***quinqueseta***
28. ***Malaxis spicata*** **Sw.**
29. ***Nidema boothii*** **(Lindl.) SchUr. var.** ***triandra*** **SchUr.**
30. ***Oeceoclades maculata*** **(Lindl.) Lindl.**
31. ***Oncidium bahamense*** **Nash ex Britt. & Millsp.**
32. ***O. florid anum*** **Ames [=** ***O. sphacelatum*** **Lindl.]**
33. ***O. lucayanum*** **Nash ex Britt. & Millsp.**
34. ***O. sasseri*** **Moir**
35. ***Pelexia adnata*** **(Sw.) Spreng.**
36. ***Platyhelys querceticola*** **(Lindl.) Garay**
37. ***Polystachyaconcreta*** **(Jacq.) Garay & Sweet**
38. ***P. foliosa*** **(Hook.) Reichb. f. var.** ***triandra*** **Sauleda & Adams**
39. ***Ponthieva brittonae*** **Ames**
40. ***Prescottia oligantha*** **(Sw.) Lindl.**
41. ***Spiranthes polyantha*** **Reichb. f.**
42. ***S. torta*** **(Thunb.) Garay & Sweet.**
43. ***S. vernalis*** **Engelm. & Gray**
44. ***Stenorrhynchos lanceolata*** **(Aub.) L. C. Rich ex Spreng.**
45. ***Tetramicra urbaniana*** **Cogn.**
46. ***Vanilla barbellata*** **Reichb. f.**
47. ***V. correllii*** **Sauleda & Adams**
48. ***Zeuxine strateumatica*** **(L.) Schltr.**

Poaceae [= Gramineae]. Grass Family.

KEY TO TRIBES

1. Spikelets laterally compressed, mainly articulated above the glumes.
   2. Plants woody; arborescent or dumose bamboos; culm sheath present; spikelets many-flowered, glumes present; lodicules 3. **Tribe I. Arundinarieae.**
   2. Plants herbaceous; spikelets several flowered; lemmas 3 (1)-veined.
      3. Spikelets in diffuse or contracted panicles.
         4. Floret one; lemmas persitent, usually shorter than the palea (except in the Aristideae).
            5. Lemmas 1-veined; awnless; testa free from pericarp, seed falling free. **Tribe II. Sporoboleae.**
            5. Lemmas 3-veined; awn trifid; testa fused with pericarp; spikelet falling intact. **Tribe III. Aristideae.**
         4. Florets several, lemmas deciduous, about as long as paleae; rachis continuous or articulate. Tribe IV. Eragrosteae.
      3. Spikelets in 2 rows on the same side of a continuous rachis. **Tribe V. Chlorideae.**
1. Spikelets dorsally compressed, articulate below the glumes.
   6. Spikelets with one sessile, bisexual, terminal floret and below it one staminate or neuter floret; lemmas indurated, margins inrolled over the palea; never awned. **Tribe VI. Paniceae.**
   6. Spikelets in pairs; one sessile, bisexual floret and one pedicellate, staminate, neuter, or wholly reduced floret on an articulated rachis; lemmas awned. **Tribe VII. Andropogoneae.**

Tribe I. Arundinarieae.

***Phragmites australis* (Cav.) Trin. ex Steud.** (Reed Grass).

Tribe II. Sporoboleae.

1. Plants tufted, usually in large bunches; spikelet 0.5-2.0 mm long. ***Sporobolus indicus* (L.) R. Brown.** (Dropseed. Bull-Grass. Smutgrass).
1. Plants creeping by rhizomes; spikelets 2.0-2.5 mm long
   2. Glumes equal, shorter than the lemma. ***Sporobolus virginicus* (L.) Kunth.** (Seashore Rushgrass).
   2. Glumes not equal. ***Sporobolus domingensis* (Trin.) Kunth.** (Dominican Dropseed Grass). Fig. 94.

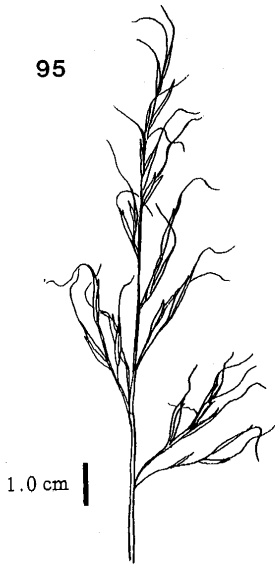
Other taxon: ***Sporobolus jacquemontii* Kunth.**

Tribe III. Aristideae.

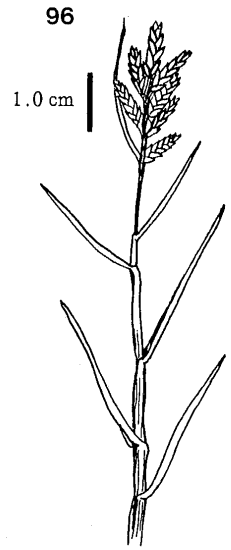
***Aristida ternipes* Cav.** (Tall Triple-Awned Grass). Fig. 95.

Other taxa: ***Aristida adscensionis* L., A. *vilifolia* Henr.**

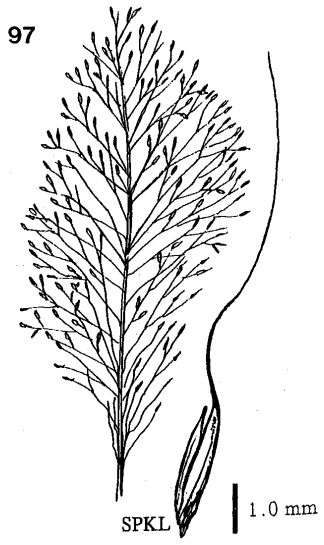
Sporobolus domingensis



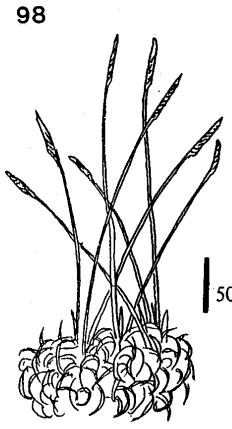
Aristida ternipes



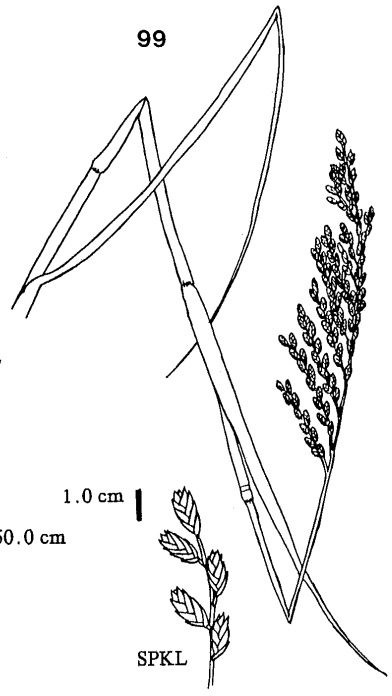
Distichlis spicata



Muhlenbergia capillaris



Leptochloopsis virgata



Uniola paniculata

Tribe IV. Eragrosteae.

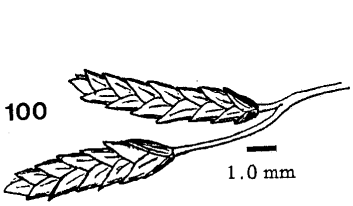
1. Stems woody, perennial; leaves on short branches which form dense whorls at nodes. ***Arthrostylidium capillifolium* Griseb.** (Old Man's Beard).
1. Stem herbaceous, hence annual; leaves scattered.
    2. Florets unisexual (plant dioecious); plants colonial, rhizomes or stolons creeping. ***Distichlis spicata* (L.) Greene.** (Seashore Saltgrass. Marsh Spike-Grass. Rabbit Grass). Fig. 96.
    2. Florets bisexual.
        3. Spikelets I-flowered; lemmas awned, 3-veined. ***Muhlenbergia capillaris* (Lam.) Trin.** (Long-Awned Hairgrass. Purple-Grass). Fig. 97.
        3. Spikelets several to many flowered.
            4. Culms stout; glumes 3-7 veined; 1-6 lemmas empty at base and apex of spikelet; rachilla articulate between the florets.
                5. Spikelets 3-4 mm long; inflorescence of numerous short racemes; leaves rigid, curled. ***Leptochloopsis virgata* (Poir.) Yates.** (Spike-Grass). Fig. 98.
                5. Spikelets 12 mm long or more; inflorescence an open, loose panicle. ***Uniola paniculata* L.** (Sea Oats). Fig. 99.
            4. Culms not stout; glumes I-veined; 2 lemmas empty. ***Eragrostis elliottii* S. Wats.** (Ellitot's Love-Grass). Fig. 100.

Other taxa: ***Eragrostis ciliaris* (L.) R. Br.**, ***E. domingensis* (Pers.) Steud.**, ***E. excelsa* Griseb.**, ***E. pilosa* (L.) Beauv.**, ***E. tenella* (L.) Beauv. ex R. & S.**, ***Monanthochloe littoralis* Engelm.**, ***Neyraudia reynaudiana* (Kunth) Keng.**, ***Zoysia tenuifolia* Willd. ex Trin.**

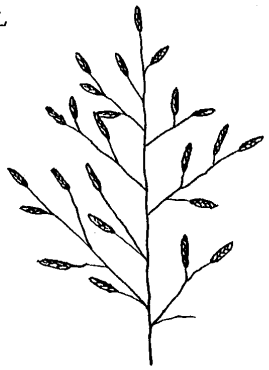
Tribe V. Chlorideae.

1. Inflorescence racemose on an elongate spike rachis; spikelets 2 or more flowered; grain falling without glumes.
    2. Plant perennial; lemma shortawned, 1.5-2.0 mm long; lateral veins pubescent. ***Leptochloa virgata* (L.) Beauv.** (SprangletopL Fig. 101.
    2. Plant annual; lemma short or long awned, 4-5 mm long. ***Leptochloa fascicularis* (Lam.) Gray.** (Spike Grass).
1. Inflorescence an aggregate of digitate spikes
    3. Spikelet with one floret; grain free between lemma and palea; culms and sheath strongly compressed. ***Eustachys petraea* (Sw.) Desv.** [= ***Chloris petraea* Sw**.]. (West Indian Grass. Finger Grass). Fig. 102.
    3. Spikelet with 2 or more florets; grain free from pericarp. ***Dactyloctenium aegyptium* (L.) Beauv.** (Crowfoot Grass). Fig. 103.

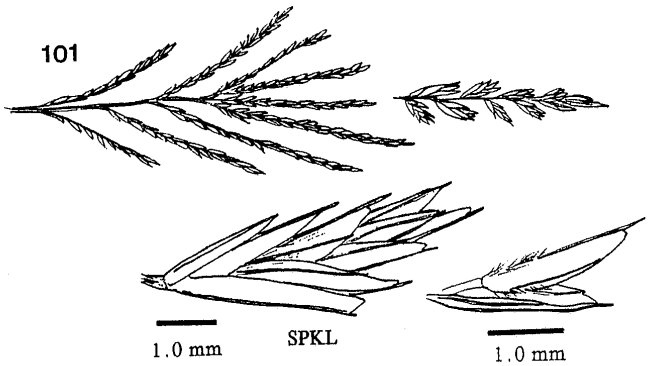
Other taxa: ***Chloris inflata* Link.**, ***Eleusine indica* (L.) Gaertn.**, ***Spartina spartinae* (Trin.) Men.**



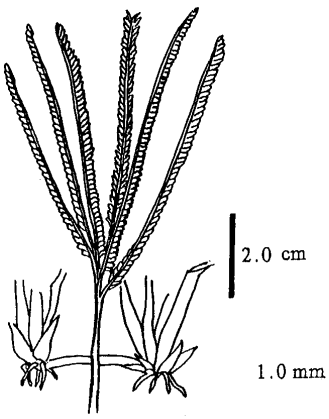
SPKL



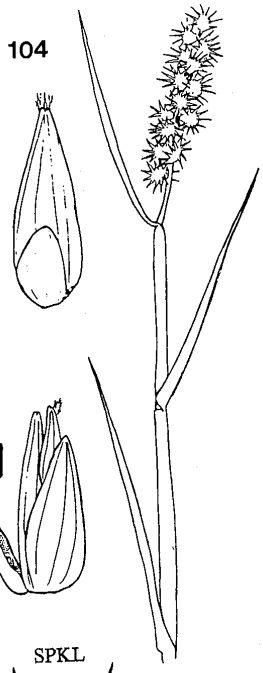
Eragrostis elliottii

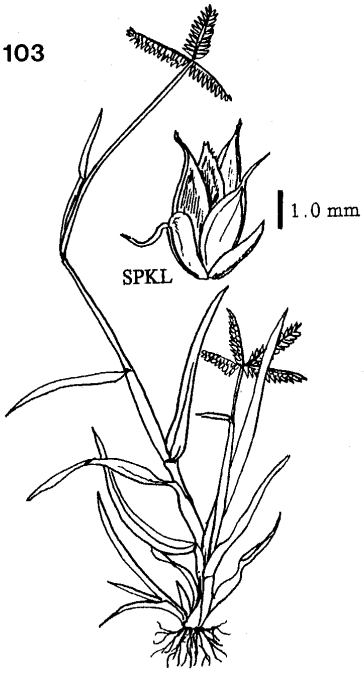


Leptochloa virgata

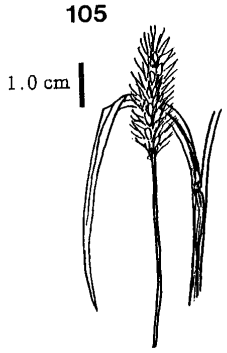


Eustachys petraea

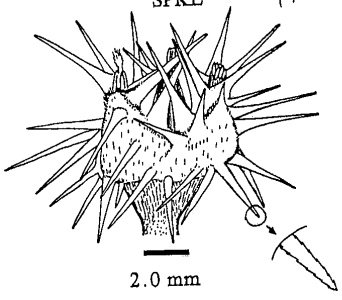




Dactyloctenium aegyptium



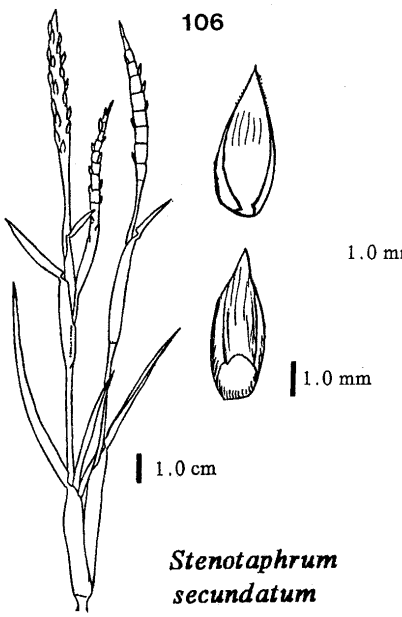
Setaria geniculata



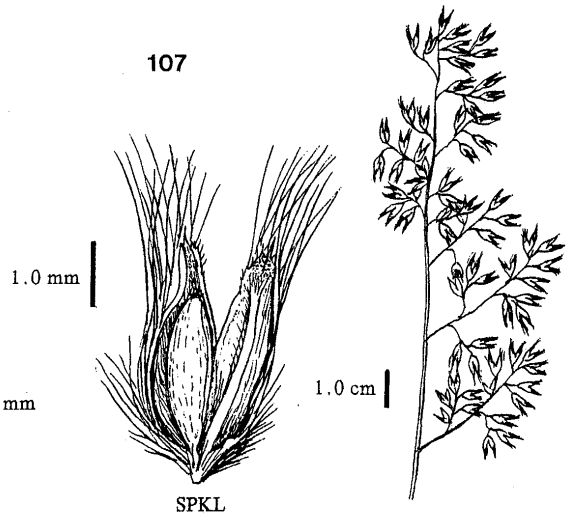
Cenchrus incertus

Tribe VI. Paniceae

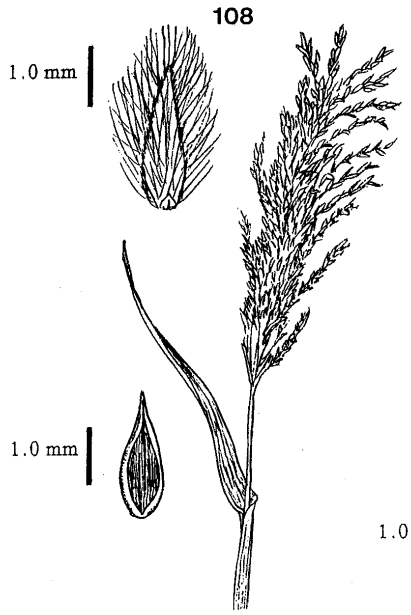
1. Spikelets with an involucre forming a bur, falling entire with spikelets. ***Cenchrus incertus* M. A. Curtis.** (Bahama Bur-Grass. Sandbur). Fig. 104.
1. Spikelets without an involucre.
    2. Spikelets falling free from one or more persistant, subtending rachial bristles. ***Setaria geniculata* (Lam.) Beauv.** (Fox-Tail Grass. Knot-root. Bristlegrass). Fig. 105.
    2. Spikelets not subtended by bristles.
        3. Spikelets partly embedded in cavities of a fleshy, articulate rachis. ***Stenotaphrum secundatum* (Walt.) O. Kuntze.** (St. Augustine Grass. Running Crab-Grass). Fig. 106.
        3. Spikelets in inflorescences of slender axes, never fleshy.
            4. Glumes and lemmas of sterile flowers awned. ***Rhynchelytrum repens* (Willd.) C. E. Hubbard.** (Natal Grass). Fig. 107.
            4. Glumes and lemmas of sterile flowers awnless.
                5. Mature lemmas chartaceous, indurate, margins not inrolled; spikelets pubescent or silky; inflorescence paniculate or whorled.
                    6. Racemes numerous on an elongate axis; spikelets silky villous; hairs long, not capitellate. ***Trichachne insularis* (L.) Nees.** [= ***Digitaria insularis* (L.) Mez ex Ekman**]. (Silky Grass. Sour Grass). Fig. 108.
                    6. Racemes in whorls or ca. at the summit of the stem; spikelets with short hairs or glabrous.
                        7. Rachis bearing interruptedly very fine, long hairs, with wing on lateral angles; first glume present. ***Digitaria horizontalis* Willd.** (Southern Crab Grass). Fig. 109.
                        7. Rachis not bearing long hairs; wings absent; first glume usually absent. ***Digitaria panicea* (Sw.) Urb.** (Slender Finger Grass).
                5. Mature lemmas rigid, polished, chartaceous, with inrolled margins.
                    8. First glume usually lacking; rachis compressed, herbaceous; second glume and sterile lemma about equal in length.
                        9. Racemes 2, or another below, conjugate or approximate; spikelet 3.5-4.0 mm long; sterile lemma and palea 5-veined. ***Paspalum distichum*** L. (Joint Grass).
                        9. Racemes one or several.
                            10. Spikelets lacerate-winged; annual. ***Paspalum fimbriatum* HBK.** (Fringed Paspalum). Fig. Ill.
                            10. Spikelets wingless; perennials.
                                11. Culms 1.0 mm or more in diameter; spikelet 2.0 mm long, pubescent. ***Paspalum laxum* Lam.** (Lax Paspalum).
                                11. Culm < 1.0 mm thick at base.
                                    12. Racemes 2 or more
                                        13. Spikelets < 1.5 mm long, glandular pubescent; plants without axillary racemes. ***Paspalum blodgettii* Chapm.** (Blodgett's Paspalum). Fig. 112.



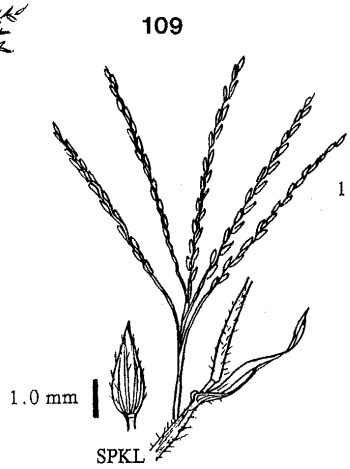
Stenotaphrum secundatum



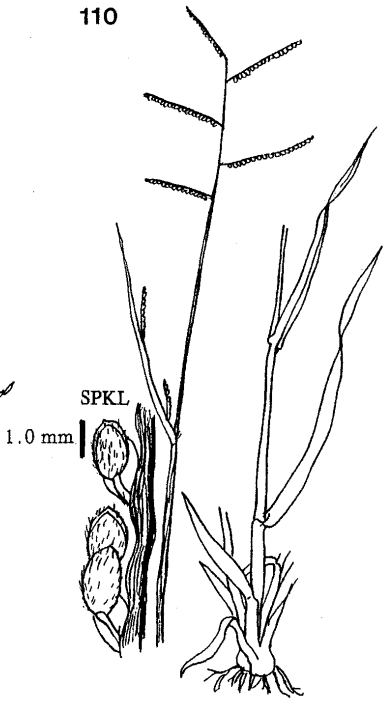
Rhynchelytrum repens



Trichachne insularis

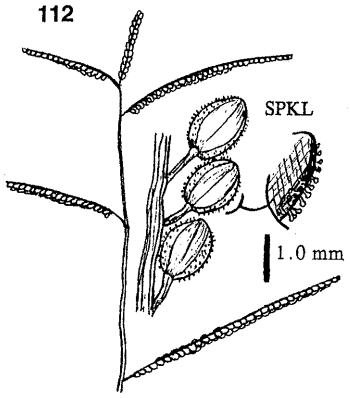


Digitaria horizontalis

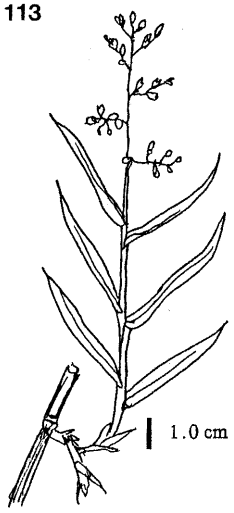


Paspalum setaceum var. ciliatifolium

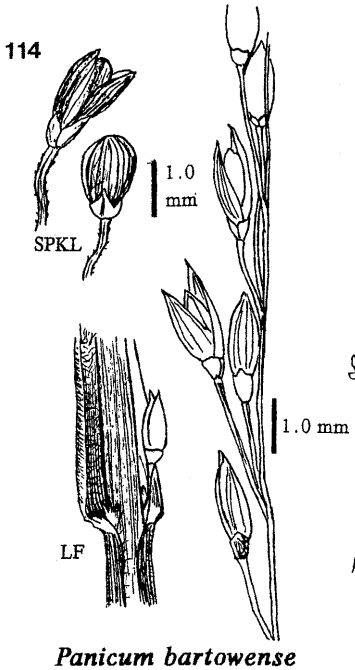
Paspalum fimbriatum



Paspalum blodgettii



Lasiacis divaricata



Panicum bartowense

Panicum maximum

13. Spikelets > 1 5 mm long, pubescent; plants with axillary racemes. ***Paspalum setaceum* var. *ciliatifolium* (Michx.) Vasey.** (Bristly Paspalum), Fig. 110.

12. Racemes solitary; plant tufted; spikelets 1.6 mm long. ***Paspalum saugetii* Chase.** (Sauget's Paspalum).

8. First glume present.

14. Culms woody, branching, high rambling, viny; grain with apical depression, tufted with villous hairs. ***Lasiacis divaricata* (L.) Hitchc.** (Cane Grass. Wild Cane. Tibisee). Fig. 113.

14. Culms herbaceous, erect or creeping; grain with tightly inrolled apex.

15. Basal leaves different from cauline leaves; rosettes formed.

16. Blades 5.0 mm wide or less, moderately stiff. ***Dichanthelium angustifolium* (Ell.) Gould.** [= ***Panicum neuranthum* Griseb**.]. (Nerved Panic Grass).

16. Blades 25 mm wide or less, pliable. ***Dichanthelium caerulescens* (Hack.) Correll** [= ***Panicum caerulescens* Correll**]. (Bluish Panic Grass).

15. Basal and culm leaves alike; without rosettes.

17. Plants annual; outer glume 1/4 the length of spikelet; spikelet 2. 0 mm long. ***Panicum bartowense* Scribn. et Merr.** (Spreading Witch GrassL Fig. 114.

17. Plants perennial; spikelet 3.0 mm long or less;

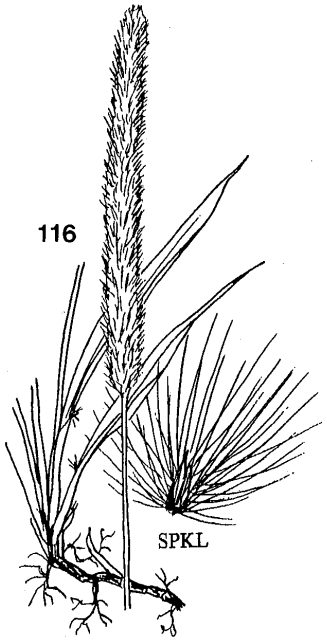
18. Outer glume 1/2 the length of spikelet.

19. Stems slender, 6 dm tall or more; basal sheaths round. ***Panicum tenerum* Beyr.** (Slender Panic Grass).

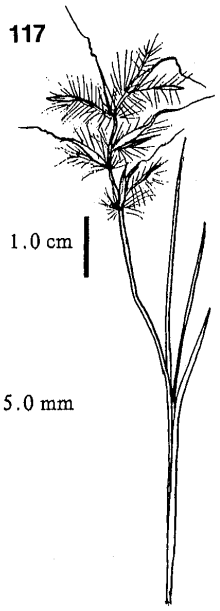
19. Stems stout, usually 1.0 m tall or more; basal sheaths compressed; keeled, equitant. *Panicum rigiaulum* Nees [= ***Panicum condensum* Nash in Small**.]. (Dense Panic Grass).

18. Outer glume 1/3 length of spikelet; nodes hirsute. ***Panicum maximum* Jacq.** (Guinea Grass). Fig. 115.

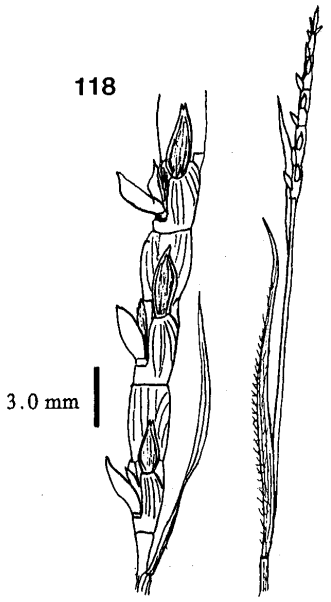
Other taxa: ***Brachiaria subquadripara* (Trin.) Hitch., *Cenchrus echinatus* L., *C. tribuloides* L., *Cynodon dactylon* (L.) Pers., *Dichanthelium dichotomum* (L.) Gould., *Digitaria ciliaris* (Ret.) Koel., *D. villosa* (WaU.) Pers., *Echinochloa colonum* (L.) Link, *Panicum adspersum* Trin., *P. amarulum* Hitchc. & Chase, *P. geminatum* Forsk.; *Paspalum acutifolium* Leon., *P. dilatatum* Pair., *P. millegrana* Schraa., *P. molle* Pair., *P. paniculatum* L., *P. urvillei* Steud., *Setaria macrosperma* (Scribn. & Merr.) Schum., S. *setosa* (Sw.) Beauv.**



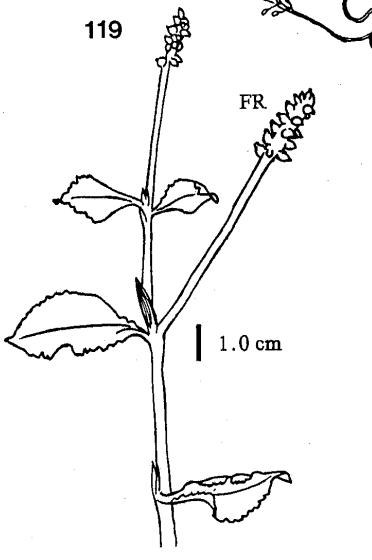
Imperata brasiliensis



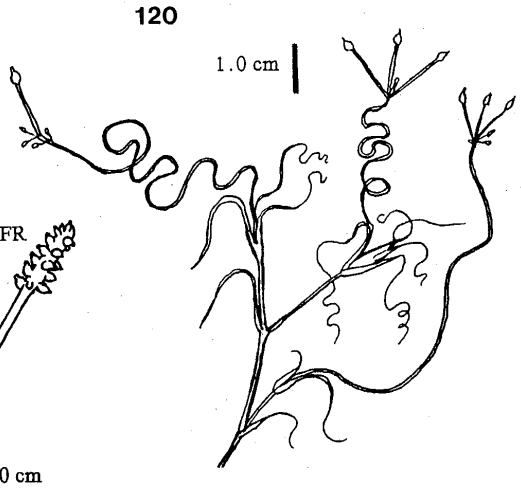
Schizachyrium gracile



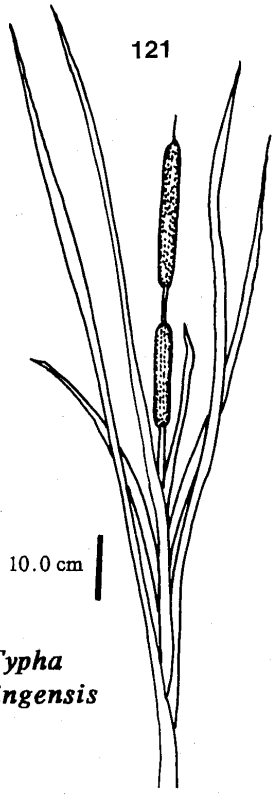
Manisuris altissima



Potamogeton illinoensis



Ruppia maritima



Typha domingensis

Tribe VII. Andropogoneae.

1. Internodes of spike rachis slender.
    2 Spikelets all alike.
        3. Rachis continuous; spikelets falling with the hairy callus. ***Imperata brasiliensis*** **Trin.** (Silver Plume Grass. Satintail). Fig. 116.
        3. Rachis articulate; spikelets falling with or without the rachis internode and pedicel. ***Saccharum officinarum*** **L.** (Sugarcane).
    2. Spikelets not alike; the sessile bisexual, the pedicelled staminate, rudimentary, or lacking.
        4. Pedicelled spikelet represented only by a pedicel. ***Andropogon glomeratus*** **(Walt.) B. S. P.** (Bushy Beard Grass. Bed Grass)
        4. Pedicelled spikelet rudimentary or staminate. ***Schizachyrium gracile*** **(Spreng.) Nash.** (Slender Beard Grass). Fig. 117.
1. Internodes of spike rachis thickened. ***Manisuris altissima*** **(Poir.) Hitchc.** (Necklace Grass) Fig. 118.

Other taxa: ***Andropogon virginicus*** **L.,** ***Schizachyrium semiberbe*** **Nees.,** ***Sorghum bicolor*** **(L.) Moench., S.** ***halipense*** **(L.) Pers.**

Potamogetonaceae. Pondweed Family.

Potamogeton illinoensis **Morong.** (Pondweed). Fig. 119.

Ruppiaceae. Widgeon Grass Family.

Ruppia maritima **L.** (Ditch Grass) Fig. 120.

Strelitziaceae. Bird of Paradise Family.

Ravenala madagascariensis **Sonn.** (Traveler's Tree).

Typhaceae. Cattail Family.

Typha domingensis **Pers.** (Cattail. Slag. Down) Fig. 121.

KEY TO SECTIONS OF DICOTYLEDONS

1. Plants aerial parasites, attaching to host branch by means of haustoria; not rooted in soil. **SECTION** 1
1. Plants rooting in soil, water, or epiphytic; not stem parasites (may be root parasItes).
    2. Plants herbaceous annuals and perennials.
        3. At least some of the flowers bisexual.
            4. Flowers with both sepals and petals.
                5. Gynoecium composed of two or more free carpels or at least appearing free (apocarpous). **SECTION 2**.
                5. Gynoecium composed of one carpel or two or more fused carpels (syncarpous).
                    6. Ovary superior (somewhat inferior in Portulacaceae)
                        7. Stamens more numerous than petals or lobes of corolla.
                            8. Flowers actinomorphic. **SECTION 3.**
                            8. Flowers zygomorphic. **SECTION 4.**
                        7. Stamens as many as or fewer than petals or lobes of the corolla.
                            9. Corolla composed of free petals (slightly fused in some Fabaceae and Sterculiaceae). **SECTION 5.**
                            9. Corolla composed of fused petals.
                                10. Corolla actinomorphic. **SECTION 6.**
                                10. Corolla zygomorphic. **SECTION 7.**
                    6. Ovary inferior. **SECTION 8.**
            4. Flowers with sepals only or lacking.
                11. Ovary superior. **SECTION 9.**
                11. Ovary inferior (or partly so). **SECTION 10.**
        3. All of the flowers unisexual. **SECTION 11.**
    2. Plants woody; trees, shrubs, lianas;persisting for more than one year.
        12. Leaves or leaf scars opposite. **SECTION 12.**
        12. Leaves or leaf scars alternate.
            13. Plants dioecious or polygamodioecious. **SECTION 13.**
            13. Plants monoecious, polygamomonoecious, or with bisexual flowers.
                14. Plants monoecious or polygamomonoecious. **SECTION 14.**
                14. Plants with bisexual flowers. **SECTION 15.**

KEY TO FAMILIES OF DICOTYLEDONS

SECTION 1

1. Stems slender, twining; leaves absent or reduced to scales. Lauraceae.
1. Stems stout; leaves present.
    2. Berries black or red and black; flowers perfect in paired racemes, each subtended by bracts; perianth segments 4-6. **Loranthaceae**.
    2. Berries red; flowers unisexual in articulated spikes; perianth segments generally 2-3. **Viscaceae**.

SECTION 2.

1. Carpels two, distinct; style one or one for each ovary; sap often milky.
    2. Style and anthers fused into a gynostegium; pollen coherent in waxy masses (pollinia). **Asclepiadaceae**.
    2. Style simple or two divided; stamens inserted on corolla tube; pollen granular. **Apocynaceae**.
1. Carpels two or four, fused laterally or only at base; style(s) one or two, apical or gynobasic, sap not milky; inflorescence often a scorpioid cyme.
    3. Style gynobasic; ovary maturing into 2-4 nutlets. **Boraginaceae**.
    3. Style(s) apical, if more than one then stigmas united; fruit a two-valved capsule. **Loganiaceae**.

SECTION 3.

1. Calyx of two sepals.
    2. Leaves, stems, fruits spiny; ovary superior. **Papaveraceae**.
    2. Leaves and stems succulent; ovary one half to fully inferior. **Portulacaceae**.
1. Calyx of three or more sepals.
    3. Stamens twice as many as the petals or fewer. **Leguminosae**.
    3. Stamens more than twice as many as the petals.
        4. Leaves opposite. **Hypericaceae**.
        4. Leaves alternate. **Malvaceae**.

SECTION 4.

1. Sepals petal-like, not spurred; all of the stamens adnate to one of the inner petals. **Polygalaceae**.
1. Sepals green, not petal-like; corolla often spurred, lower two petals often fused. **Leguminosae**.

SECTION 5.

1. Calyx and corolla four-merous
    2. Stamens six (tetradynamous); fruit a silique or silicle; leaves alternate. **Brassicaceae** [= **Cruciferae**].
    2. Stamens four; fruit a capsule; leaves alternate. **Lythraceae**.
1. Calyx and corolla not four-merous; other characters not as above.
    3. Plants aquatic.
        4. Perianth 5 or 6-merous. **Menyanthaceae**.
        4. Perianth with many petals. **Nymphaeaceae**.
    3. Plants terrestrial.

5. Leaves opposite.
    6. Sepals 2, petals 3 or 5. **Portulacaceae**
    6. Sepals 3, 4, or more. **Gentianaceae**.
5. Leaves alternate.
    7. Climbing or trailing vines with tendrils. **Passifloraceae**.
    7. Plants not vines.
        8. Styles 2-5, distinct. **Linaceae**.
        8. Style one.
            9. Plants with stellate pubescence; ovary 1-5 carpellate; fruit capsular. **Sterculiaceae**.
            9. Plants not stellate pubescent; ovary of one carpel; fruit a legume or loment. **Leguminosae**.

SECTION 6.

1. Ovary deeply lobed, appearing as 2-4 separate carpels.
    2. Style gynobasic; ovary maturing into 2-4 nutlets. **Boraginaceae**.
    2. Style(s) apical, if more than one then stigmas united; fruit a two-valved capsule. **Loganiaceae**.
1. Ovary not prominently lobed.
    3. Ovary one locular.
        4. Style many times divided. **Turneraceae**.
        4. Style one or two lobed.
            5. Stamens opposite the corolla lobes. **Primulaceae**.
            5. Stamens alternate with the corolla lobes. **Gentianaceae**.
    3. Ovary 2-4 locular.
        6. Leaves in basal rosettes; inflorescence ascapose spike; corolla scarious, four lobed. **Plantaginaceae**.
        6. Leaves cauline.
            7. Leaves opposite.
                8. Leaf bases connected by stipular line; flowers actinomorphic. **Loganiaceae**.
                8. Leaf without stipules; flowers zygomorphic or actinomorphic.
                    9. Fruit dry, maturing into 2-4 nutlets or a drupe; inflorescence in spikes or heads; not root parasites. Verbenaceae.
                    9. Fruit capsular, 2-4 carpellate; inflorescence few-flowered, terminal, or axillary; some members root parasites. **Scrophulariaceae**.
            7. Leaves alternate.
                10. Flowers in scorpioid cymes; fruit separating into 2-4 nutlets. **Boraginaceae**.
                10. Flowers not in scorpioid cymes; fruit a berry. **Solanaceae**.

SECTION 7.

1. Ovary distinctly four-lobed; corolla strongly zygomorphic. **Lamiaceae**.
1. Ovary not four-lobed and/or corolla nearly actinomorphic.
    2. Aquatic; floating or rooted, scapose, insectivorous plants with bladders; corolla spurred. **Lentibulariaceae**.
    2. Not as above.

3. Fruit dry, maturing into 2-4 nutlets or a drupe. **Verbenaceae**.
3. Fruit capsular, 2-4 carpellate.
4. Ovary 4-1ocu1ar; plants slimy. **Pedaliaceae** (= **Martyniaceae**).
4. Ovary 1- or 2-1ocular; plants not slimy.
5. Seeds less than 20 per capsule, explosively dehisced; leaves with cystoliths; never root parasitic. **Acanthaceae**.
5. Seeds more than 20 per capsule; leaves without cystoliths; some members root parasites. **Scrophulariaceae**.

SECTION 8.

1. Stamens more than twice as many as the petals; stems fleshy, spiny; leaves absent. **Cactaceae**.
1. Stamens no more than twice as many as the petals; stems and leaves otherwise.
2. Petals free (not fused).
3. Calyx adnate to ovary, teeth obscure; stamens five; fruit of two mericarps. **Umbelliferae**.
3. Calyx with distinct lobes.
4. Stamens five to many; fruit a circumcisile capsule. **Portulacaceae**.
4. Stamens 8-12 in two series; capsule 3-6 cm. long with lateral dehiscence. **Onagraceae**.
2. Petals fused.
5. Flowers in capitula (involucrate heads); fruit an achene. **Asteraceae**.
5. Flowers arranged otherwise.
6. Leaves alternate, fleshy; corolla zygomorphic with slit; style often protruding. **Goodeniaceae**.
6. Leaves whorled; slender herbs. **Rubiaceae**.

SECTION 9.

1. Plants monoecious, dioecious, or polygamous; never with entirely perfect flowers.
2. Plants without milky latex.
3. Plants not halophytic; fruit an achene. **Urticaceae**.
3. Plants halophytic; fruit a utricle. **Chenopodiaceae**.
2. Plants with milky latex; cyathia present. **Euphorbiaceae**.
1. Plants with mostly perfect flowers; halophytic or not.
4. Stems with ochreae; fruit an achene or an achene surounded by a fleshy calyx. **Polygonaceae**.
4. Stems without ochreae; fruits otherwise.
5. Epiphytic (sometimes terrestrial) herbs; inflorescence a caudate spike; perianth reduced or absent. **Piperaceae**.
5. Terrestrial plants; perianth present.
6. Plants not halophytic; fruit a berry; sepals four. **Phytolaccaceae**.
6. Plants halophytic; fruit a capsule or utricle.
7. Fruit a utricle; flowers in dense spikes, bracts conspicuous. **Amaranthaceae**.
7. Fruit a capsule; flowers axillary with five fleshy, pink sepals. **Aizoaceae**.

SECTION 10.

1. Aquatic plants; flowers generally 3-merous; leaves toothed. Haloragaceae.
1. Terrestrial plants.
    2. Vines with hastate, alternate leaves; stamens 6, adnate to style. **Aristolochiaceae**.
    2. Not vines; halophytic, succulent herbs; leaves opposite. **Aizoaceae**.

SECTION 11.

1. Flowers in an involucrate head; only some of the flowers in the head unisexual. Asteraceae.
1. Flowers not in an involucrate head.
    2. Plants monoecious.
        3. Flowers in specialized inflorescences (cyathia); milky latex present. **Euphorbiaceae**.
        3. Cyathia absent; sap not milky.
            4. Plants vines. **Menispermaceae**.
            4. Plants not vines.
                5. Plants not halophytic; fruit an achene. **Urticaceae**.
                5. Plants halophytic; fruit a utricle. **Chenopodiaceae**.
    2. Plants dioecious; vines.
        6. Flowers with free carpels and petals. **Ranunculaceae**.
        6. Flowers syncarpous and sympetalous. **Cucurbitaceae**.

SECTION 12.

1. Flowers in an involucrate head. **Asteraceae.**
1. Flowers not in an involucrate head.
    2. Shrubs; stems spiny.
        3. Flowers zygomorphic **Acanthaceae.**
        3. Flowers actin om orphic. **Rubiaceae.**
    2. Trees, shrubs; stems not spiny.
        4. Leaves reduced to mere scales, whorled on jointed branches, 1-3 mm long; flowers without a perianth. **Casurinaceae.**
        4. Leaves not scale-like, flowers with a perianth.
            5. Flowers primarily unisexual (plants monoecious, dioecious, or polygamous); petals absent.
                6. Plants monoecious; gynoecium with three prominent horns. **Buxaceae.**
                6. Plants dioecious;gynoecium without horns.
                    7. Plants not succulent.
                        8. Calyx fused with gynoecium; fruit an anthocarp; stamens 10. **Nyctaginaceae.**
                        8. Calyx scale-like; fruit a drupe; stamens five. **Oleaceae.**
                    7. Succulent, littoral shrubs. **Batidaceae**
            5. Flowers primarily bisexual (perfect).
                9. Stamens more numerous than the petals or corolla lobes.
                    10. Maritime plants with branching aerial roots; seeds viviparous. **Rhizophoraceae.**

10. Plants not maritime.
    11. Stamens ten or fewer.
        12. Styles united, leaves compound. **Zygophyllaceae.**
        12. Styles separate; leaves simple.
            13. Petals clawed. **Malgpighiaceae.**
            13. Petals not clawed; leaves with palmate venation. **Melastomataceae.**
    11. Stamens more than ten.
        14. Style one; petals present or absent.
            15. Ovary several locular; leaves aromatic punctate. **Myrtaceae.**
            15. Ovary one locular; leaves not aromatic punctate. **Combretaceae.**
        14. Styles as many as there are carpels.
            16. Large trees. **Clusiaceae**
            16. Small shrubs. **Hypericaceae.**
9. Stamens as many as the petals or corolla lobes.
    17. Petals free.
        18. Stamens opposite the petals; style forked. **Rhamnaceae.**
        18. Stamens alternate with the petals; style simple, glandular disk present. **Celastraceae.**
    17. Petals fused.
        19. Ovary superior.
            20. Corolla actinomorphic.
                21. Ovaries two, separate. **Apocynaceae.**
                21. Ovary one, compound.
                    22. Corolla 4-lobed; maritime plants. **Avicenniaceae.**
                    22. Corolla 5-lobed; plants not maritime.
                        23. Staminodes present; leaves coriaceous, involute. **Theophrastaceae.**
                        23. Staminodes absent; leaves not coriaceous. **Verbenaceae.**
            20. Corolla zygomorphic.
                24. Leaves palmately or pinnately compound. **Bignoniaceae.**
                24. Leaves simple. **Verbenaceae.**
        19. Ovary inferior.
            25. Leaves opposite with stipules or whorled without stipules. **Rubiaceae.**
            25. Leaves opposite without stipules; corolla with distinct slit. **Goodeniaceae.**

SECTION 13.

1. Flowers in an involucrate head. **Asteraceae**.
1. Flowers not in an involucrate head.
    2. Stems climbing or twining with tendrils. **Vitaceae**.
    2. Stems not climbing; erect.
        3. Flowers in ovoid, catkin-like clusters; calyx and corolla appearing absent;

individual flowers not conspicuous.
4. Calyx present but minute; sap milky; inflorescence a syconium or multiple. **Moraceae**.
4. Calyx absent; sap not milky. **Myricaceae**.
3. Flowers not in catkin-like clusters; either calyx and/or corolla present; individual flowers conspicuous.
5. Leaves simple.
6. Flowers pistillate.
7. Style and stigma one; style short; stigma sessile. **Aquifoliaceae.**
7. Style divided above.
8. Leaves with very rough surface. Ulmaceae.
8. Leaves smooth or pubescent, not rough.
9. Flowers in a terminal panicle; petals free; ovary 3-5 locular. Anacardiaceae.
9. Flowers not in terminal panicles; petals partially fused.
10. Ovary 4-6 locular; flowers born on stem. **Myrsinaceae.**
10. Ovary 3 or 6 locular; flowers axillary. **Ebenaceae.**
6. Flowers staminate; stamens more numerous than petals.
11. Stamens usually 10; perianth of 5 similar divisions; leaves palmately veined. **Caricaceae.**
11. Stamens 9; perianth of 3-4 divisions; leaves simple. **Ebenaceae.**
12. Flowers in terminal panicles; petals free; ovary 3-5 locular. **Anacardiaceae.**
12. Flowers not in terminal panicles.
13. Stamens alternate the sepals, opposite the partially fused petals; ovary 4-6 locular **Myrsinaceae.**
13. Stamens alternate with the petals and/or opposite the sepals.
14. Leaves rough. **Ulmaceae.**
14. Leaves not rough. **Aquifoliaceae.**
5. Leaves compound.
15. Leaves trifoliate.
16. Leaves with pelucid dots; fruit a drupe. **Rutaceae.**
16. Leaves without pelucid dots; fruit samaroid. **Sapindaceae.**
15. Leaflets more than three.
17. Stems thorny. **Rutaceae.**
17. Stems not thorny.
18. Ovary 3-locular; leaves once or twice pinnate.
19. Leaflets 5-7; petals 4-6; staminodes absent; bark smooth and red. **Burseraceae.**
19. Leaflets 4-9; petals 4-5; staminodes sometimes present; bark not red; some vines. **Sapindaceae.**
18. Ovary one locular, becoming a legume or drupe.
20. Leaves once even or odd pinnate; fruit often a drupe. **Simaroubaceae.**
20. Leaves twice pinnate; fruit a legume. **Leguminosae.**

SECTION 14.

1. Flowers unisexual, minute, in catkin-like clusters or syconia.
    2. Sap milky; inflorescence a synconium. **Moraceae**.
    2. Sap not milky; inflorescence a conelike catkin. **Myricaceae**.
1. Flowers unisexual or bisexual, not in catkins (except *Ateramnus)*
    3. Leaves pinnately compound. **Simaroubaceae**.
    3. Leaves simple.
        4. Stamens less than the number of perianth lobes
            5. Sheathing stipule present. **Polygonaceae**.
            5. Sheathing stipu1e absent. **Combretaceae**.
        4. Stamens equal to or more numerous than lobes of the perianth
            6. Style one, simple or branched above.
                7. Vines or low, partially woody plants.
                    8. Vines. **Vitaceae**.
                    8. Straggling herbs with woody base; inflorescence a raceme. **Phytolaccaceae**.
                7. Shrubs or trees.
                    9. Perianth 4-merous. **Aquifoliaceae**.
                    9. Perianth S-merous. **Flacourtiaceae**.
            6. Styles 2 or 3.
                10. Styles 2. **Ulmaceae**.
                10. Styles 3; inflorescence sometimes a cyathium. **Euphorbiaceae**.

SECTION 15.

1. Carpels one to many, distinct or nearly so at least below.
    2. Stamens ten or fewer.
        3. Leaves simple, fleshy, pubescent. **Surianaceae**.
        3. Leaves once-pinnately compound; leaflets opposite or alternate. **Simaroubaceae**.
    2. Stamens more than ten.
        4. Flowers 3-6-merous; aromatic; carpels many. **Annonaceae**.
        4. Flowers S-merous; not aromatic; carpel 1. **Rosaceae**.
1. Carpels fused into a compound ovary.
    5. Corolla absent; perianth of six similar parts; aromatic. **Lauraceae**.
    5. Corolla present.
        6. Corolla zygomorphic.
            7. Fertile stamens 8-10.
                8. Leaves simple. **Polygalaceae**.
                8. Leaves compound.
                    9. Stamens 8. **Sapindaceae**:
                    9. Stamens 10. **Leguminosae**.
            7. Fertile stamens 5.
                10. Staminodes absent; leaves simple. **Goodeniaceae**.
                10. Staminodes present; leaves pinnately compound. **Moringaceae**.
        6. Corolla actinomorphic.
            11. Petals fused (to each other and often the stamens).
                12. Styles (or long style branches) 3,4, or 5.
                    13. Sheathing stipules (ochreae) present. **Polygonaceae**.

13. Sheathing stipules absent.
    14. Stamens 9 or less; corolla lobes 3-4. **Ebenaceae**.
    14. Stamens more than 9; corolla lobes 5-6. **Malvaceae**.
12. Style one.
    15. Stamens more numerous than corolla lobes; ovary with one locule. **Combretaceae.**
    15. Stamens as many as the corolla lobes.
        16. Stamens free from corolla; style short; stigma sessile. **Aquifoliaceae.**
        16. Stamens attached to corolla tube.
            17. Stamens opposite the corona lobes.
                18. Petaloid staminodes present. **Sapotaceae.**
                18. Petaloid staminodes absent.
                    19. Petals red or yellow with distinct tufts of hairs. **Olacaceae.**
                    19. Petals white without tufts of hairs. **Myrsinaceae.**
            17. Stamens alternate with corolla lobes.
                20. Stamens 4
                20. Stamens 5
                    21. Ovules many per locule; fruit a berry. **Solanaceae.**
                    21. Ovule one per locule; fruit of 4 one-seeded. **Boraginaceae.**

11. Petals free
    22. Ovary inferior.
        23. Leaves simple.
            24. Fruit 6-10 cm in diameter; sepals persistent; petals scarlet. **Punicaceae.**
            24. Fruit much smaller. **Combretaceae.**
        23. Leaves compound. **Araliaceae.**
    22. Ovary superior.
        25. Stamens more than twice as many as the petals
            26. Leaves compound.
                27. Leaves twice-pinnately compound or tripinnately compound. **Leguminosae.**
                27. Leaves trifoliate, once-pinnately compound or unifoliate. **Rutaceae.**
            26. Leaves simple.
                28. Stamens united into a tube.
                    29. Style with 5 branches; plants often stellate pubescent. **Malvaceae.**
                    29. Style single; plants aromatic and glabrous. **Canellaceae.**
                28. Stamens not united into a tube.
                    30. Fruit fleshy, drupe-like.
                        31. Corolla lobes with tufts of hairs. **Olacaceae.**
                        31. Corolla without tufts of hairs. **Chrysobalanaceae.**
                    30. Fruit a capsule or schizocarp.
                        32. Placentation axile. **Tiliaceae.**

32. Placentation generally parietal.
    33. Leaves with palmate venation. **Cochlospermaceae.**
    33. Leaves with pinnate venation. **Flacourtiaceae.**

25. Stamens twice as many as petals or fewer.
    34. Leaves compound.
        35. Leaves evenly pinnate or evenly twice-pinnate.
            36. Leaves twice-pinnate. **Leguminosae**.
            36. Leaves once-pinnate. **Sapindaceae**.
        35. Leaves odd-pinnate, odd twice-pinnate, trifoliate, or palmate.
            37. Flowers in terminal racemes, panicles, cymes.
                38. Flowers in cymes or panicles, white or greenish.
                    39. Flowers in open cymes; leaves punctate with translucent dots. **Rutaceae**.
                    39. Flowers in dense panicles; leaves not punctate. **Anacardiaceae**.
                38. Flowers in racemes, green or greenish brown; brown; bark red and peeling. **Burseraceae**.
            37. Flowers in lateral or axillary clusters.
                40. Stamens 10-12; trees. **Meliaceae**.
                40. Stamens 4-5; shrubs, vines, trees.
                    41. Stamens alternate with the petals.
                        42. Leaves palmately compound or with palmate venation. **Bombacaceae**.
                        42. Leaves pinnately compound or with pinnate venation. **Anacardiaceae**.
                    41. Stamens opposite the early deciduous petals; vines. **Vitaceae**.
    34. Leaves simple.
        43. Stamens more numerous than the petals.
            44. Petals 4. **Capparaceae**.
            44. Petals 5. **Erythroxylaceae**.
        43. Stamens as many as the petals.
            45. Styles more than one, separate to base.
                46. Styles 3; corolla yellow. **Turneraceae**.
                46. Styles 5; corolla reddish, purple or violet. **Sterculiaceae**.
            45. Style one (may be cleft or lobed).
                47. Stamens opposite the petals; style 3-cleft. **Rhamnaceae**.
                47. Stamens alternate with the petals.
                    48. Style very short; stigma sessile. **Aquifoliaceae**.
                    48. Style longer.
                        49. Plants pubescent; style as long or much longer than the petals. **Sterculiaceae**.
                        49. Plants glabrous; style as long as or shorter than the petals. **Celastraceae**.

Acanthaceae. Acanthus Family.

1. Herbs without spines.
    2. Fertile stamens 4.
        3. Flowers not subtended by large, leafy bracts. ***Ruellia tuberosa* L.** (Tuberous Ruellia). Fig. 122.
        3. Flowers in spikes and subtended by large, leafy bracts. ***Blechum brownei* Juss.** (Blechum). Fig. 123.
    2. Fertile stamens 2; stem in cross-section with sharp angles. ***Dicliptera sexangularis* (L.) Juss.** (Six-angled Dicliptera). Fig. 125.
1. Spiny shrubs. ***Oplonia spinosa* (Jacq.) Raf.** (Prickly Bush). Fig. 124.

Other taxon: ***Barleria cristata* L.**

Aizoaceae. Carpet - Weed Family.

***Sesuvium portulacastrum* L.** (Sea Purslane). Fig. 129.

Other taxon: ***Sesuvium maritimum* (Walt.) H. S. P.**

Amaranthaceae. Amaranthus Family.

***Philoxerus vermicularis* (L.) R. Hr.** [= ***Caraxeron vermicularis* (L.) Raf. J.** (Sampire. Saltweed). Fig. 130.

Other taxa: ***Alternanthera maritima* (Mart.) St. Hil., *Amaranthus dubius* Mart. ex Thell., *A. hybridus* L., *A. spinosus* L., *A. viridis* L., *Achyranthes indica* (L.) Mill., *Iresine flavescens* H. & B. ex Willd., *Lithophila muscoides* Sw.**

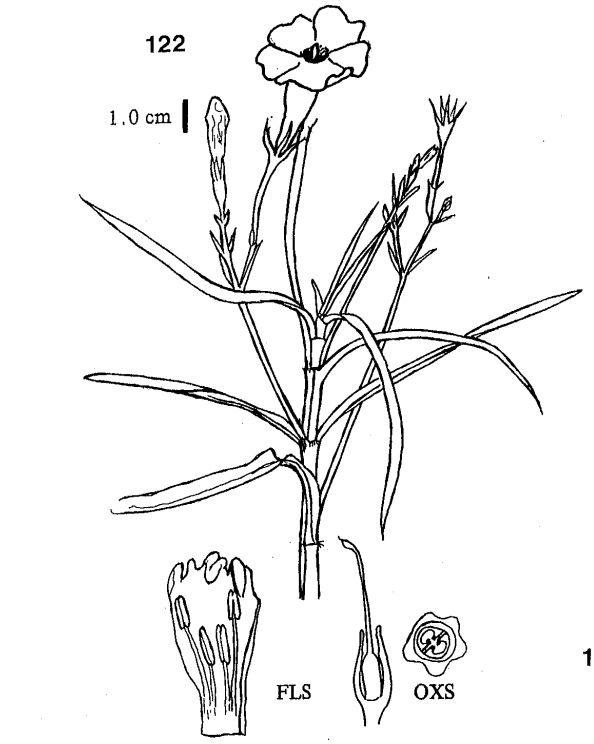
Anacardiaceae. Cashew Family.

1. Leaves simple; fruits (mangoes) solitary, large. ***Mangifera indica* L.** (Mango). Fig. 126.
1. Leaves pinnately compound; fruits clustered, small.
    2. Rachis not winged; leaflets usually 5 with long stalks. ***Metopium toxiferum* (L.) Krug & Urban.** (Poison Wood). Fig. 127.
    2. Rachis winged; leaflets usually 5-9 without stalks. ***Schinus terebinthifolius* Raddi. (Brazilian-pepper).** Fig. 128.

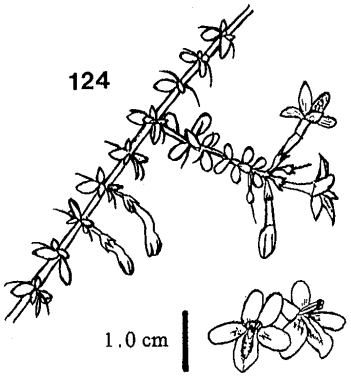
Other taxon: ***Rhus radicans* L.** [= ***Toxicodendron radicans* (L.) O. Ktze**.], ***Spondias purpurea* L.**

Annonaceae. Custard Apple Family.

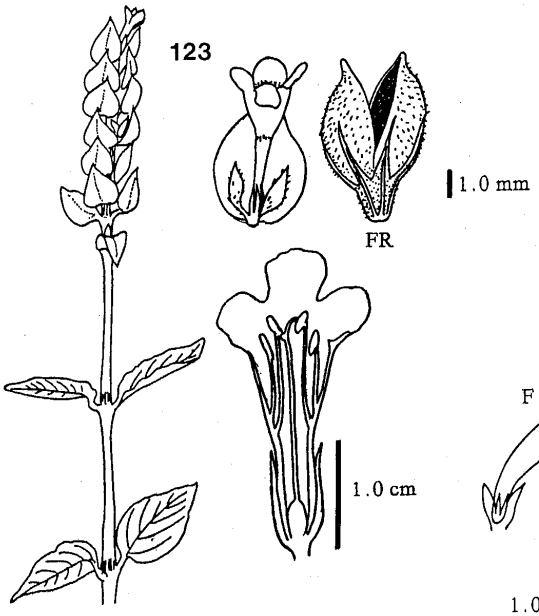
1. Petals shorter than 5.0 cm; fruits generally large.
    2. Fruit smooth.
        3. Petals longer than broad; fruit reticulate. ***Annona reticulata* L.** (Custard Apple). Fig. 131.
        3. Petals approx. triangular; fruit not reticulate. ***Annona glabra* L.** (Pond Apple). Fig. 132.



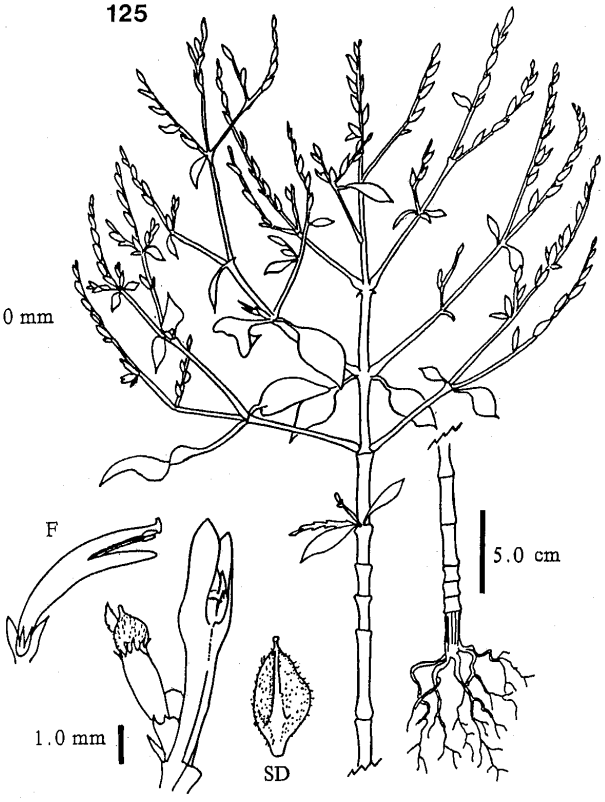
Ruellia tuberosa



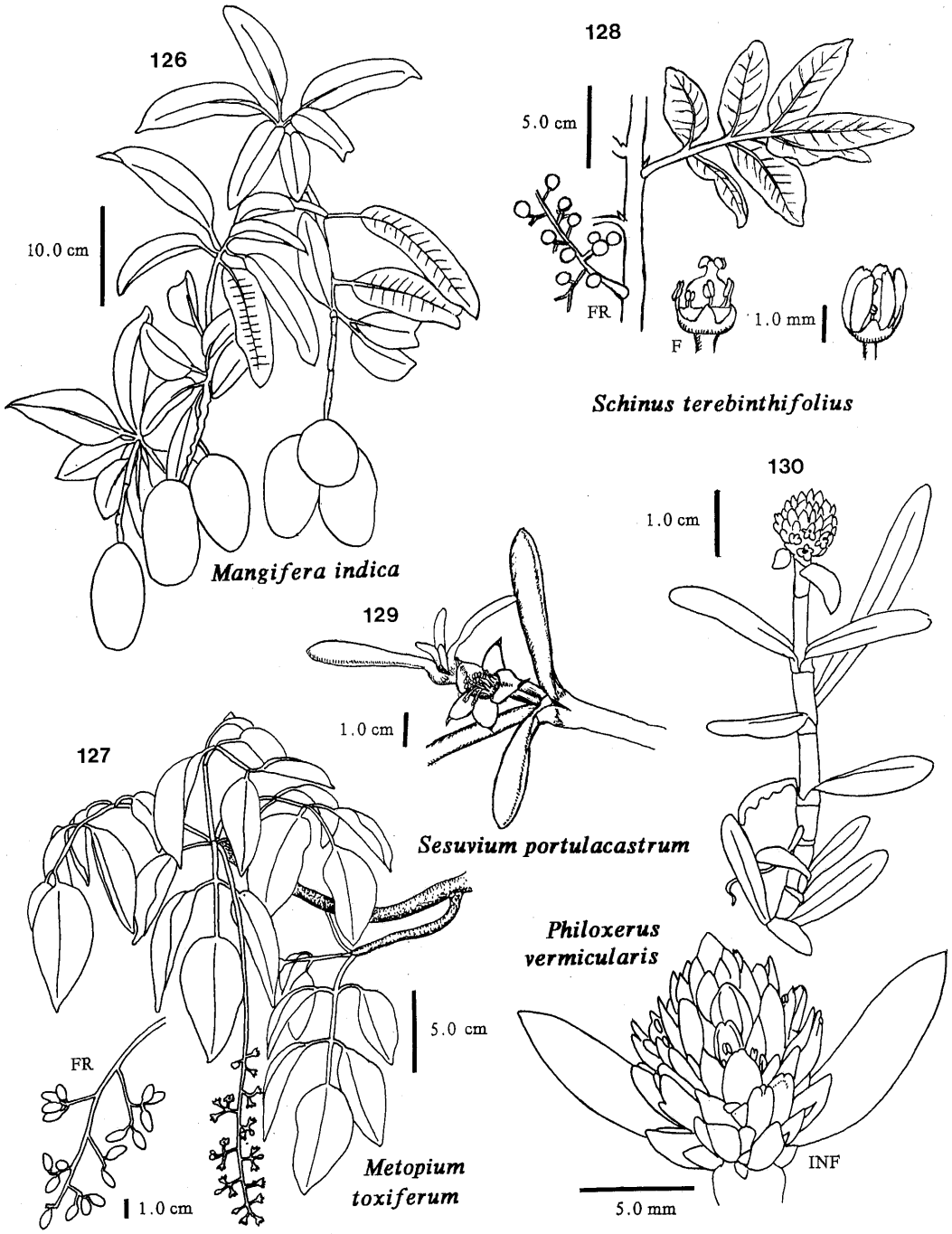
Oplonia spinosa

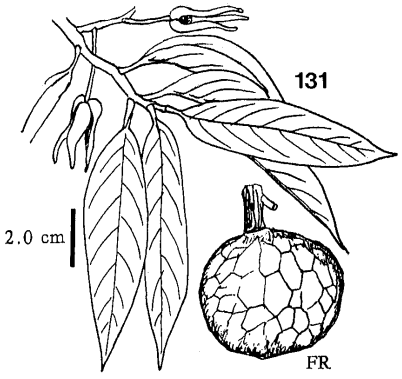


Blechum brownei

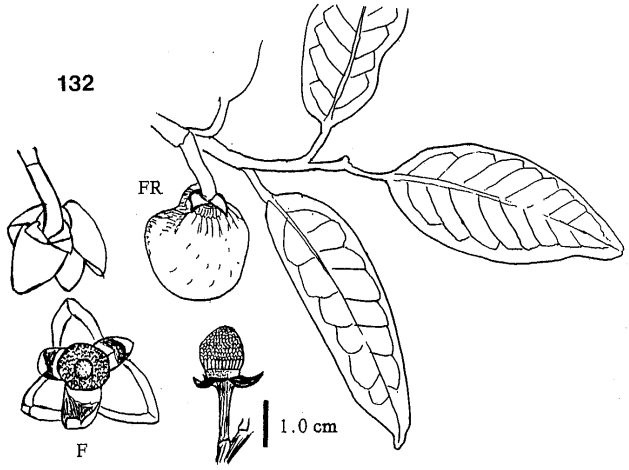


Dicliptera sexangularis

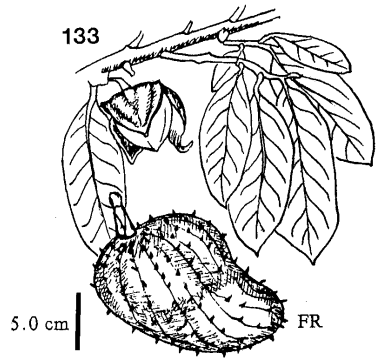

126
10.0 cm
Mangifera indica
128
5.0 cm
FR
F
1.0 mm
Schinus terebinthifolius
130
1.0 cm
129
1.0 cm
Sesuvium portulacastrum
Philoxerus vermicularis
INF
5.0 mm
127
5.0 cm
FR
1.0 cm
Metopium toxiferum



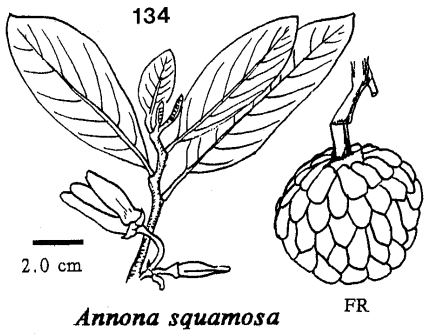
Annona reticulata



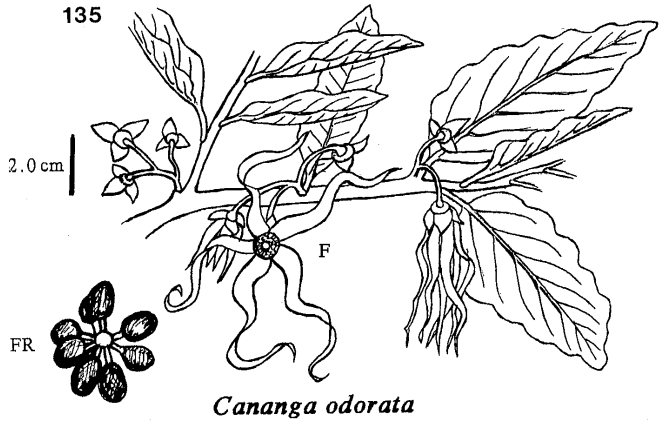
Annona glabra



Annona muricata



Annona squamosa



Cananga odorata

2. Fruits large, with fleshy spines or tuberculate.
    4. Petals greater than 2.0 cm broad; fruit with small fleshy spines. ***Annona muricata* L**. (Sour-sop). Fig. 133.
    4. Petals less than 2.0 cm broad; fruit tuberculate. ***Annona squamosa* L.** (Sugar Apple). Fig. 134.

1. Petals longer than 5.0 cm; fruits small, clustered; all parts with aromatic, volatile oils. ***Cananga odorata* (Lam.) Hook. f. & Thoms**. (Ylang-Ylang). Fig. 135.

Apiaceae. See Umbelliferae.

Apocynaceae. Dogbane Family.

1. Vines
    2. Corolla white, more than 5.0 cm long; leaves remaining flat when pressed. ***Echites umbellata* Jacq.** (Wild Potato. Rubber Vine. Devil's Potato-root). Fig. 136.
    2. Corolla yellow, usually less than 5.0 cm long; leaves curling under at edge when pressed.
        3. Corolla 2-4 cm long; leaves less than 1.0 cm broad; cylindric portion of corolla exceeding the sepals. ***Angadenia sagraei* (A. DC.) Miers.** (Lice Root). Fig. 137.
        3. Corolla 4-5 cm long; leaves to 3.0 cm broad; cylindric portion of corolla equaling the sepals. ***Urechites lutea* (L.) Britt. var. *sericea* Long.** (Wild Unction. Catesby Vine), Fig. 138.

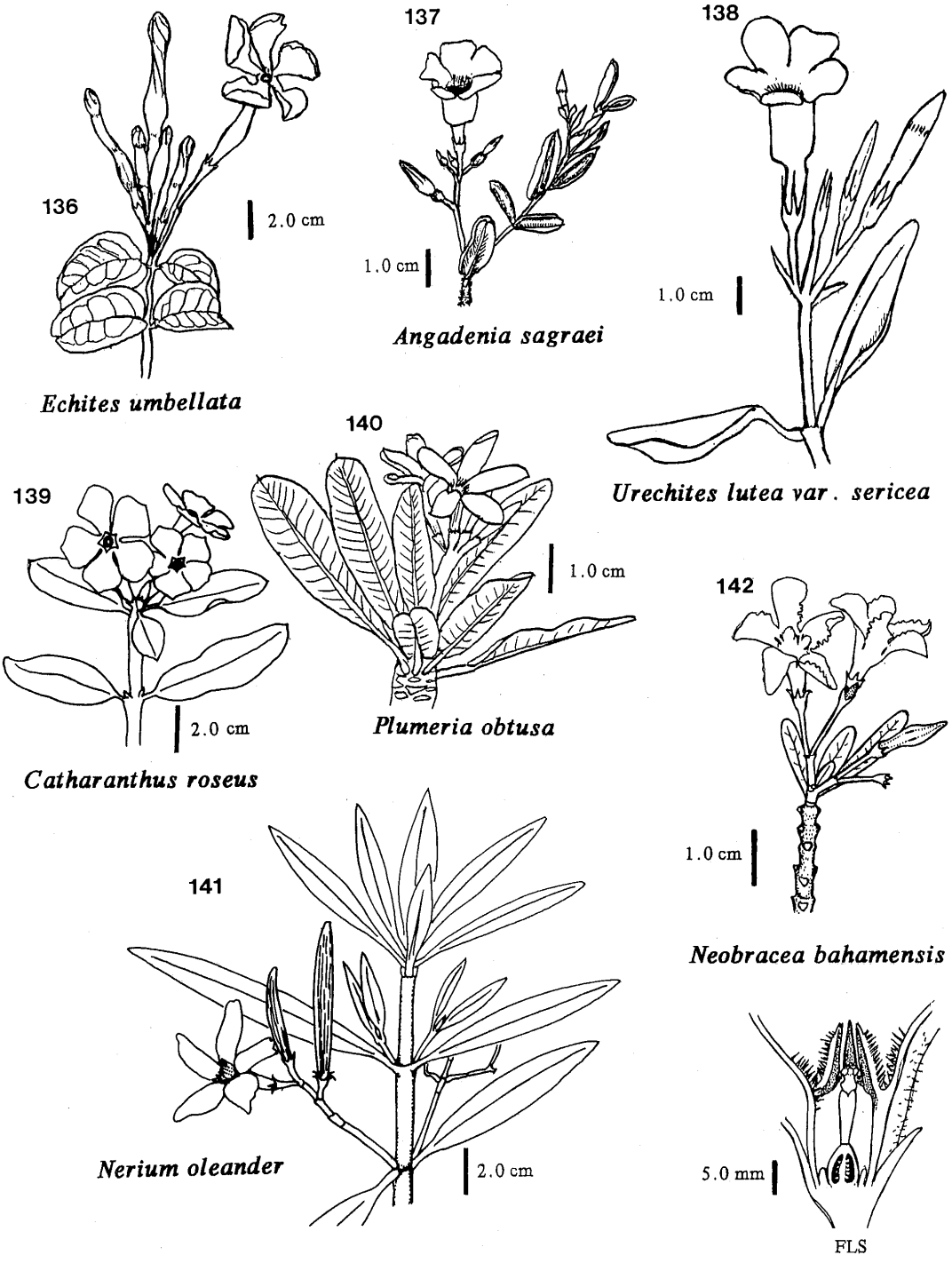
1. Trees, shrubs, or shrubby herbs.
    4. Leaves linear-lanceolate, up to 25 cm long; petals red, pink, or white, often doubled in number in cultivated varieties. ***Nerium oleander* L.** (Oleander. Rosebay). Fig. 141.
    4. Leaves ovate or oblong, less than 25 cm long; flowers 5-merous, pink or white.
        5. Flowers pink; leaves ovate; low shrub or herb. ***Catharanthus roseus* (L.) G. Don.** (Red Periwinkle. Old Maid), Fig. 139.
        5. Flowers white; shrubs.
            6. Corolla throat yellow; leaves, stems glabrous. ***Plumeria obtusa* L.** (Frangipanni. Bahama Plumeria). Fig. 140.
            6. Corolla throat reddish; leaves, stems tomentose. ***Neobracea pahamensis* (Britton) Britton.** (Bahama Neobracea). Fig. 142.

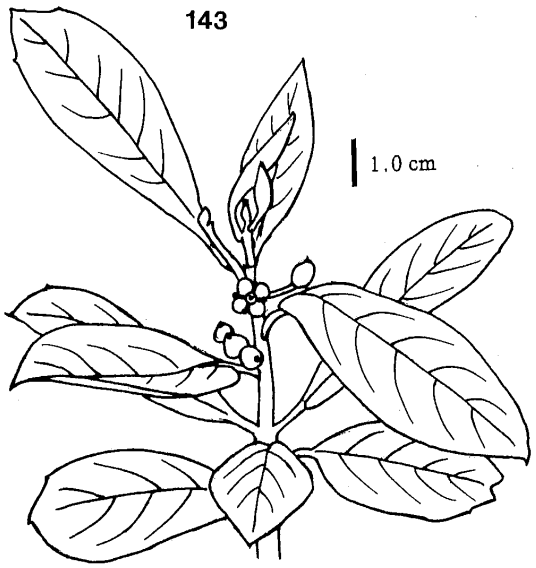
Other taxa: ***Plumeria rubra* L., *Rhabdadenia biflora* Oacq.) Muell., *Vallesia antillana* Woods.**

Aquifoliaceae. Holly Family.

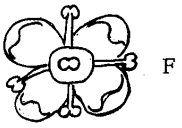
1. Leaves dark green above, pale beneath; twigs pubescent. ***Ilex cassine* L.** (Dahoon Holly). Fig. 143.

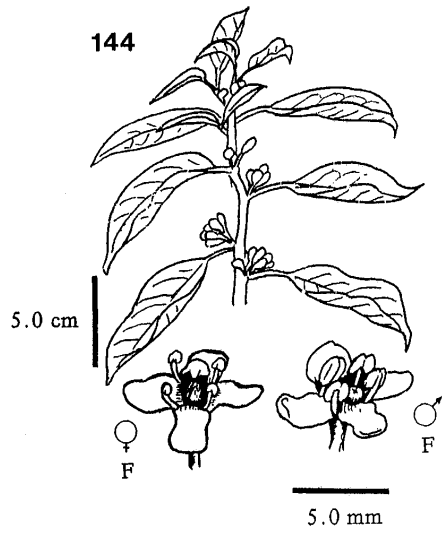
1. Leaves dark green above and beneath; twigs glabrous.
    2. Petiole greater than 1.5 cm long; leaf margin undulate, entire; tip acuminate. ***Ilex krugiana* Loes.** (Tawnberry Holly). Fig. 144.
    2. Petiole less than 0.5 cm long; leaf margin repand-dentate or entire; tip rounded or emarginate. ***Ilex repanda* Griseb.** (Cuban Holly).


136
2.0 cm
Echites umbellata
137
1.0 cm
Angadenia sagraei
138
1.0 cm
Urechites lutea var. sericea
139
2.0 cm
Catharanthus roseus
140
1.0 cm
Plumeria obtusa
142
1.0 cm
Neobracea bahamensis
141
2.0 cm
Nerium oleander
5.0 mm
FLS

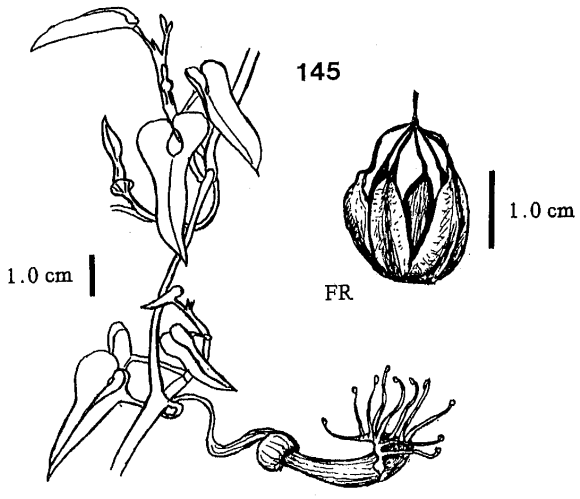


Ilex cassine

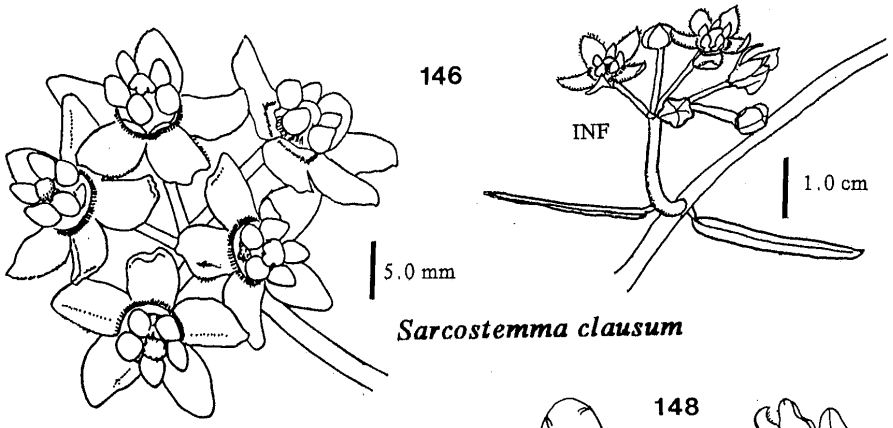




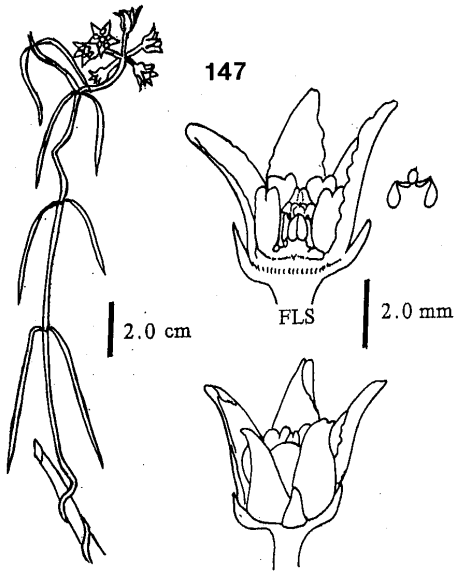
Ilex krugiana



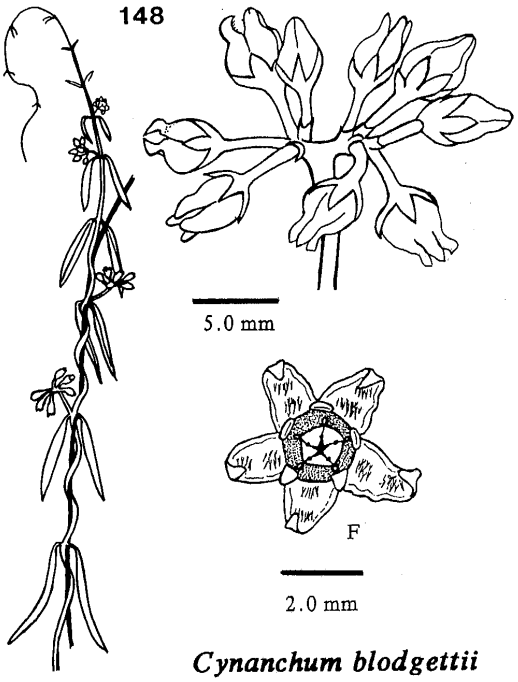
Aristolochia passifloraefolia



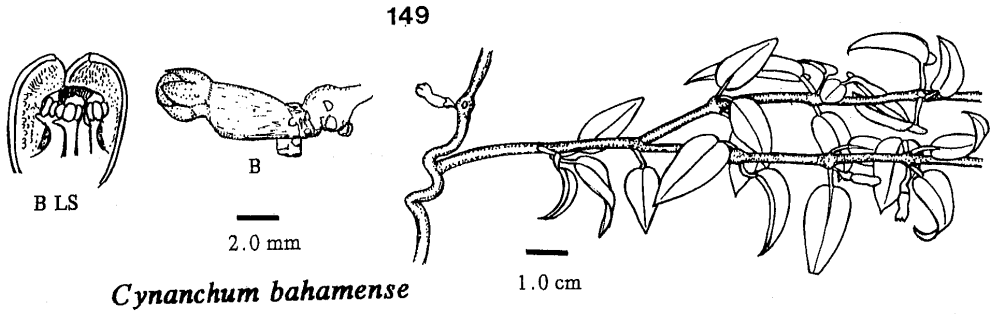
Sarcostemma clausum



Cynanchum angustifolium



Cynanchum blodgettii



Cynanchum bahamense

Araliaceae. Ginseng Family

***Brassaia actinophylla* Endl**. (Australian Umbrella Tree, Schefflera). Native to Australia but widely cultivated on Andros.

Other taxon: ***Polyscias guilfoylei* (Cogn. & Marchal) L. H. Bailey**.

Aristolochiaceae. Birthwort Family.

***Aristolochia passifloraefolia* A. Rich.** (Slender Aristolochia). Fig. 145.

Other taxon: ***Aristolochia pentandra* Jacq.**

Asclepiadaceae. Milkweed Family.

1. Flowers with corona hood surrounding gynostegium. ***Sarcostemma clausum* (Jacq.) R. & S.** (Milk Vine). Fig. 146.
1. Flowers without a hood.
    2. Leaves lanceolate to linear; corolla lobes glabrous on inner surface. ***Cynanchum angustifolium* Pers.** (Marsh Cynanchum). Fig. 147.
    2. Leaves wider; corolla lobes pubescent on inner surface.
        3. Leaves thin and lanceolate. ***Cynanchum blodgettii* (Gray) Shinners.** (Blodgett's Cynanchum), Fig. 148.
        3. Leaves thick and leathery. ***Cynanchum bahamense* (Griseb.) Gillis.** (Bahama Cynanchum). Fig. 149.

Other taxa: ***Asclepias curassavica* L.**, ***Cryptostegia grandiflora* R. Br.**, ***Cynanchum eggersii* (Schltr.) Alain**, ***Cynanchum northropiae* (Schltr.) Alain**, ***C. scoparium* Nutt.**, **C. *sigmoideum* Correll.**

Asteraceae [= Compositae]. Aster Family.

KEY TO TRIBES

1. Heads with ray and disc florets or only with disc florets; sap not milky.
    2. Heads radiate (with ray and disc florets)
        3. Disc corollas actinomorhic.
            4. Pappus of scales, awns, short bristles, or none; not soft capillary.
                5. Receptacle chaffy with bracts subtending individual florets. **Tribe I. Heliantheae.**
                5. Receptacle naked or bristly, not chaffy. **Tribe II. Helenieae**.
            4. Pappus of capillary bristles.
                6. Phyllaries all equal in length, generally in one series. **Tribe III. Senecioneae.**
                6. Phyllaries unequal or equal but in more than one series. **Tribe IV. Astereae.**
        3. Disc corollas zygomorphic. **Tribe V. Mutisieae**.
    2. Heads discoid (with disc florets only).
        7. Pappus of scales, awns, short bristles, or none.
            8. Receptacle chaffy. **Tribe I. Heliantheae**.
            8. Receptacle not chaffy. **Tribe II. Helenieae**.

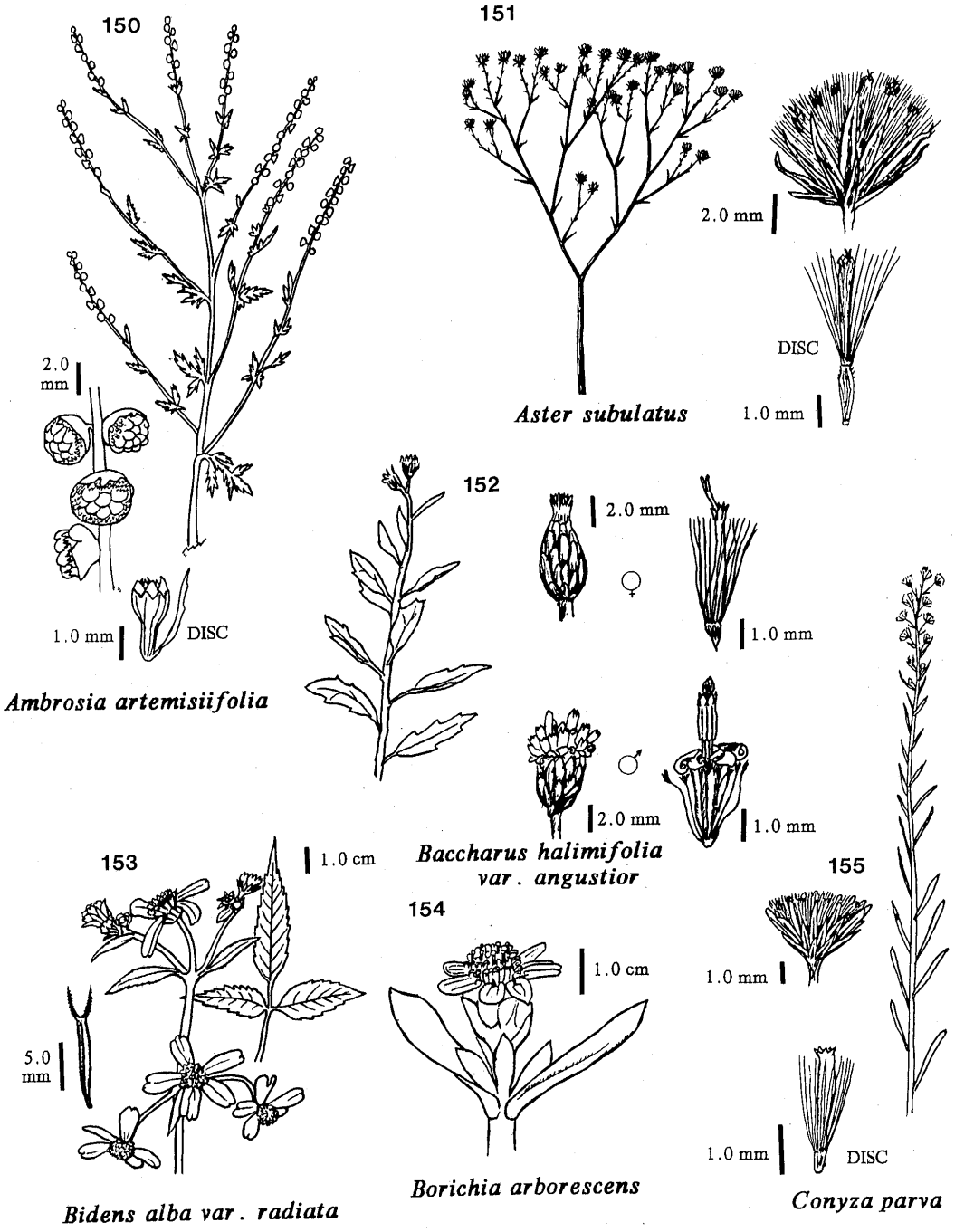
7. Pappus of capillary bristles.
    9. Corollas of marginal florets filiform, carpellate; anther sacs tailed at the base; leaves and stems often white woolly pubescent. **Tribe VI. Inuleae**.
    9. Corolla of marginal florets not filiform, or, if filiform then anthers not tailed at base and plant not white woolly pubescent.
        10. Some of the corollas yellow; florets bisexual. **Tribe IV. Astereae**
        10. Corollas bisexual but not yellow.
            11. Phyllaries equal in length, generally in one series or row. **Tribe III. Senecioneae.**
            11. Phyllaries unequal, in more than one row.
                12. Style branches club shaped, covered with small papillae; anthers rounded at base. **Tribe VII. Eupatorieae**.
                12. Style branches linear, bristly pubescent; anthers with short basal appendage. **Tribe VIII. Vernonieae**.

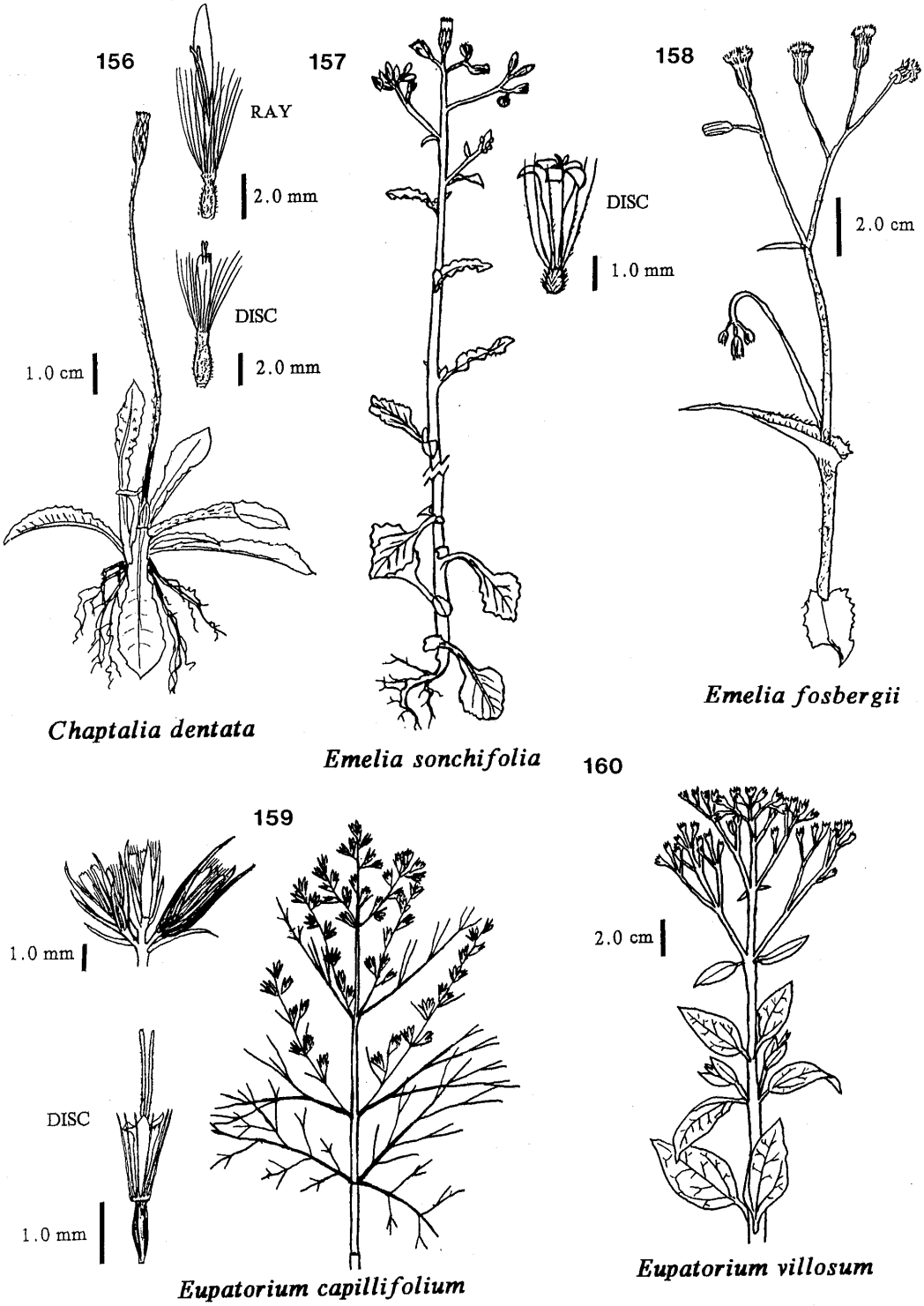
1. Heads ligulate (composed entirely of ray florets); sap usually milky. **Tribe IX. Cichorieae.**

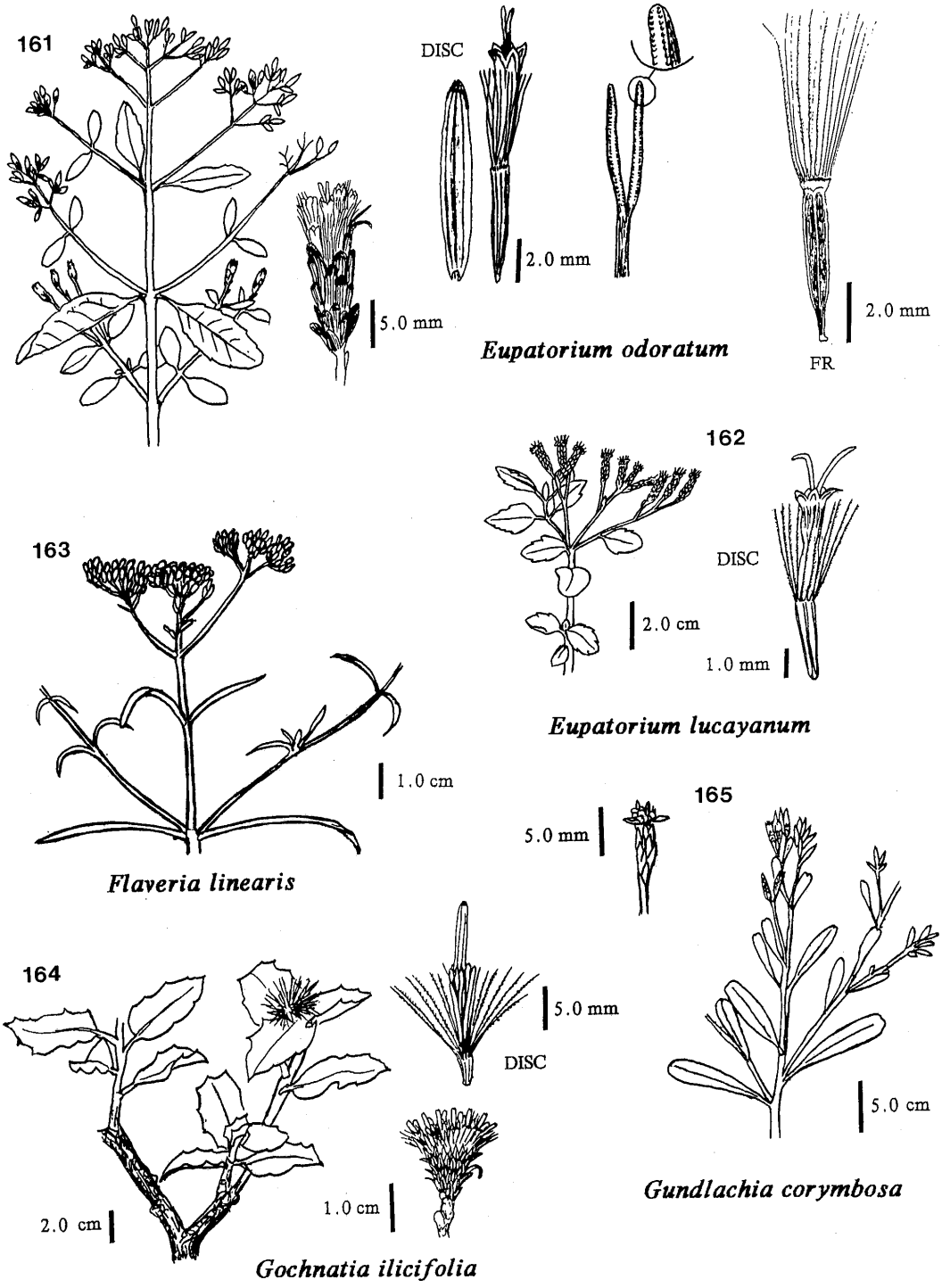
Tribe I. Heliantheae.

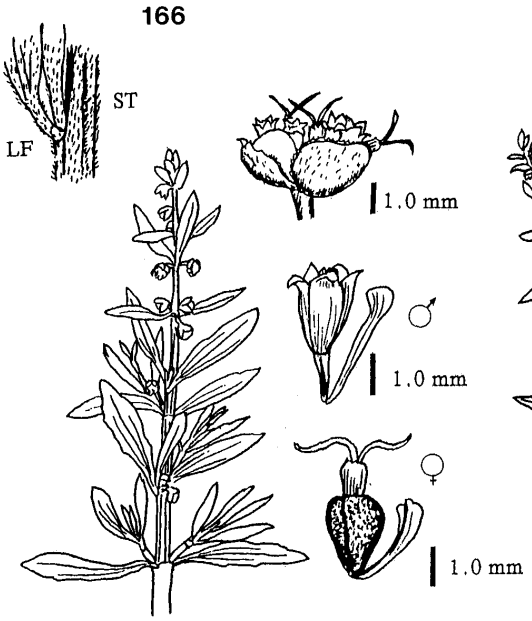
1. Heads without ray florets; carpellate heads with less than five florets
    2. Leaves pinnately dissected; herbs. ***Ambrosia artemisiifolia* L.** (Southern Ragweed). Fig. 150.
    2. Leaves simple; shrubs.
        3. Heads 3-4 mm broad; plant pubescent; leaves opposite. ***Iva cheiranthifolia* H. B. K.** (Bush Iva). Fig. 166.
        3. Heads 5.0 mm broad; plant glabrous; leaves alternate. ***Iva imbricata* Walt.** (Beach Iva). Fig. 167.
1. Heads with ray florets, or, if discoid, then florets bisexual.
    4. Leaves all opposite.
        5. Some or all of the leaves toothed or compound; herbs.
            6. Ray florets lacking; disc florets white; leaves toothed. ***Melanthera aspera* (Jacq.) Small var. *glabriuscula* (Kuntze) Parks.** (Melanthera). Fig. 170.
            6. Ray florets lacking or present; disc florets yellow; leaves compound. ***Bidens alba* DC. var. *radiata* (Sch. Bip.) Ballard ex Melchert.** (White Beggar's Ticks. Shepherd's Needle). Fig. 153.
        5. Leaves barely toothed or entire, not compound; shrubs.
            7. Leaves ovate-spatulate; heads in a dense corymb; achenes flattened. ***Salmea petrobioides* Griseb.** (Bushy Salmea. Shanks). Fig. 174.
            7. Leaves lanceolate; head born singly; achenes acutely four-angled. ***Borichia arborescens* (L.) D. C**. (Bay Marigold. Sea Ox-Eye). Fig. 154.
    4. Leaves alternate, deeply lobed or pinnatifid; disc florets sterile (staminate). ***Parthenium hysterophorus* L.** (Santa Maria). Fig. 171.

Other taxa: ***Ambrosia hispida* Pursh, *Eclipta alba* (L.) Hassk., *Gaillardia pulchella* Fouq. *Helianthus arophyllus* T. & G., *Porophyllum ruderale* (Jacq.) Cass., *Tithonia diversifolia* (Hemsl.) Gray., *Wedelia bahamensis* (Britt.) Schulz ex Urb., *Wedelia trilobata* (L.) Hitchc.**

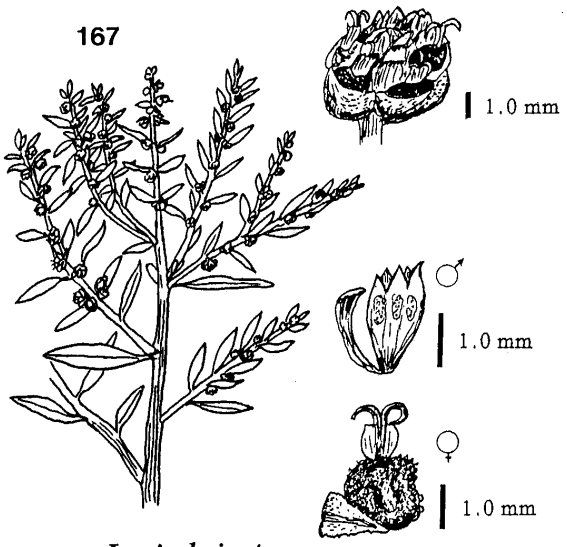

150
2.0 mm
1.0 mm
DISC
Ambrosia artemisiifolia
151
2.0 mm
DISC
1.0 mm
Aster subulatus
152
2.0 mm
♀
1.0 mm
♂
2.0 mm
1.0 mm
Baccharus halimifolia var. angustior
153
1.0 cm
5.0 mm
Bidens alba var. radiata
154
1.0 cm
Borichia arborescens
155
1.0 mm
1.0 mm
DISC
Conyza parva


156
RAY
2.0 mm
DISC
2.0 mm
1.0 cm
Chaptalia dentata
157
DISC
1.0 mm
Emelia sonchifolia
158
2.0 cm
Emelia fosbergii
159
1.0 mm
DISC
1.0 mm
Eupatorium capillifolium
160
2.0 cm
Eupatorium villosum

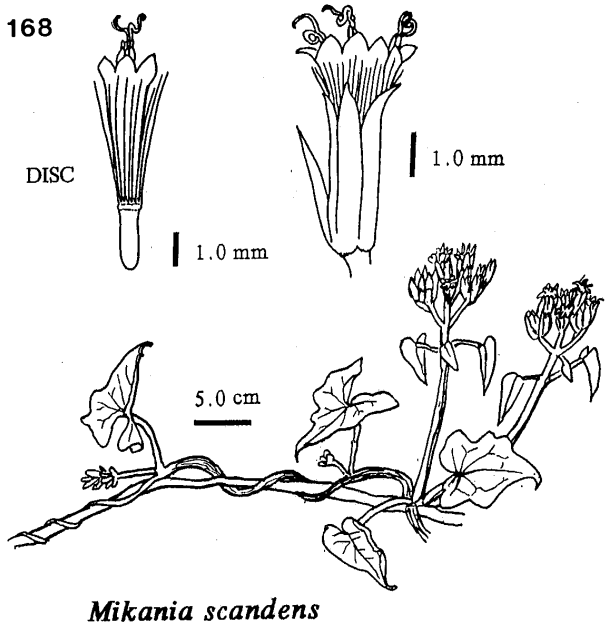

161
DISC
2.0 mm
5.0 mm
2.0 mm
FR
Eupatorium odoratum
162
DISC
2.0 cm
1.0 mm
Eupatorium lucayanum
163
1.0 cm
Flaveria linearis
165
5.0 mm
5.0 cm
Gundlachia corymbosa
164
5.0 mm
DISC
2.0 cm
1.0 cm
Gochnatia ilicifolia



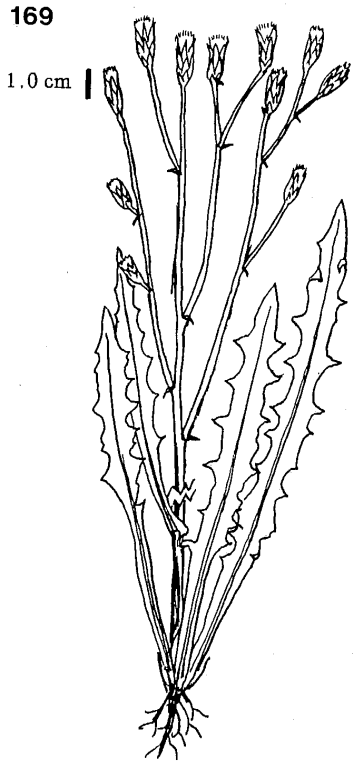
Iva cheiranthifolia



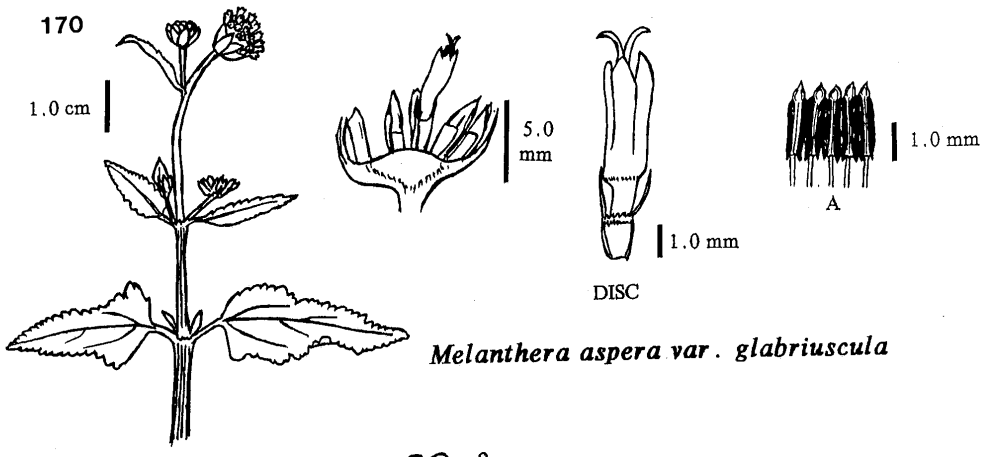
Iva imbricata



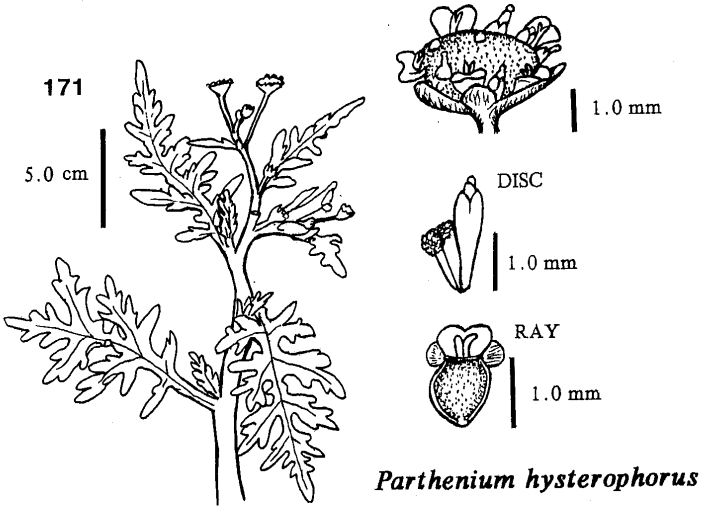
Mikania scandens



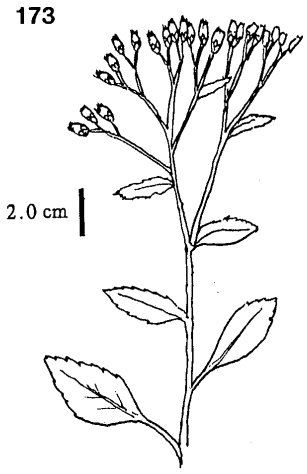
Lactuca intybacea



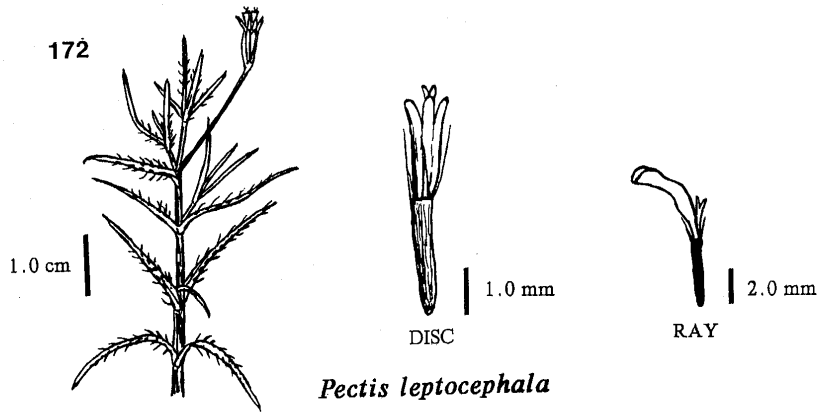
Melanthera aspera var. glabriuscula



Parthenium hysterophorus

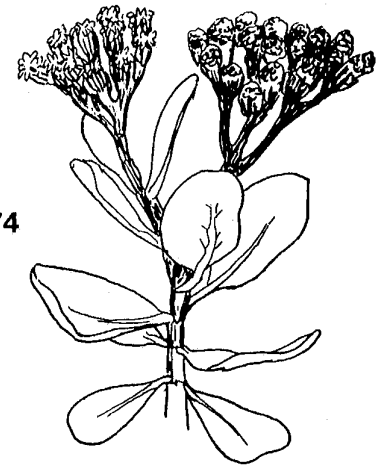


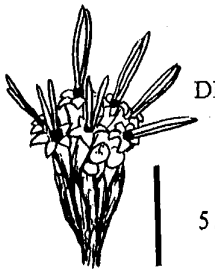
Pluchea odorata



Pectis leptocephala

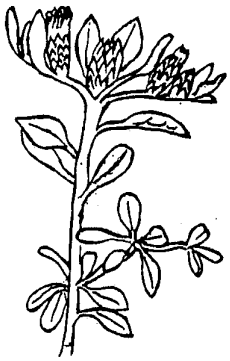
174

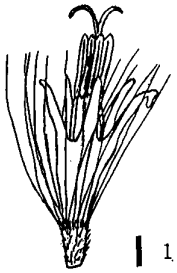




Salmea petrobioides

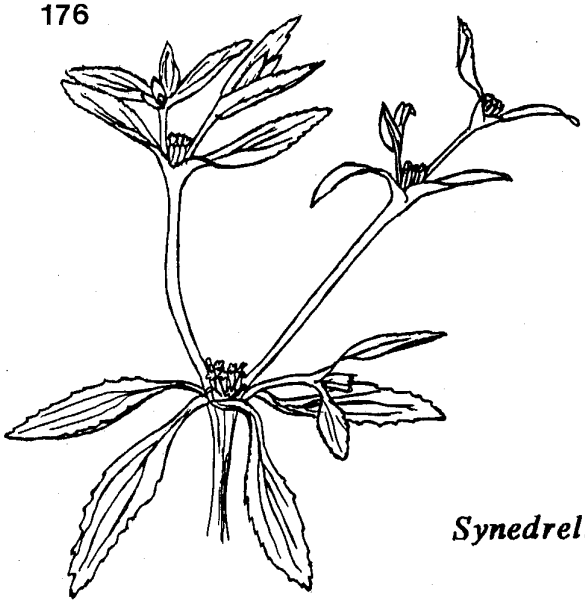
175

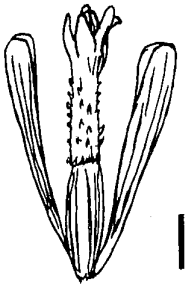




Vernonia arbuscula

176





Synedrella

Tribe II. Helenieae.

1. Phyllaries and leaves with conspicuous oil-gland dots. *Pectis leptocephala* (Cass.) Urb. (Awn-Fruited Pectis) Fig. 172.
1. Phyllaries and leaves without gland dots.
   2. Leaves linear. ***Flaveria linearis* Lag.** (Narrow-Leaved Flaveria. Yellowtop). Fig. 163.
   2. Leaves oblanceolate, > 8 mm wide. ***Flaveria trinervia* (Spreng.) Mohr.** (3-nerved Flaveria). Fig. 176.

Tribe III. Senecioneae.

1. Lower leaves lyrate, pinnatifid; flowers purple or red. ***Emelia sonchifolia* (L.) DC. ex Wight.** (Purple Emelia) Fig. 157.
1. Lower leaves eliptic to lanceolate; flowers crimson red. ***Emelia fosbergii* D. H. Nicholson.** (Crimson Emelia) Fig. 158.

Other taxa: ***Erechtites hieracifolia* (L.) Raf. ex DC.,** ***Neurolaena lobata* (L.) R. Br.,** ***Pseudogynoxys chenopodioides* (Kunth) Cabrera.**

Tribe IV. Astereae.

1. Erect shrubs over 1.0 m tall.
   2. Ray florets absent; plants dioecious.
      3. Leaf blades narrowly linear to lanceolate, mostly less than 5.0 mm wide. ***Baccharus angustifolia* Michx**. (False Willow).
      3. Leaf blades wider, spatulate. ***Baccharus halimifolia* L. var. *angustior* DC.** (Groundsel Bush). Fig. 152.
   2. Ray florets present; florets bisexual. ***Gundlachia corymbosa* (Urban) Britton**. (Horsebush. Soldier Bush). Fig. 165.
1. Herbs.
   4. Involucres small, less than 5.0 mill wide; peduncles not leafy; stem simple. ***Conyza parva* (L.) Cronquist**. (Dwarf Horse-weed) Fig. 155.
   4. Involucres larger than 5.0 mm; peduncles leafy; stem branched. ***Aster subulatus* Michx**. [including ***A. exilis* Ell**. and ***A. bahamensis* Britt.**]. (Awl-Leaved Aster) Fig. 151.

Other taxa: ***Aster tenuifolius* L.,** ***Baccharis dioica* Vahl.,** ***Baccharus glomeruliflora* Pers.,** ***Conyza canadensis* (L.) Cronquist var. *pusilla* (Nutt.) Cronquist,** ***Erigeron quercifolius* Lam.**

Tribe V. Mutisieae.

1. Shrubs with coriaceous, spinulose, tomentose leaves; disc florets perfect. ***Gochnatia ilicifolia* Less.** (Candlewood) Fig. 164.
1. Herbs with felty leaves in a basal rosette; ray florets perfect, disc florets sterile or unisexual. ***Chaptalia dentata* (L.) Cass.** (Sunbonnets). Fig. 156.

Other taxon: ***Gochnatia paucifloscula* (Wr. ex Hitchc.) Jervis ex Cabrera.**

Tribe VI. Inuleae.

1. Plants herbaceous. ***Pluchea odorata* (L.) Casso** [including ***P. purpurascens* Britt. & Millsp.**]. (Bushy Fleabane. Conch Towel). Fig. 173.

1 Plants shrubby. ***Pluchea rosea*** **Godfrey**. (Perennial Marsh Fleabane).

Other taxa: ***Gnaphalium pensylvanicum*** **Willd.,** ***Pluchea symphytifolia*** **(Mill.) Gillis,** ***Sachsia polycephala*** **Griseb.**

Tribe VII. Eupatorieae.

1. Herbaceous vine. ***Mikania scandens*** **(L.) Willd.** (Climbing Hempweed). Fig. 168.
1. Herbs
    2. Upper leaves dissected into filiform segments. ***Eupatorium capillifolium*** **(Lam.) Small.** (Dog Fennel). Fig. 159.
    2. Upper leaves broader, over 15 mm wide.
        3. Shrubs; leaves ovate, with pellucid glands; ***Eupatorium villosum*** **Sw.** (Velvety Thoroughwort. Jackmanda. Bitter Sage). Fig. 160.
        3. Herbs; leaves ovate to lanceolate.
            4. Leaves entire or crenate-dentate, not fleshy. ***Eupatorium odoratum*** **L**. (Tonka-Bean. Bitter-bush). Fig. 161.
            4. Leaves entire, fleshy. ***Eupatorium lucayanum*** **Britt.** (Lucayan Thoroughwort). Fig. 162.

Other taxa: ***Ageratum conyzoides*** **L.,** ***Eupatorium havanense*** **Kunth,** ***E. bahamense*** **Northrop,** ***Isocarpha oppositifolia*** **(L.) Cass.**

Tribe VIII. Vernonieae.

Vernonia arbuscula **Less.** (Low Bushy VernoniaL Fig. 175.

Other taxon: ***Vernonia cinerea*** **(L.) Less.**

Tribe IX. Cichorieae.

Lactuca intybacea **Jacq.** (Wild Lettuce). Fig. 169.

Other taxa: ***Sonchus oleraceus*** **L.**

Avicenniaceae. Black Mangrove Family.

Avicennia germinans **(L.) L.** (Black Mangrove). Fig. 177.

Batidaceae. Saltwort Family.

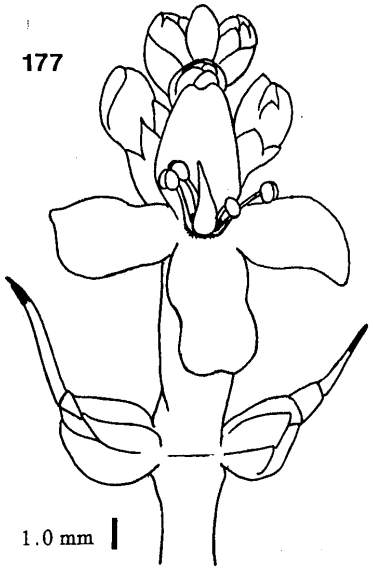
Batis maritima **L.** (Saltwort. Turtleweed). Fig. 183.

Bignoniaceae. Trumpet Creeper Family.

1. Leaves compound.
    2. Leaves palmately compound; leaflets 3 or 5. ***Tabebuia bahamensis*** **(Northrop) Britt.** (Five-Fingers. Beefwood. Gunwood). Fig. 178.
    2. Leaves pinnately compound. ***Jacaranda coerulea*** **(L.) Griseb.** (Boxwood. Cancer Tree. J acarada). Fig. 179.
1. Leaves simple. ***Catalpa punctata*** **Griseb.** (Cuban Catalpa). Fig. 180.

Other taxa: ***Crescentia cujete*** **L.,** ***Tabebuia affinis*** **Britt. & Wils. ex Alain,** ***T. lepidota*** **(Kunth) Britt.**

177

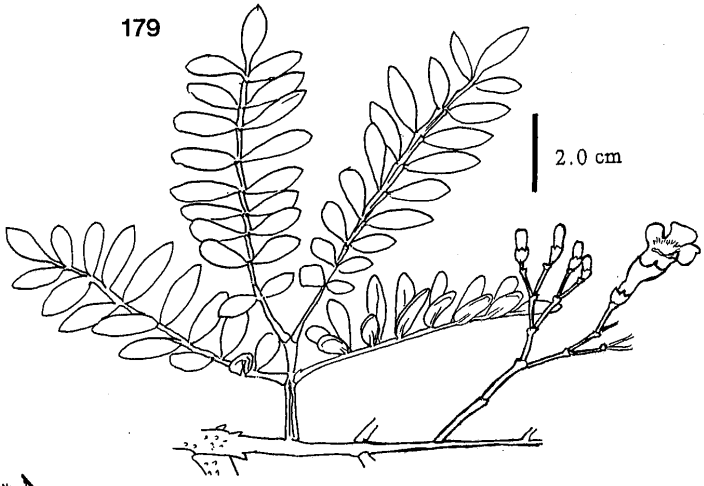


Avicennia germinans

178

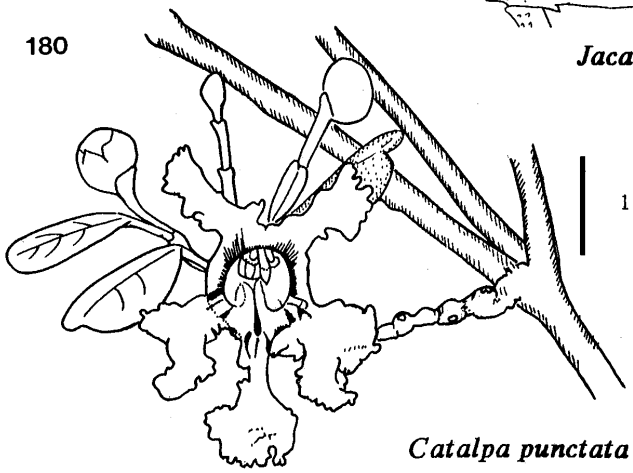
Tabebuia bahamensis

179



Jacaranda coerulea

180



Catalpa punctata

Bombacaceae. Balsa, Kapok Family.

1. Leaves simple, large and cordate. ***Ochroma pyramidale*** **Car. & Urb.** (Balsa). Fig. 181.
1. Leaves palmately compound. ***Ceiba pentandra*** **(L.) Gaertn**. (Silk-Cotton Tree. Kapok). Cultivated. Fig. 182.

Boraginaceae. Borage Family.

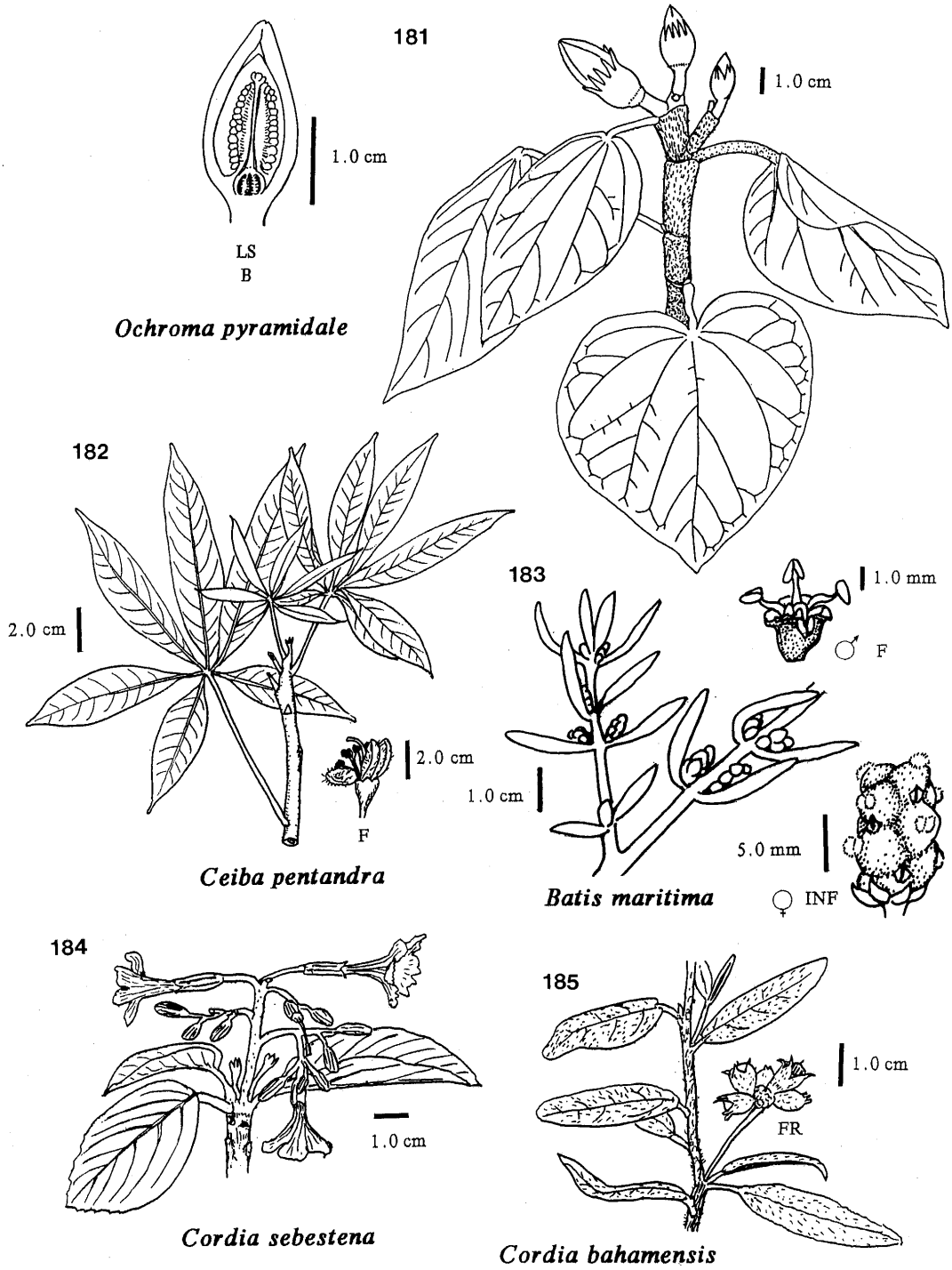
1. Trees or shrubs.
    2. Corolla orange, up to 4.0 cm long. ***Cordia sebestena*** **L.** (Anaconda. Geiger Tree). Fig. 184.
    2. Corolla not orange and smaller.
        3. Inflorescence a scorpioid cyme; coastal canescent shrub. ***Mallotonia gnaphalodes*** **(L.) Britt.** (Bay Lavender). Fig. 190.
        3. Inflorescence a panicle, cyme, or head.
            4. Inflorescence a head; leaves coriaceous, setose-scabrous. ***Cordia bahamensis*** **Urb.** (Granny Bush. Rough Cordia). Fig. 185.
            4. Inflorescence a panicle or cyme; leaves generally glabrous. ***Bourreria ovata*** **Miers.** (Strong Back). Fig. 186.
1. Vines and herbs.
    5. Vine; small greenish flowers in scorpioid cymes. ***Tournefortia volubilis*** **L.** (Slender Green-leaved Tournefortia). Fig. 191.
    5. Herbs.
        6. Nutlets united in pairs; larger leaves lanceolate, 1-4 cm wide. ***Heliotropium angiospermum*** **Murr.** (Heliotrope. Scorpion-Tail. Horsebush. SorebushL Fig. 189.
        6. The four nutlets separating; larger leaves lanceolate, spatulate, or oblong, less than 0.6 cm wide.
            7. Plant fleshy, glabrous; leaves spatulate or lanceolate. ***Heliotropium curassavicum*** **L.** (Seaside Heliotrope). Fig. 188.
            7. Plant shrubby, stigose-canescent; leaves sessile, oblong. ***Heliotropium nanum*** **Northrop**. (Low Ashy Heliotrope). Fig. 187.

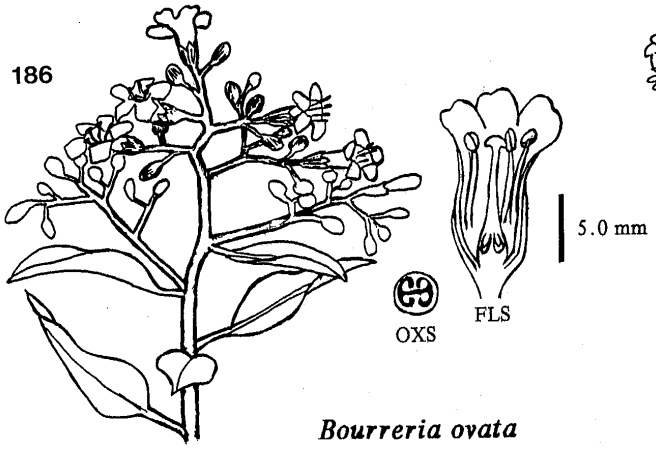
Other taxa: ***Cordia globosa*** **(Jacq.) Kunth, C.** ***brittonii*** **(Millsp.) Macbr.,** ***Heliotropium eggersii*** **Urb.**

Brassicaceae [Cruciferae]. Mustard Family.

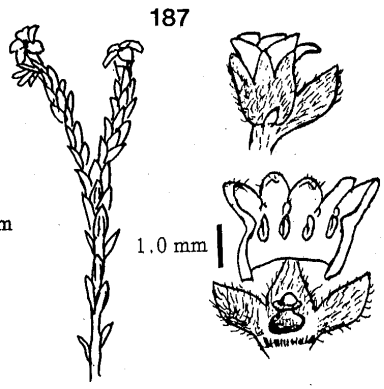
1. Fruit a dehiscent, flattened silicle. ***Lepidium virginicum*** **L.** (Wild Peppergrass). Fig. 215.
1. Fruit indehiscent, siliques.
    2. Leaves fleshy, simple; maritime coastal beaches. ***Cakile lanceolata*** **(Willd.) O. E. Schulz**. (Southern Sea Rocket. Gardena. Pork Bush), Fig. 216.
    2. Leaves 1-2 pinnatifid. ***Erucastrum gallicum*** **(Willd.) O. E. Schultz.** (Rocket Weed. Dog Mustard), Fig. 214.

Other taxon: ***Rorippa portoricensis*** **(Spreng.) Stehe.**

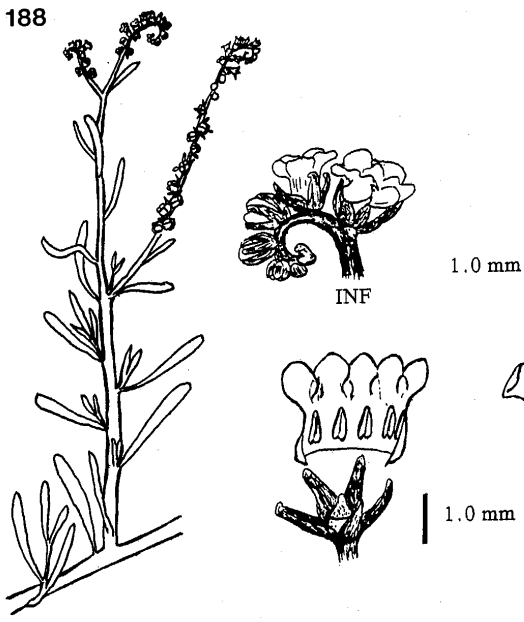

181
1.0 cm
1.0 cm
LS
B
Ochroma pyramidale
182
2.0 cm
2.0 cm
F
Ceiba pentandra
183
1.0 mm
♂ F
1.0 cm
5.0 mm
♀ INF
Batis maritima
184
1.0 cm
Cordia sebestena
185
1.0 cm
FR
Cordia bahamensis



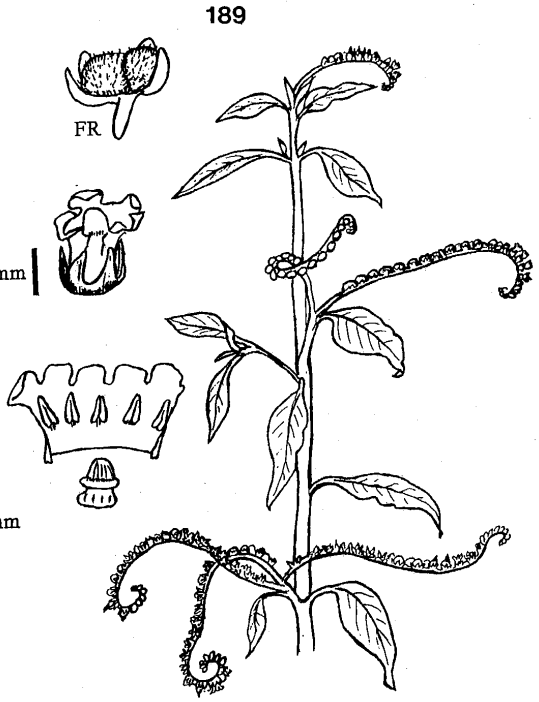
Bourreria ovata



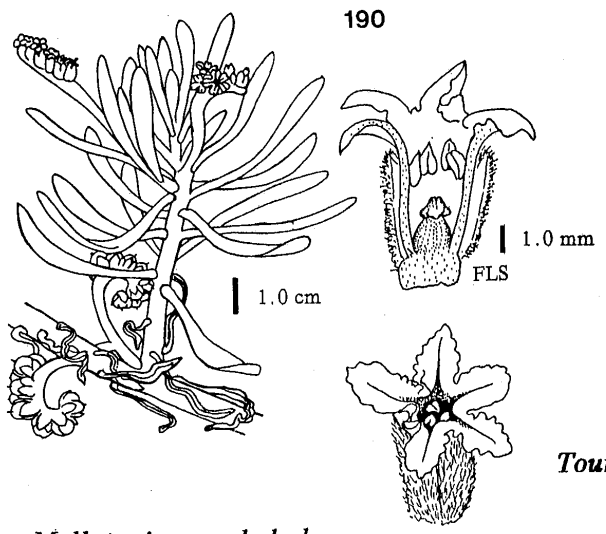
Heliotropium nanum



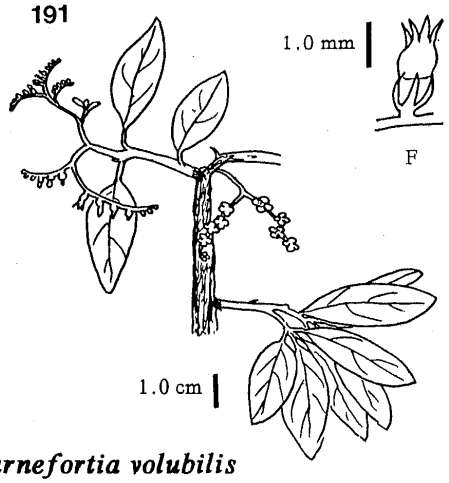
Heliotropium curassavicum



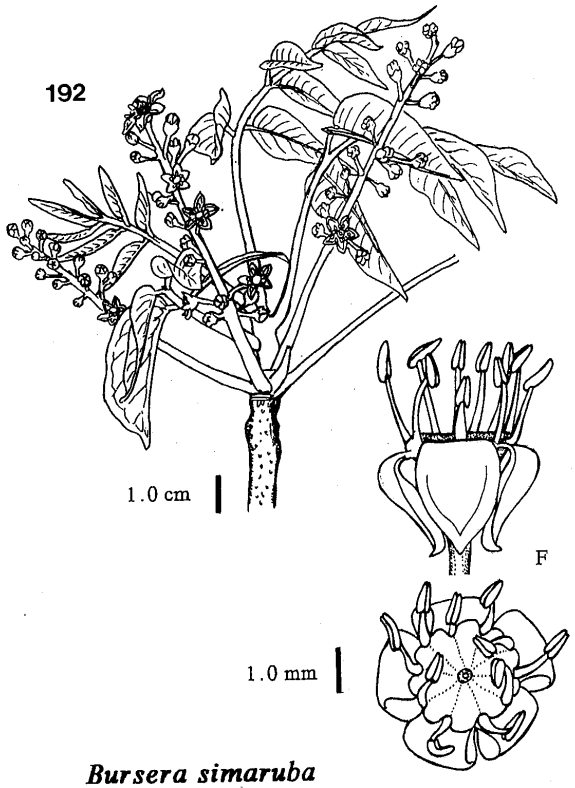
Heliotropium angiospermum



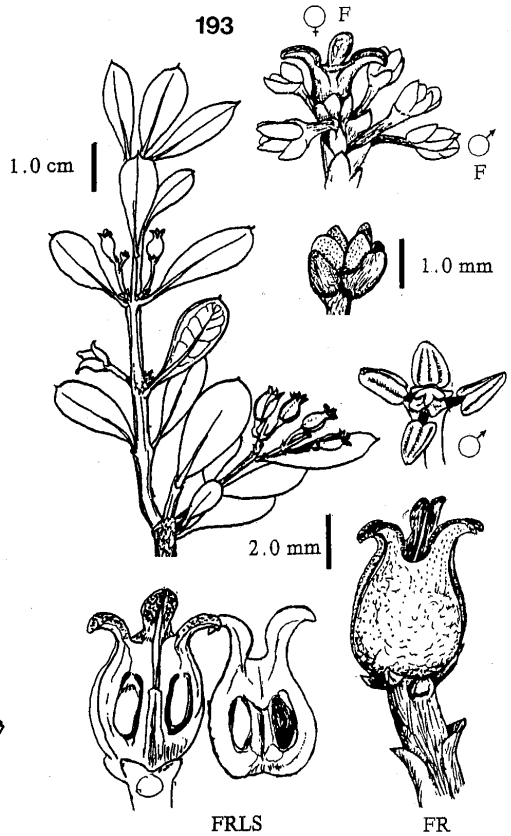
Mallotonia gnaphalodes



Tournefortia volubilis



Bursera simaruba



Buxus bahamensis

Burseraceae. Gumbo-limbo Family.

***Bursera simaruba* (L.) Sarg.** (Gumbo-limbo. Gum Elemi. Tourist Tree. West Indian Birch), Fig. 192.

Buxaceae. Box Family.

***Buxus bahamensis* Baker in Hook**. (Bahama Buxus. Box), Fig. 193.

Cactaceae. Cactus Family.

1. Plants without glochidia.
   2. Plants tall, ribbed, columnar; perianth white to yellowish; flowers nocturnal. ***Cephalocereus bahamensis* Britt**. l=? ***C. swartzii* Britt. & Rose**] (Bahamian Dildo). Fig. 196.
   2. Plants epiphytic or climbing; branches long, three winged; perianth green and white; flowers nocturnal. ***Hyalocereus undatus* (Haw.) Britton & Rose** [= ***Cereus undatus* Haw. in Correll**]. (Night Blooming Cereus). Fig. 195.
1. Plants with glochidia; stem segments flat. ***Opuntia stricta* Haw. var. *dillenii* (Ker-Gawl.) L. Benson.** (Common Prickly Pear), Fig. 194.

Other taxa: ***Opuntia cochenillifera* (L.) Mill., *O. nashii* Britt.**

Canellaceae. Wild Cinnamon, Canella Family.

***Canella alba* Murr**. [= ***C. winterana* (L.) Gaertn.L** (Cinnamon Bark. Wild Cinnamon. Canella). Fig. 197.

Capparaceae. Caper Family.

1. Lower surface of leaf with minute brown scales. ***Capparis cynophallophora* L.** (Black Willow).
1. Lower surface of leaf glabrous. ***Capparis flexuosa* (L.) L.** (Limber Caper. Caper Tree).

Other taxon: ***Cleome gynandra* L.**

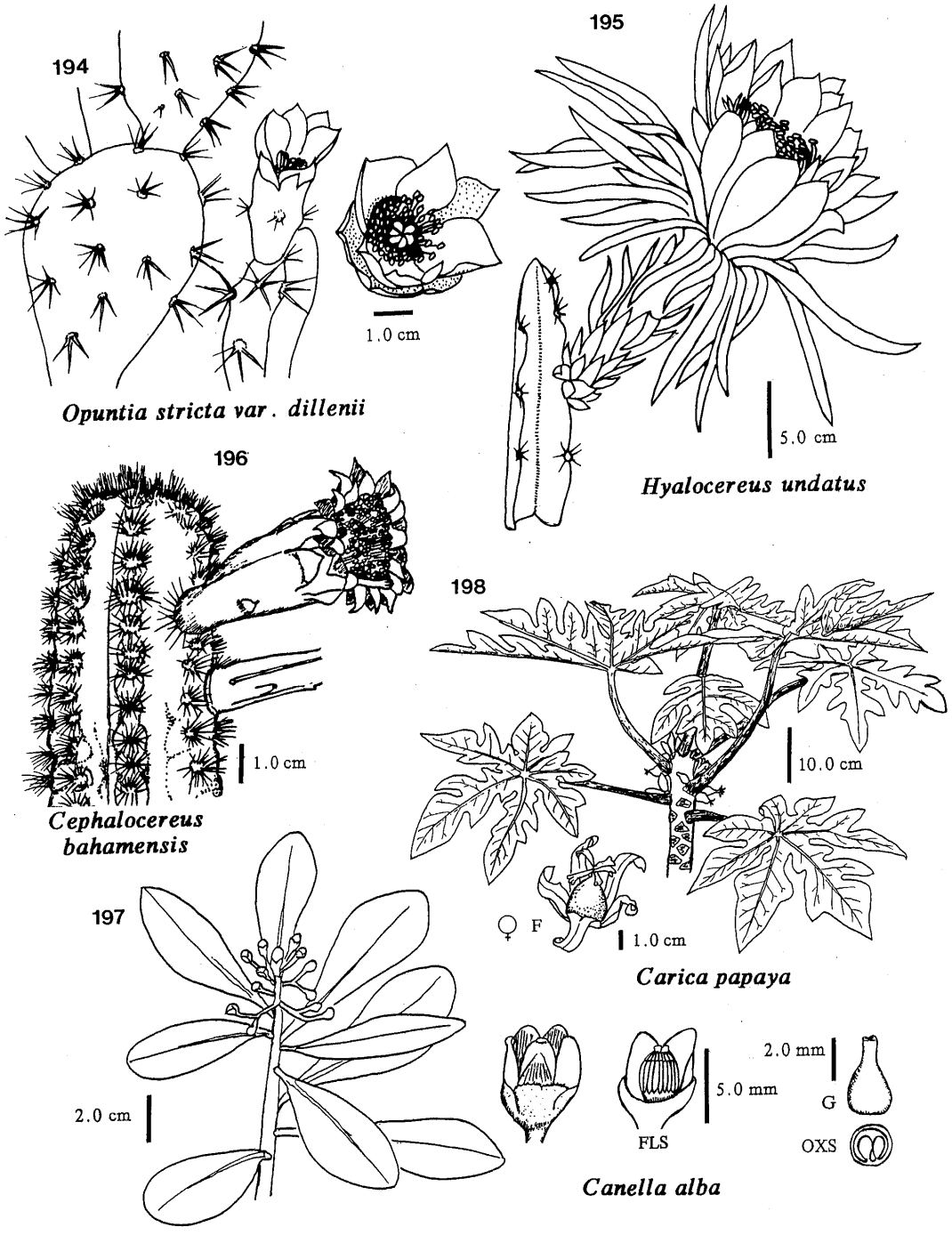
Caricaceae. Papaya Family.

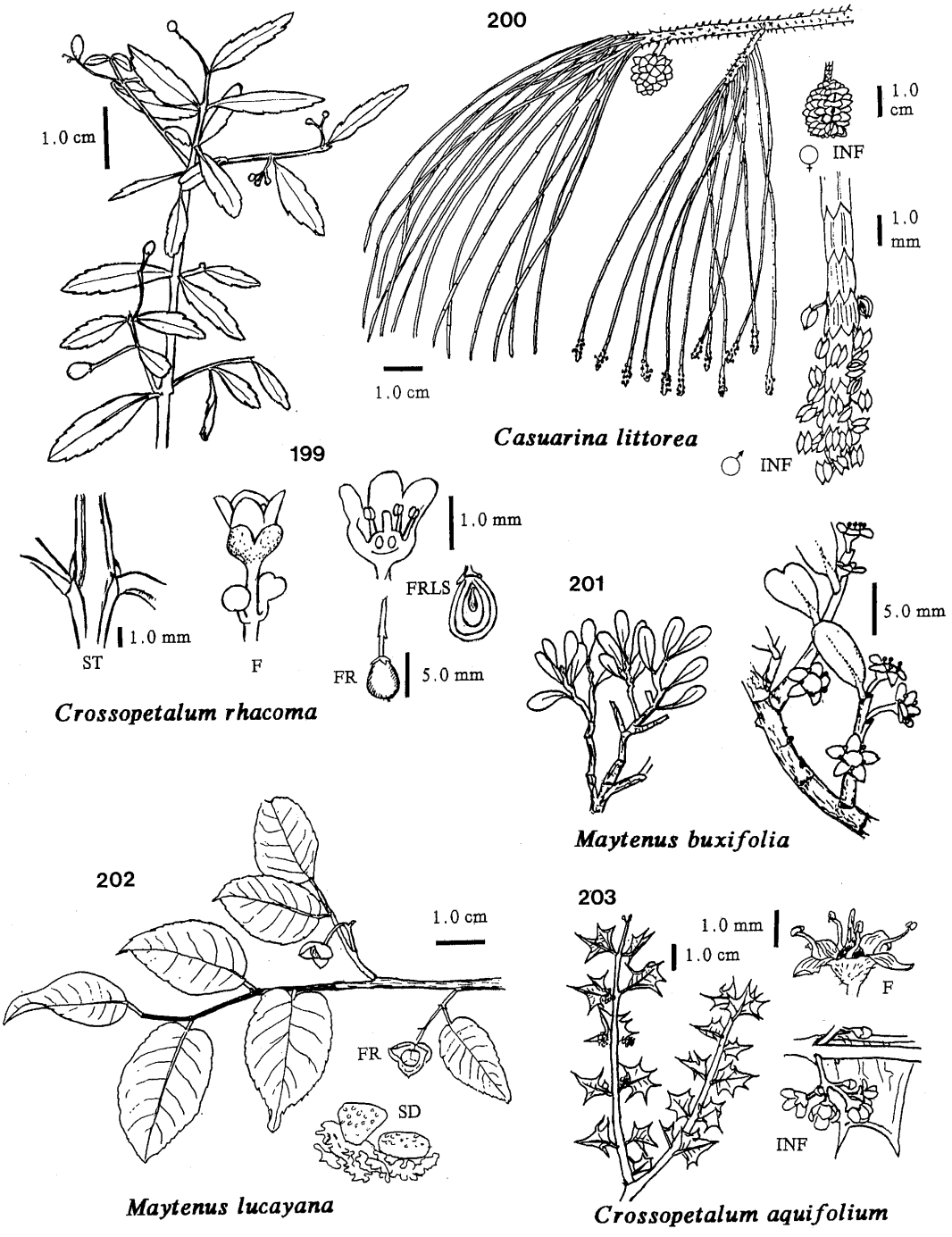
***Carica papaya* L.** (Papaya). Fig. 198.

Casurinaceae. Beef Wood, River Oak Falnily.

***Casuarina littorea* L.** [= ***C. equisetifolia* L. ex J. R. & G. Forst.**] (Australian Pine. She Oak.). Fig. 200.

Other taxon: ***Casuarina glauca* Sieb.**


194
1.0 cm
Opuntia stricta var. dillenii
195
5.0 cm
Hyalocereus undatus
196
1.0 cm
Cephalocereus bahamensis
198
10.0 cm
♀ F
1.0 cm
Carica papaya
197
2.0 cm
2.0 mm
5.0 mm
G
FLS
OXS
Canella alba


200
1.0 cm
1.0 cm
1.0 cm
INF
1.0 mm
INF
Casuarina littorea
199
1.0 mm
ST
F
1.0 mm
FRLS
FR
5.0 mm
Crossopetalum rhacoma
201
5.0 mm
Maytenus buxifolia
202
1.0 cm
FR
SD
Maytenus lucayana
203
1.0 mm
1.0 cm
F
INF
Crossopetalum aquifolium

Celastraceae. Bittersweet, Staff-Tree Family.

1. Leaves opposite; stem square; fruit indehiscent, not arillate.
   2. Leaves slightly serrate. ***Crossopetalum rhacoma* Crantz.** (Poison Cherry). Fig. 199.
   2. Leaves deeply spinulose-dentate. ***Crossopetalum aquifolium* (Griseb.) Hitchc.** (Holly-Leaved Crossopetalum). Fig. 203.
1. Leaves alternate; stem round; fruit a dehiscent capsule; seed arillate.
   3. Leaves eliptic, cordate at base. ***Maytenus lucayana* Britton**. (Bahama May tenus). Fig. 202.
   3. Leaves ovate to spatulate, narrowed at the base. ***Maytenus buxifolia* (A. Rich.) Griseb**. (Boxwood. Spoonwood)' Fig. 201.

Other taxa: ***Cassine xylocarpa* Vent., *Crossopetalum coriaceum* Northrop, *Gyminda latifolia* (Sw.) Urb., *Shaefferia frutescens* Jacq.**

Chenopodiaceae. Goosefoot Family.

1. Leaves deltoid, ovate, rhombic, linear, or terete.
   2. Leaves nearly terete, fleshy. ***Suaeda linearis* (Ell.) Moq.** (Tall Sea Blite). Fig. 204.
   2. Leaves not terete. ***Atriplex* spp.**
1. Leaves scalelike; plant segmented, succulent; halophytic. ***Salicornia virginica* L.** [= ***S. perennis* Mill.**]. (Saltwort. Glasswort). Fig. 205.

Other taxa: ***Atriplex arenaria* Nutt., *A. pentandra* (Jacq.) Standl., *Chenopodium album* L., C. *murale* L., *Salicornia bigelovii* Torr.**

Chrysobalanaceae. Coco-Plum Family.

***Chrysobalanus icaco* L.** (Coco-Plum). Fig. 206.

Clusiaceae [= Guttiferae]. Clusea, Mamee Family.

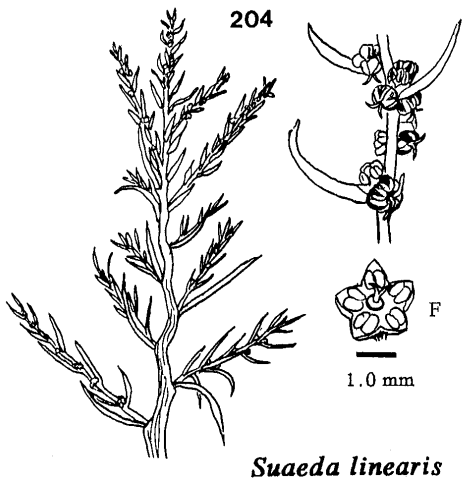
1. Leaves obovate, coriaceous; corolla urn-shaped. ***Clusea rosea* Jacq.** (Wild Mamee. Pitch Apple. Balsam Apple). Fig. 207.
1. Leaves obovate to eliptic; corolla usually with six spreading petals. ***Mammea americana* L.** (Mamee-Apple). Fig. 208.

Cochlospermaceae. Rose Imperial Family.

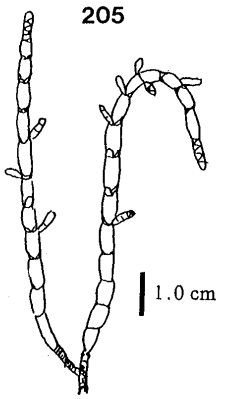
***Cochlospermum vitifolium* (Willd.) Spreng.** Fig. 209.

Combretaceae. White Mangrove Family.

1. Leaves in clusters at end of erect, short shoots separated by naked stem segments; flowers in axillary spikes.
   2. Plant armed; leaves less than 10 cm long. ***Bucida spinosa* (Northrop) Jennings.** (Brier Tree. Spiny Black Olive. Prickly Tree), Fig. 210.
   2. Plant unarmed; leaves greater than 10 cm long. ***Terminalia catappa* L.** (Indian Almond. Sea Almond). Fig. 213.

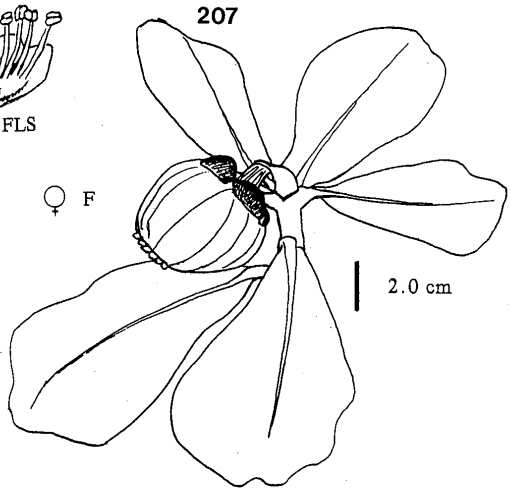


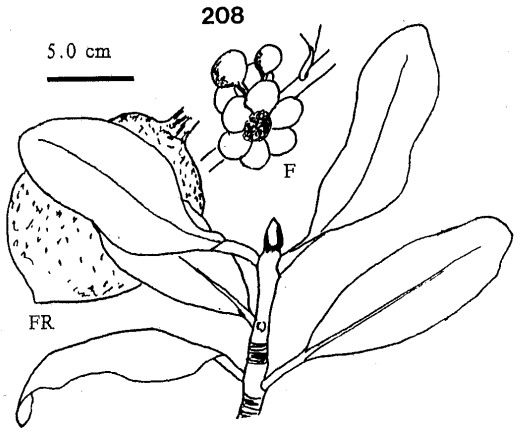
Suaeda linearis



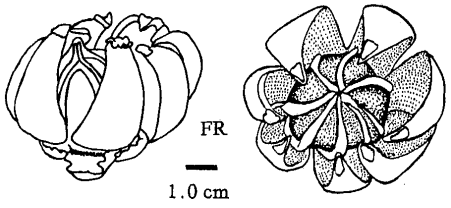
Salicornia virginica

Chrysobalanus icaco

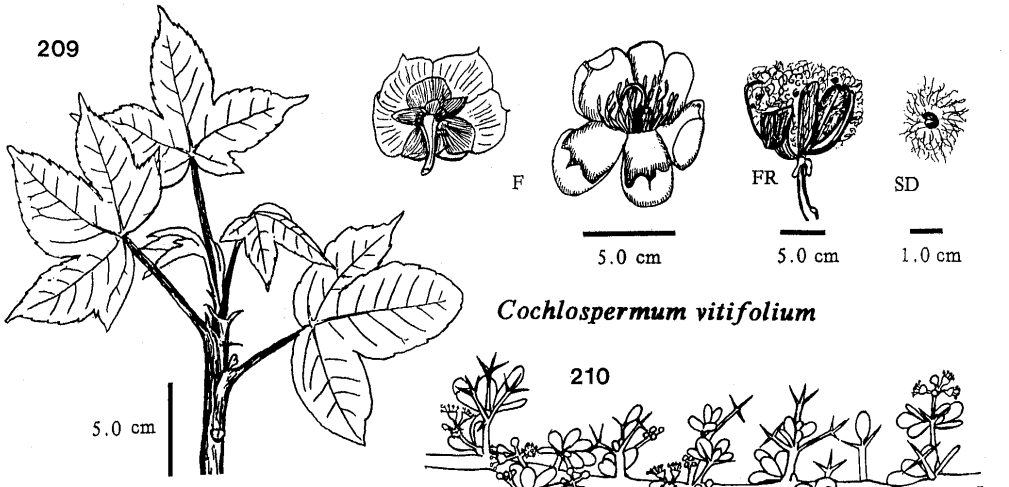




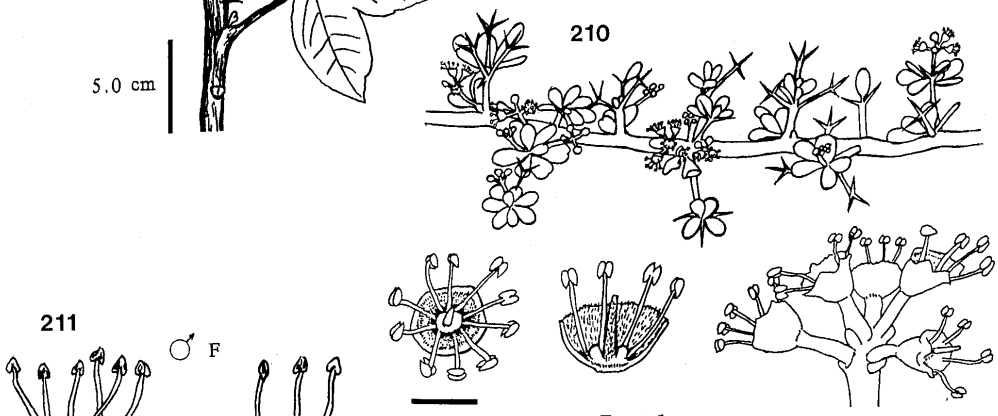
Mammea americana



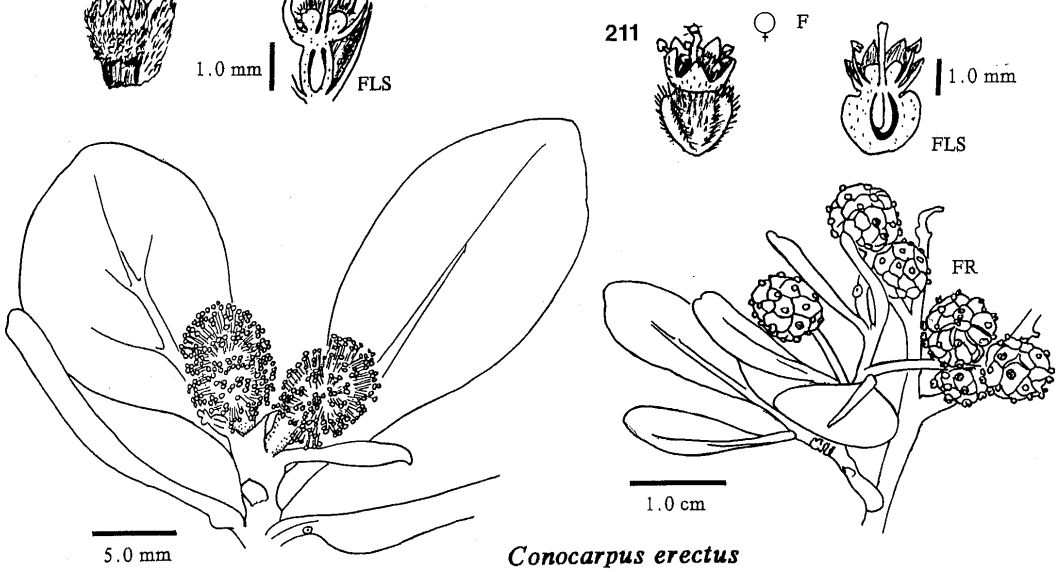
Clusea rosea



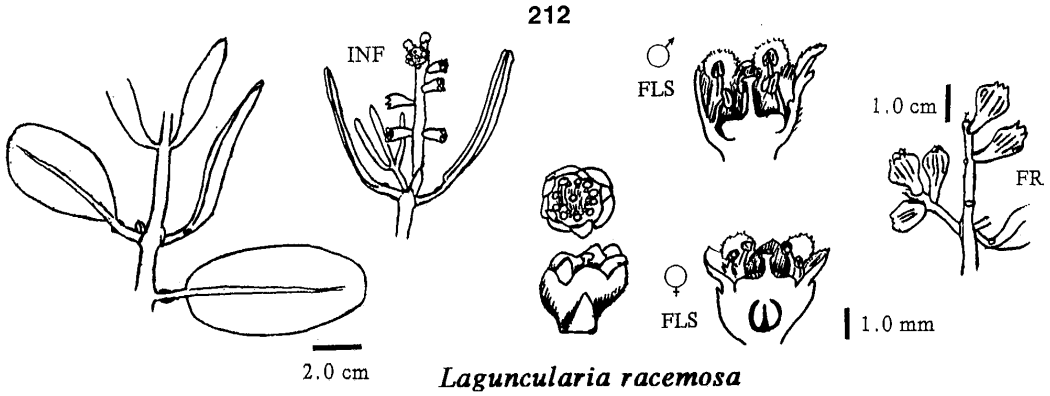
Cochlospermum vitifolium



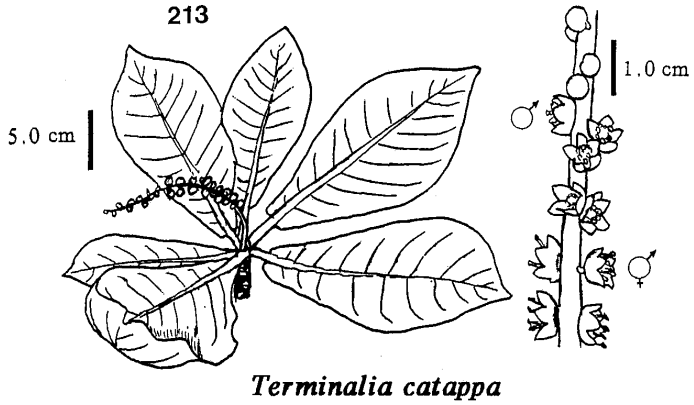
Bucida spinosa



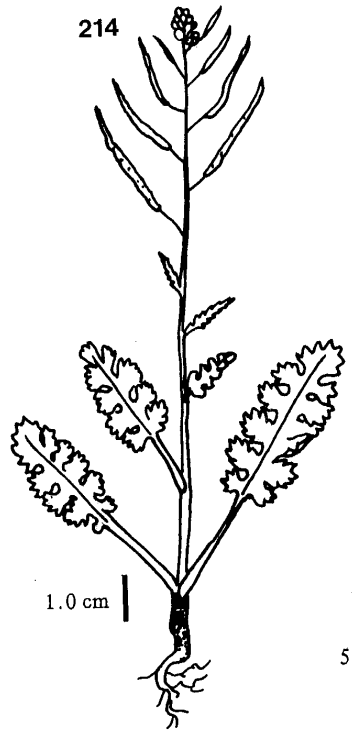
Conocarpus erectus



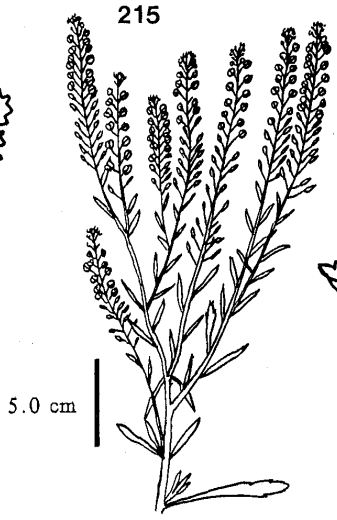
Laguncularia racemosa



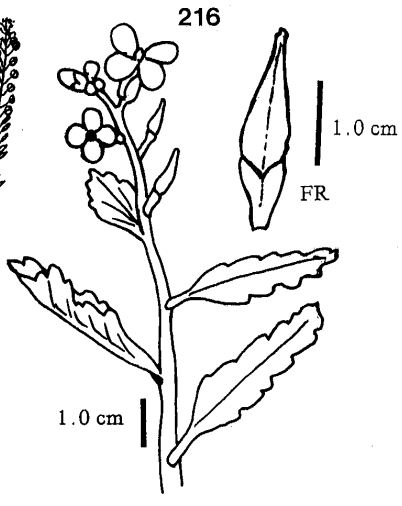
Terminalia catappa



Erucastrum gallicum



Lepidium virginicum



Cakile lanceolata

1. Leaves not in clusters; flowers not in spikes.
    3. Leaves alternate; flowers in globose clusters. ***Conocarpus erectus* L.** (Buttonwood). Fig. 211
    3. Leaves opposite; flowers in loose panicles. ***Laguncularia racemosa* (L.) Gaertn. f.** (White Mangrove. Bastard Buttonwood. Green Turtle Bough). Fig. 212.

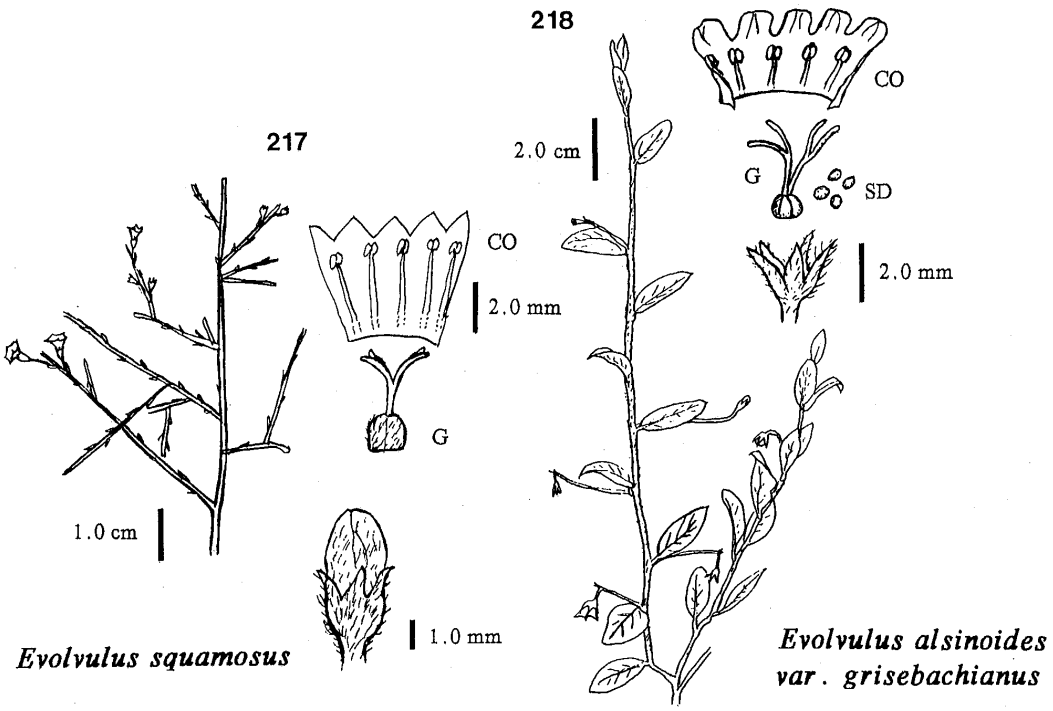
Other taxon: ***Bucida buceras* L.**

Compositae. See **Asteraceae.**

Convolvulaceae. Morning-Glory Family

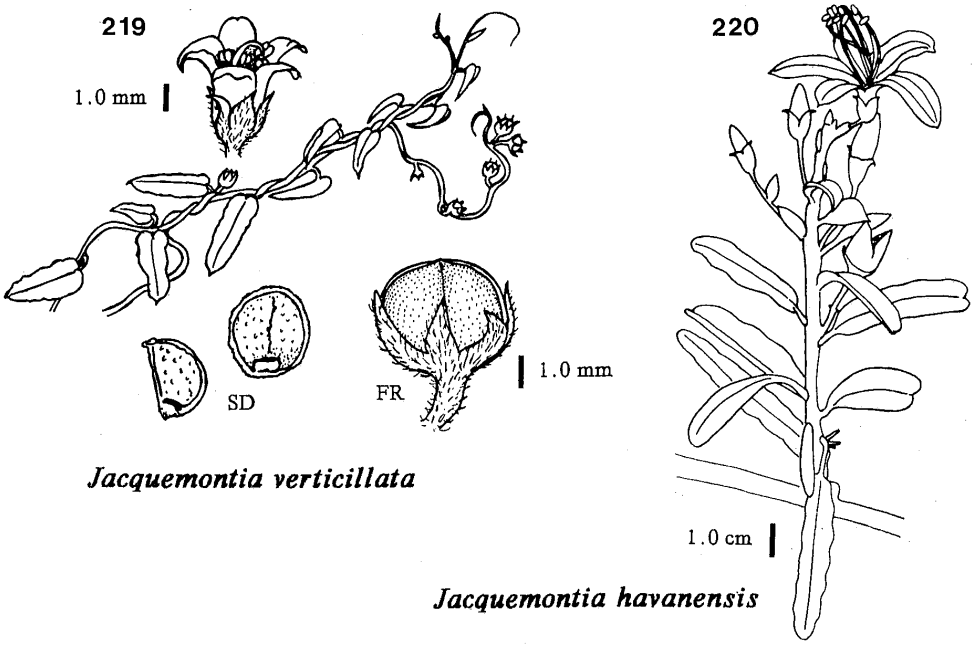
1. Plants parasitic; stems yellow to orange. ***Cuscuta americana* L.** (Dodder).
1. Plants not parasitic.
    2. Style lobes. two, each 2-divided; trailing herbs or shrubs.
        3. Low shrubs with small, linear or scalelike leaves. ***Evolvulus squamosus* Britton.** (Broom Bush). Fig. 217.
        3. Trailing herbs; leaves ob1ong-1anceolate; ***Evolvulus alsinoides* (L.) L. var. *grisebachianus* Meissner. in Mart.** (Creeping M. G.). Fig. 218.
    2. Styles fused, apparently one.
        4. Stigmas (2) oval to oblong flattened; corolla white or purplish.
            5. Stems not woody. ***Jacquemontia verticillata* (L.) Urb.** (Whorled Jacquemontia). Fig. 219.
            5. Stems woody, at least at the base. ***Jacquemontia havanensis* (Jacq.) Urb**. (Common Jacquemontia). Fig. 220.
        4. Stigma globose, 1 or 2 lobed.
            6. Stems prostrate, not twining; corolla funnelform
                7. Corolla tube greater than 8.0 cm long, purple; leaves fleshy. ***Ipomoea pes-caprae* (L.) R. Br. ssp. *brasiliensis* (L.) Ooststr.** (Railroad vine. Bay Hops). Fig. 221.
                7. Corolla tube less than 8.0 cm long, white with yellow center. ***Ipomoea stolonifera* (Cyrillo) J. F. Gmel.** Fig. 224.
            6. Stems twining; corolla salverform or funnelform.
                8. Corolla salverform, scarlet red; roots not fleshy and edible ***Ipomoea microdactyla* Griseb.** (Wild Potato). Fig. 222.
                8. Corolla funnelform, blue, lavender, purple (rarely white).
                    9. Outer sepals lanceo1ate, 1-2.5 cm long.
                        10. Basal part of outer sepals appressed-pubescent to glabrous; corolla 5-7 cm long. ***Ipomoea indica* (Burm f.) Men.** [= ***I. villosa* Britt. & Millsp**., ***I. cathartica* Poir**.]. (Morning Glory). Fig. 223.
                        10. Basal part of outer sepals long-hirsute; corolla 3-5 cm long. ***Ipomoea nil* (L.) Roth**. (Blue Morning Glory). Fig. 225.
                    9. Outer sepals oblong to ovate, < 1 cm long. corolla pale purple (white); roots fleshy, edible. ***Ipomoea batatus* (L.) Lam**. (Sweet Potato).

Other taxa: ***Cuscuta campestris* Yunk., *Evolvulus bracei* House, *E. sericeus* Sw. *Ipomoea alba* L., *I. carnea* Jacq., *I. carolina* L., *I. hederifolia* L., *I. sagittata* Poir., *I. tiliacea* (Willd.) Choisy, *I. triloba* L., *I. violaceae* L. [=I. macrantha* Roem. & Sch.], *Merremia dissect a* (Jacq.) Hall. f., *Turbina corymbosa* (L.) Raf.**



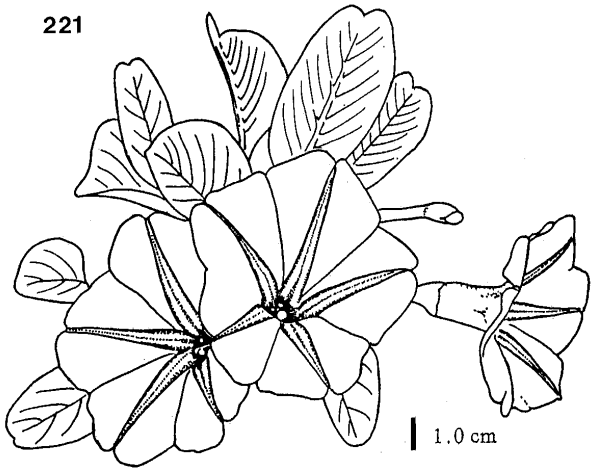
Evolvulus squamosus

Evolvulus alsinoides var. grisebachianus

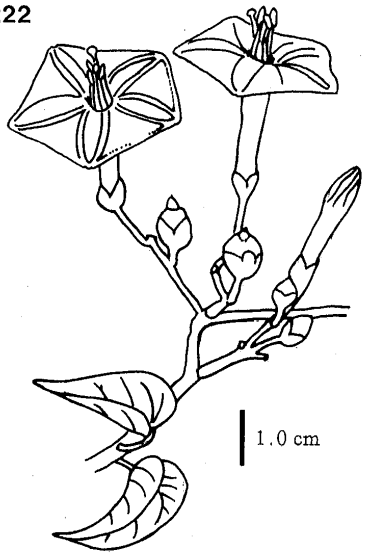


Jacquemontia verticillata

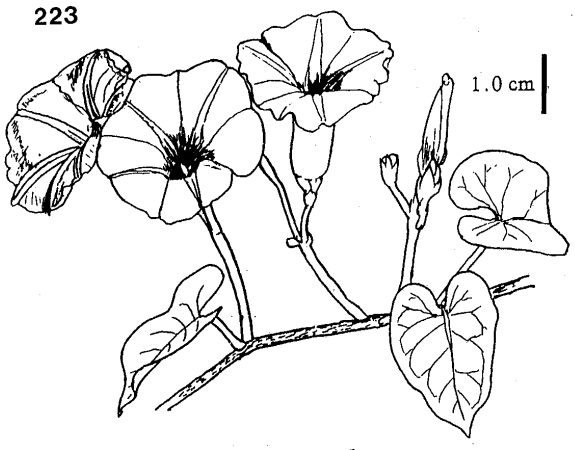
Jacquemontia havanensis



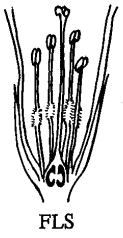
Ipomoea pes-caprae ssp. brasiliensis

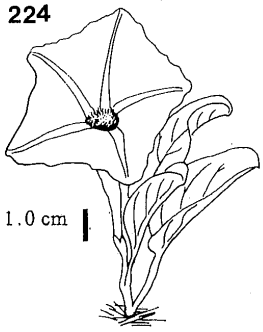


Ipomoea microdactyla

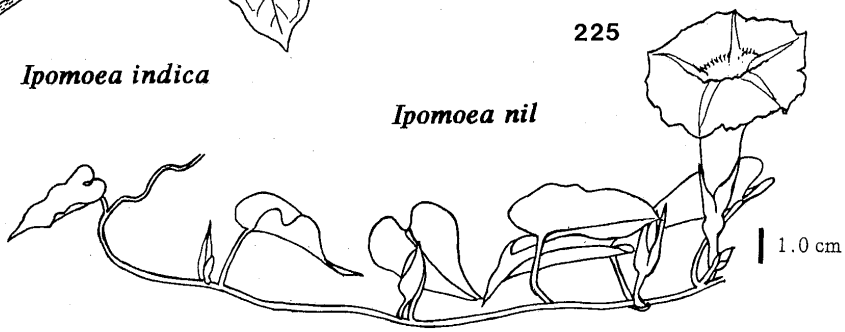


Ipomoea indica





Ipomoea stolonifera



Ipomoea nil

Cucurbitaceae. Cucumber Family

1. Seeds numerous in each fruit. ***Psiguria pedata* (L.) Howard.** (Psiguria). Fig. 227.
1. Seeds < 10 in each fruit.
    2. Calyx 6-9 mm long. ***Cayaponia americana* (Lam.) Cogn.** Fig. 228.
    2. Calyx 3-4 mm long. ***Cayaponia racemosa* (Mill.) Cogn.** Fig. 229.

Other taxon: ***Citrulus lanatus* (Thunb.) Matsum. & Nakai.**

Ebenaceae. Ebony Family

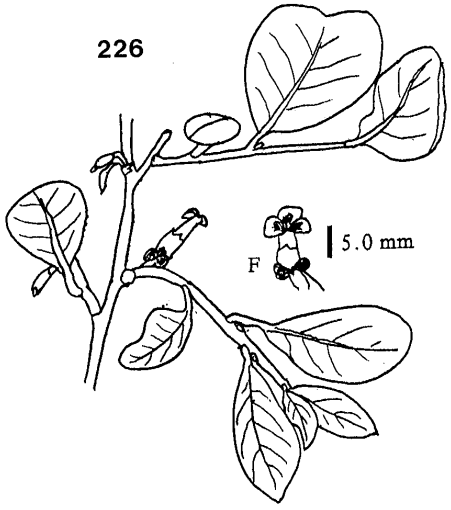
***Diospyros crassinervis* (Krug. et Urb.) Standl.** (Featherbed. Boa Wood. Stiff Cock). Fig. 226.

Erythroxylaceae. Coca Family

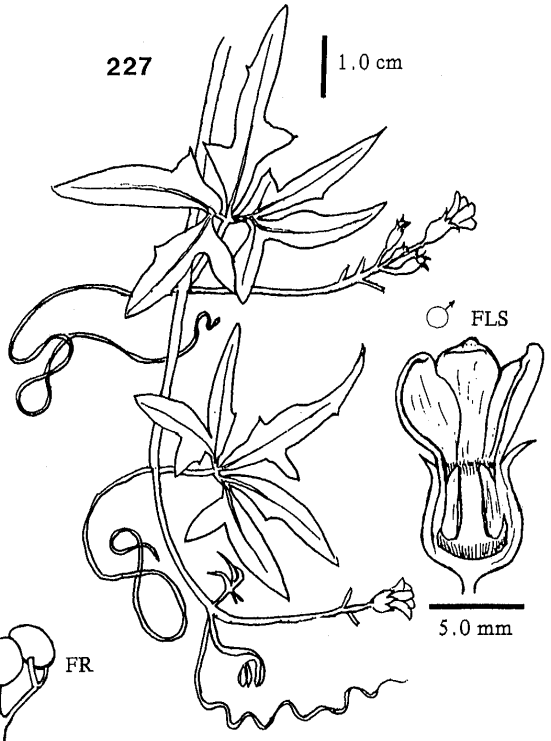
1. Leaves 0.5-2.5 cm long; petiole short and red. ***Erythroxylum rotundifolium* Lunan.** (Rat Wood. Bohog). Fig. 230.
1. Leaves 3.0 cm long or longer.
    2. Leaves not aerolate beneath. ***Erythroxylum confusum* Britton.** (Obovate-leaved Erythroxylum). Fig. 231.
    2. Leaves areolate beneath.
        3. Leaves > 2.0 cm wide. ***Erythroxylum areolatum* L**. (Thin-leaved Erythroxylum). Fig. 232.,
        3. Leaves < 2.0 cm wide. ***Erythroxylum reticulatum* Northrop.** (Bahama Erythroxylum). Fig. 233.

Euphorbiaceae. Spurge Family

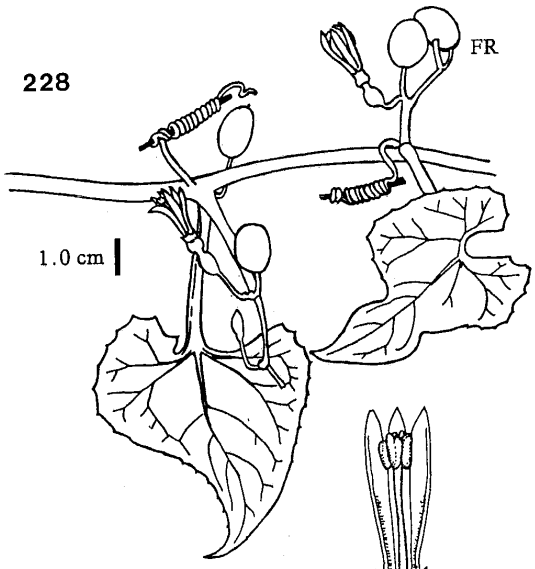
1. Trees and shrubs.
    2. Leaves palmately lobed or compound.
        3. Leaf margins entire or irregularly incised.
            4. Sap from stem colored but not milky; flowers with petals; petioles with branched glandular hairs. ***Jatropha gossypiifolia* L.** (Tatto Bush). Fig. 245.
            4. Sap from stem milky; flowers apetalous. ***Manihot esculenta* Crantz.** (Casava. Manioc). Fig. 244.
        3. Leaf margins finely to coarsely serrate. ***Ricinus communis* L.** (Castor Bean. Castor Oil Plant).
    2. Leaves not palmately lobed or compound, or leaves absent.
        5. Stems succulent, leaves absent; flowers along stem margins. ***Phyllanthus epiphyllanthus* L.** (Abraham Bush. Hardhead. Sword Bush. Scipio Bush). Fig. 246.
        5. Stem not succulent, woody at least below; plants monoecious and/or dioecious.
            6. Stem spiny. ***Securinega acidoton* (L.) Fawcett.** (Securinega). Fig. 250.
            6. Stem not spiny.
                7. Fruit a drupe.
                    8. Leaf petiole over 1/3 length of leaf. ***Hippomane mancinella* L.** (Manchionee). Fig. 243.
                    8. Leaf petiole less than 1/3 length of leaf.



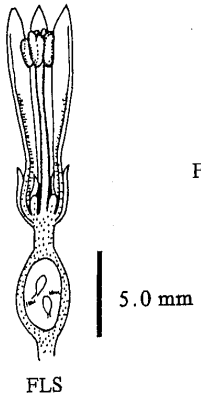
Diospyros crassinervis

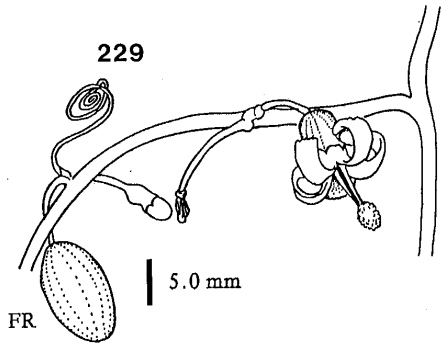


Psiguria pedata

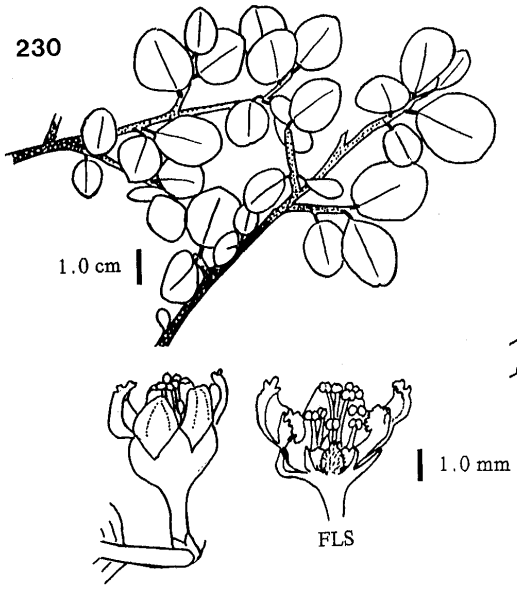


Cayaponia americana

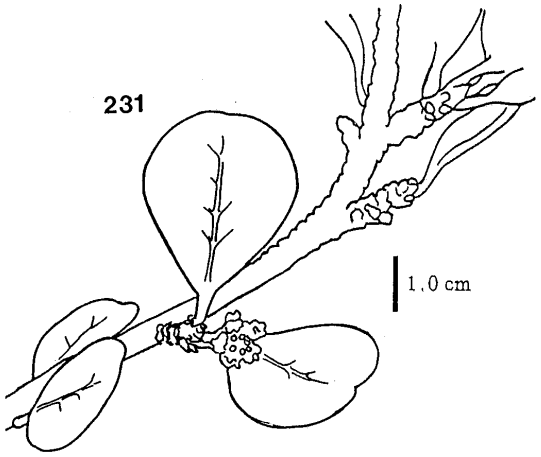




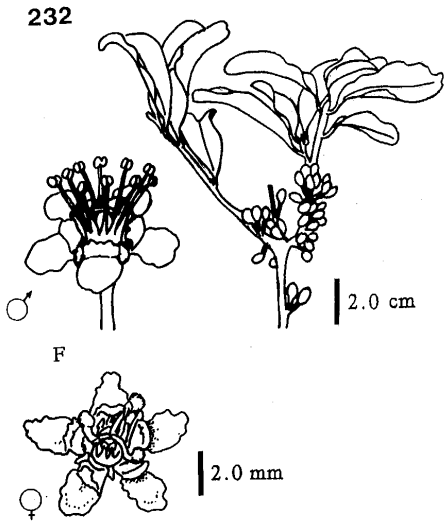
Cayaponia racemosa



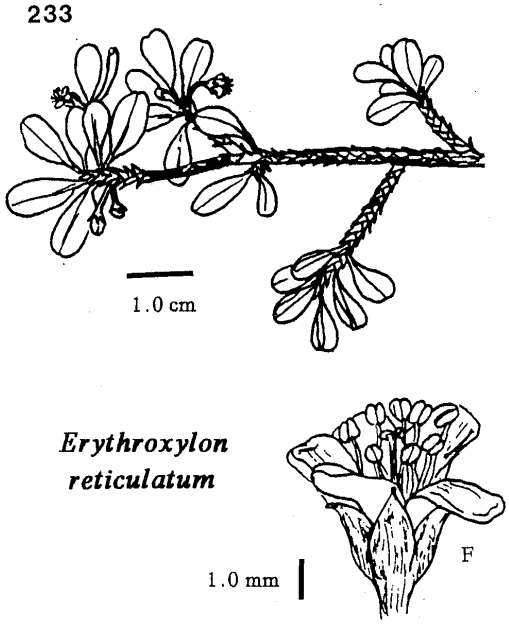
Erythroxylon rotundifolium



Erythroxylon confusum



Erythroxylon areolatum

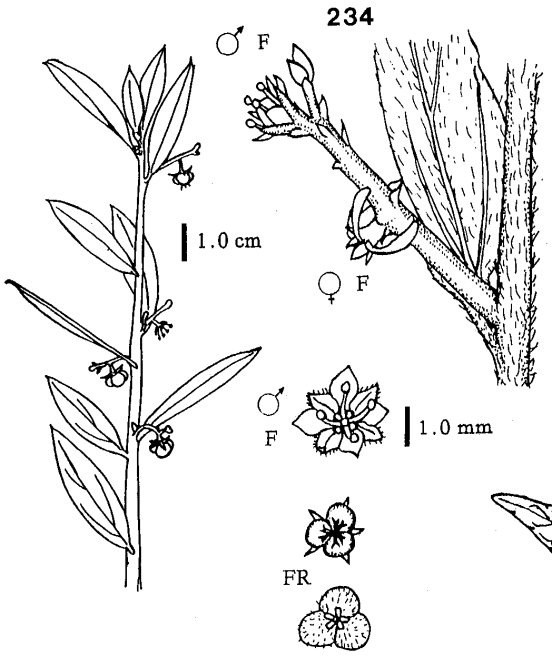


Erythroxylon reticulatum

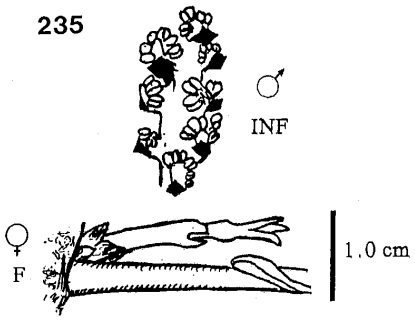
9. Ovule one in each cavity; leaves oblong-lanceolate, margin serrulate. ***Grimmeodendron eglandulosum* (A. Rich) Urban**. (Young Manchioneel. Poison Bush). Fig. 242.
9. Ovules two in each cavity; leaves heteromorphic, the lower with spinulose margin, the upper with entire margins. ***Drypetes mucronata* C. Wright ex Griseb.** (Sharp-Leaved Drypetes). Fig. 237.

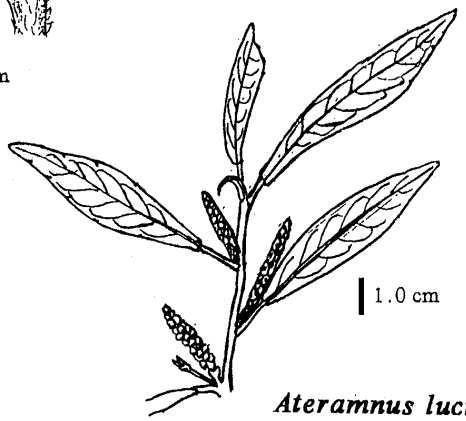
7. Fruit a 3-celled capsule.
10. Leaf elliptic; stem and leaves (underside) covered with stellate trichomes; inflorescence enclosed in two bracts that appear globose. ***Pera bumeliifolia* Griseb.** (Black Ebony). Fig. 249.
10. Leaves otherwise: plants without stellate trichomes.
11. Leaves < 2 cm long, coriaceous, short-petioled, glandular-crenate. ***Bonania cubana* A. Rich in Sagra.** (Bonania). Fig. 236.
11. Leaves > 2 cm long; margins not glandular-crenate.
12. Leaves oblanceolate, base shouldered; staminate inflorescence catkin-like. ***Ateramnus lucidus* (Sw.) Rothm.** (Crab Wood), Fig. 235.
12. Leaves obovate; staminate inflorescence not catkin-like.
13. Staminate flowers without petals; plant without malpighian hairs.
14. Leaves eliptic to lanceolate, thin; plants dioecious; small tree to 7 .0 m tall. ***Margaritaria scandens* (C. Wr. ex Griseb.) Webster** [=***M. tetracocca* (Baill.) Webster**]. (Margaritaria). Fig. 247.
14. Leaves obovate, thick; plants monoecious or dioecious; shrub or tree up to 5.0 meters high. ***Savia bahamensis* Britton**. (Malden Bush). Fig. 248.
13. Staminate flowers with petals; plant with malpighian hairs (at least on young parts). ***Argythamnia lucayana* Millsp.** (Lucayan Argythamnia). Fig. 234.

1. Herbs.
15. Leaves alternate, often red-blotched near base; cyathium with one gland. ***Poinsettia heterophylla* (L.) KI. & Gke**. [= ***Euphorbia heterophylla* L**.]. (Painted Leaf. Jacob's Ladder. Governor Grant's Livery). Fig. 241.
15. Leaves all opposite; cyathial glands often as many as its lobes.
16. Capsule, leaves, and stem glabrous.
17. Leaves entire; plant fleshy. ***Chamaesyce mesembrianthemifolia* (Jacq.) Dugand**. [=***Euphorbia mesembrianthemifolia* Jacq**., = ***Chamaesyce buxifolia* (Lam.) Small**.]. (Mesembryanthemum-Leaved Spurge). Fig. 238.
17. Leaves finely serrate. ***Chamaesyce hypericifolia* (L.) Millsp**. [= ***Euphorbia hypericifolia* L**.]. (Hypericum-leaved Spurge). Fig. 239.
16. Capsule, leaves, and stem pubescent. ***Chamaesyce hirta* (L.) Millsp**. [= ***Euphorbia hirta* L**.]. (Hairy Spurge). Fig. 240.

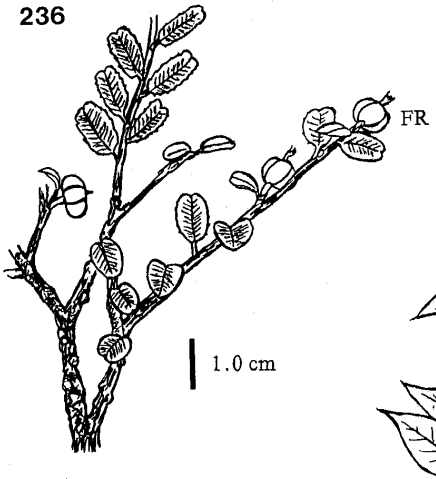


Argythamnia lucayana

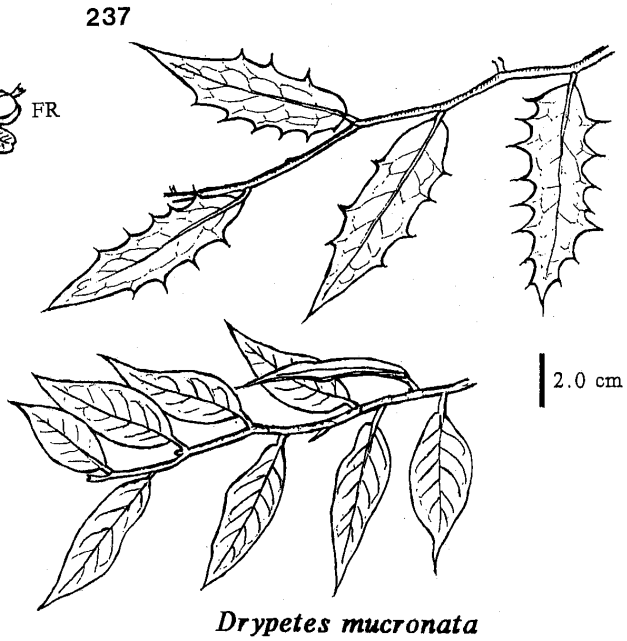




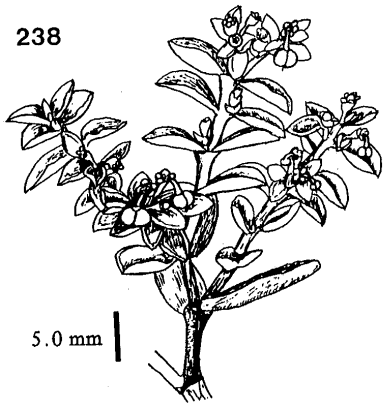
Ateramnus lucidus



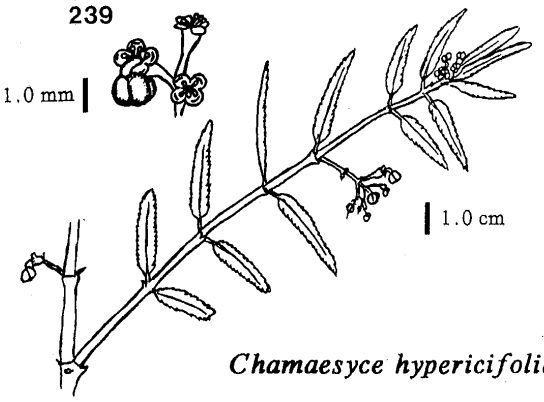
Bonania cubana



Drypetes mucronata

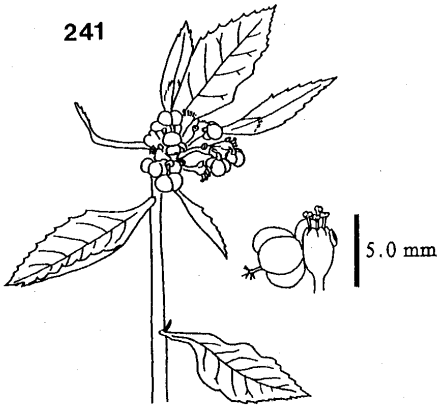


Chamaesyce mesembrianthemifolia

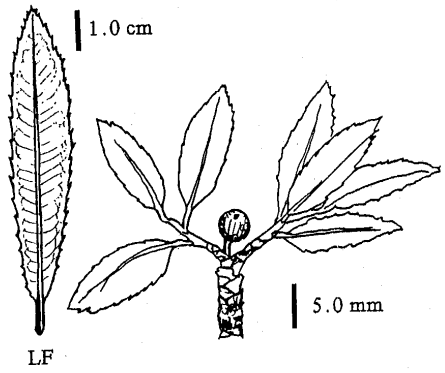


Chamaesyce hypericifolia

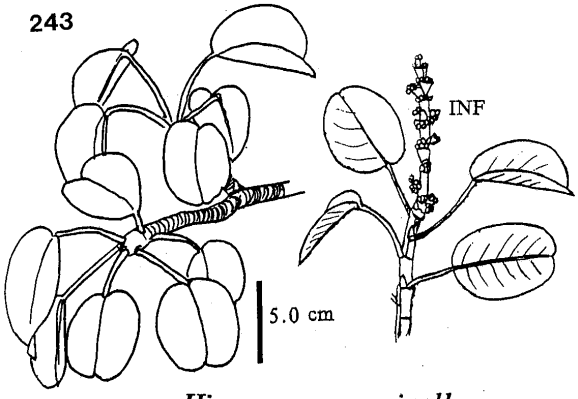
Chamaesyce hirta



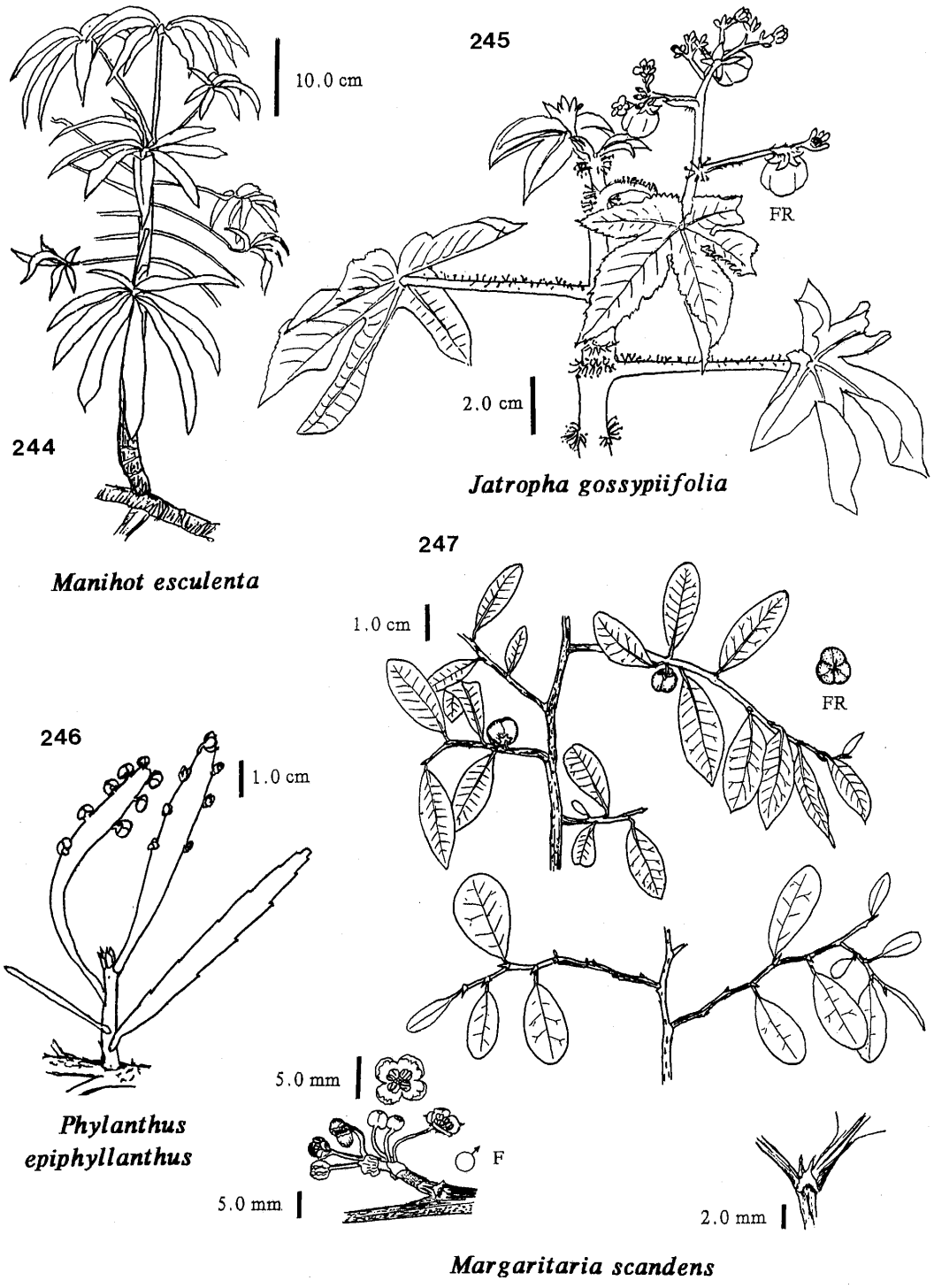
Poinsettia heterophylla

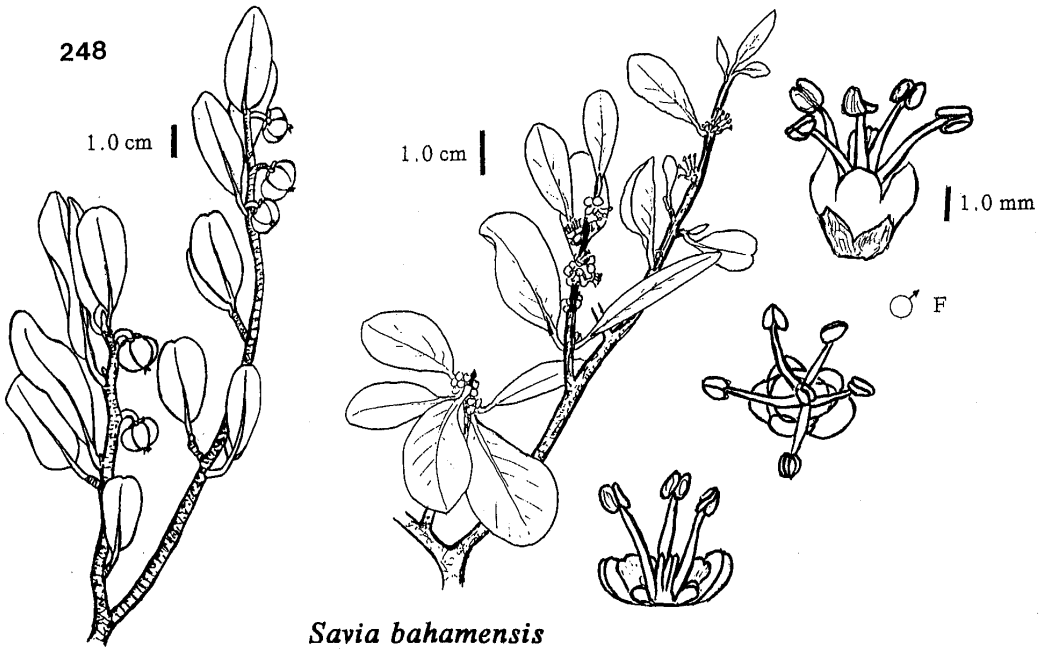


Grimmeodendron eglandulosum

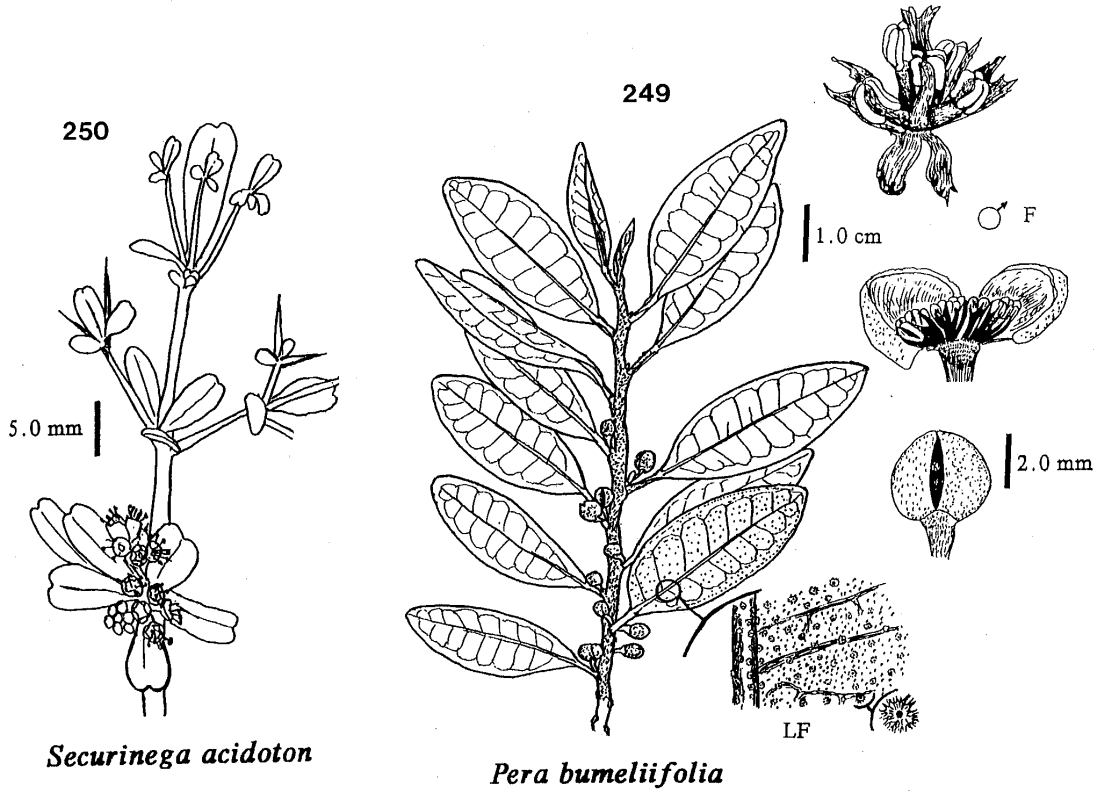


Hippomane mancinella


244
10.0 cm
Manihot esculenta
245
FR
2.0 cm
Jatropha gossypiifolia
247
1.0 cm
FR
246
1.0 cm
Phylanthus
epiphyllanthus
5.0 mm
♂ F
5.0 mm
2.0 mm
Margaritaria scandens



Savia bahamensis



Securinega acidoton

Pera bumeliifolia

Other taxa: ***Acalypha alopecuroides* Jacq., *Breynia disticha* J. R. & G. Forst., *Chamaesyce blodgettii* (Engelm. ex Hitchc.) Small, *Codiaeum variegatum* (L.) Bl., *Croton eluteria* (L.) Sw., *C. linearis* (Jacq.), *C. lucidus* L., *Drypetes lateriflora* (Sw.) Krug & Urb., *Drypetes diversifolia* Krug. & Urb., *Euphorbia cassythoides* Boiss., *E. cayensis* Millsp., *E. cyathophora* Murr., *E. ophthalmica* Pers., *E. trichotoma* Kunth, *Lasiocroton bahamensis* Pax & K. Horrm., *Pedilanthus tithymaloides* (L.) Poit., *P. bahamensis* Millsp., *Phyllanthus acidus* (L.) Skeels, *P. amarus* Schum. [= *P. niruri* Britt. & Millsp.], *P. caroliniensis* Walt., *Picrodendron baccatum* (L.) Krug. & Urb.**

Fabaceae. See **Leguminosae.**

Flacourtiaceae. Flacourtia Family

1. Leaves with spiny to entire margins; petals absent. ***Xylosma buxifolium* A. Gray**. [= ***X. ilicifolium* (Northrop) Britt.**]. (Box-leaved Xylosma). Fig. 251.
1. Leaves without spiny margins (serrate however); petals present. ***Banara minutiflora* (A. Rich.) Sleumer** [=*B. reticulata* Griseb.]. (Banara). Fig. 252.

Other taxa: ***Casearia nitida* (L.) Jacq., C. *spinescens* (Sw.) Griseb., *Xylosma bahamensis* (Britt.) Standl., *Zuelania guidonia* (Sw.) Britt. & Millsp.**

Gentianaceae. Gentian Family

1. Leaves reduced to scales; stem fleshy, white; mycotrophic. ***Leiphaimos parasitica* Cham. & Schl.** (Leiphaimos).
1. Leaves broad or narrow; plants green.
   2. Corolla tube longer than calyx. ***Eustoma exaltatum* (L.) G. Don.** (Marsh Gentian). Fig. 253.
   2. Corolla tube shorter than calyx. ***Sabatia stellaris* Pursh.** (Slender Marsh Pink). Fig. 254.

Goodeniaceae. Goodenia Family

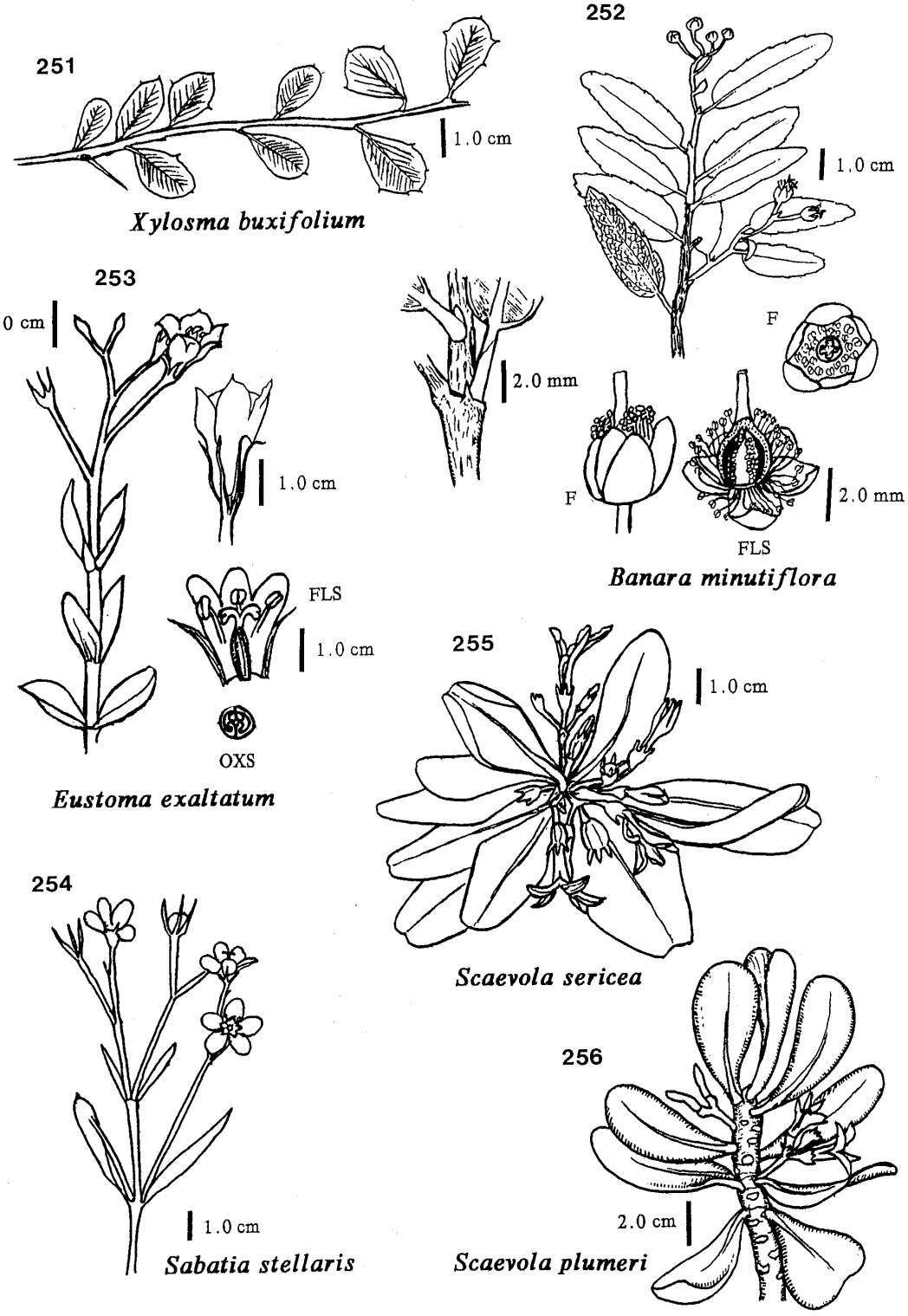
1. Plant herbaceous; leaves obovate-lanceolate, thinner. ***Scaevola sericea* Vahl**. [= ***S. taccada* (Gaertn.) Roxb. var. *sericea* (Vahl.) St. John**]. Fig. 255.
1. Plant shrubby; leaves spatulate, succulent. ***Scaevola plumeri* (L.) Vahl.** (Inkberry. Black Soap. Mad Moll]. Fig. 256.

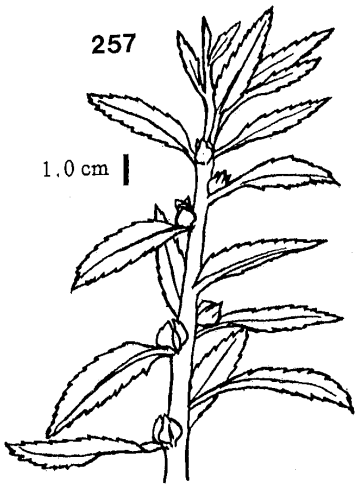
Haloragaceae. Water-Milfoil Family

***Proserpinaca palustris* L.** (Mermaid Weed). Fig. 257.

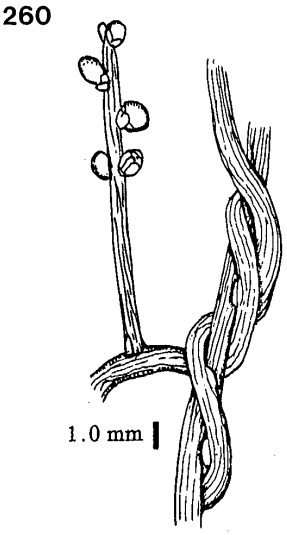
Hypericaceae. St. John's-Wort Family

Hypericum hypericoides (L.) Crantz. (St. John's-Wort. St. Andrew's Cross). Fig. 258.

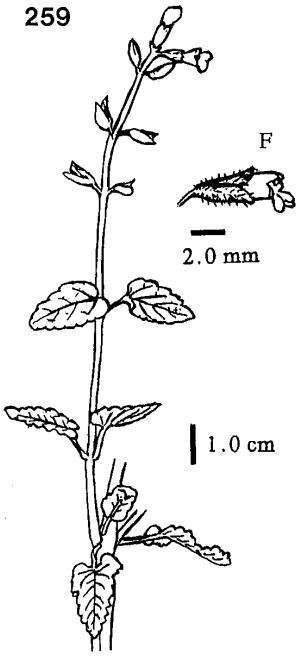

251
1.0 cm
Xylosma buxifolium
252
1.0 cm
F
2.0 mm
F
2.0 mm
FLS
Banara minutiflora
253
2.0 cm
1.0 cm
FLS
1.0 cm
OXS
Eustoma exaltatum
255
1.0 cm
Scaevola sericea
254
1.0 cm
Sabatia stellaris
256
2.0 cm
Scaevola plumeri



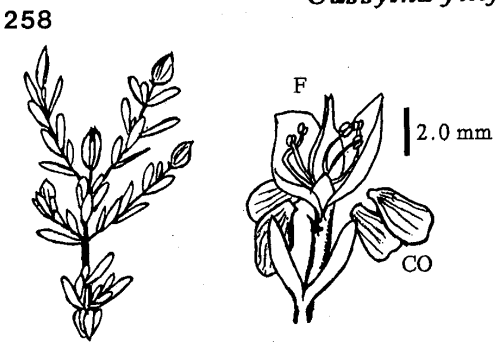
Proserpinaca palustris



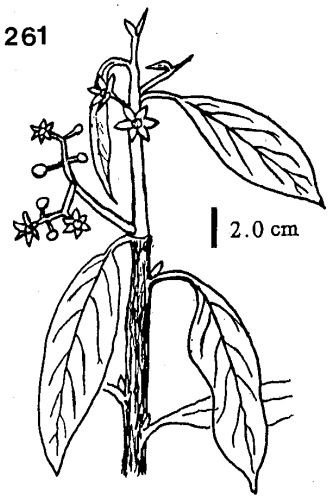
Cassytha filiformis



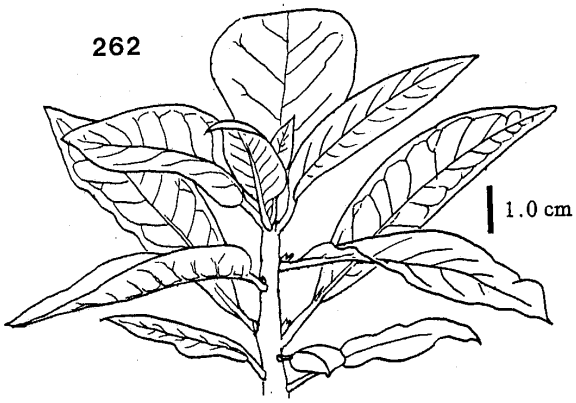
Salvia serotina



Hypericum hypericoides



Nectandra coriacea



Persea americana

Lamiaceae (Labiatae). Mint Family

1. Stamens declining toward lower lip of the corolla; flowers in globose heads. ***Hyptis capitata* Jacq.**
1. Stamens ascending, not resting in lower lip of corolla.
   2. Functional stamens 2; corolla white or blue. ***Salvia serotina* L.** (Small White Sage). Fig. 259.
   2. Functional stamens 4; corolla pink to lavendar or whitish. ***Satureja brownei* (Sw.) Briq.** (West Indian Thyme).

Other taxa: ***Hyptis pectinata* (L.) Poit., *Salvia occidentalis* Sw.**

Lauraceae. Laurel Family

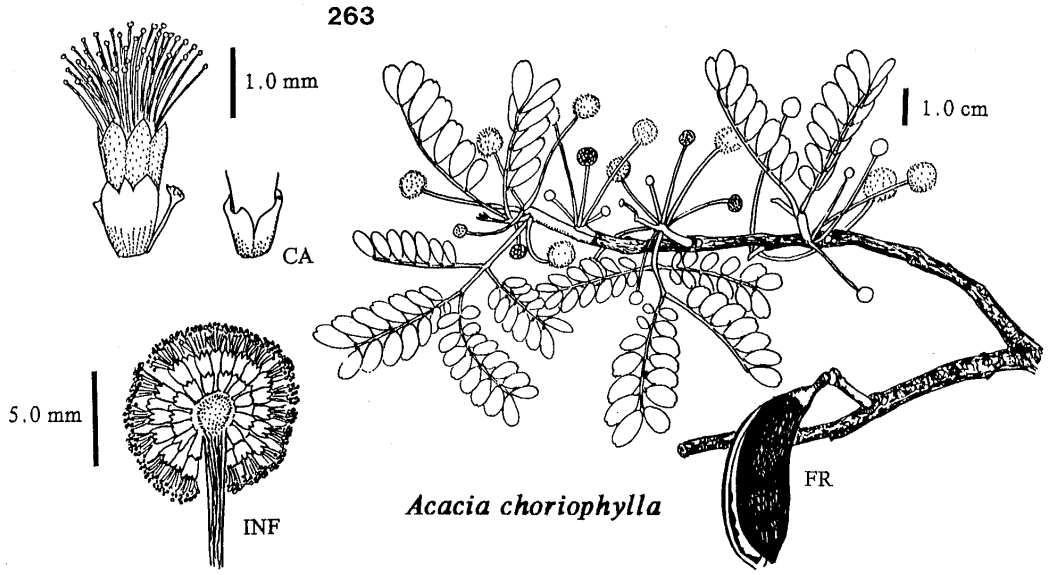
1. Shrubs or trees.
   2. Fruit (drupe) less than 3.0 cm long, born in clusters; leaves lanceolate. ***Nectandra coriacea* (Sw.) Griseb.** (Lancewood. Sweet Torchwood. Bastard Torch), Fig. 261.
   2. Fruit (avocado) large *l* born singly; leaves broad, ovate. ***Persea americana* Miller**. (Avocado). Fig. 262.
1. Parasitic vines. ***Cassytha filiformis* L.** (Love Vine. Woe Vine). Fig. 260.

Leguminosae [Fabaceae]. Bean Family
KEY TO SUBFAMILIES

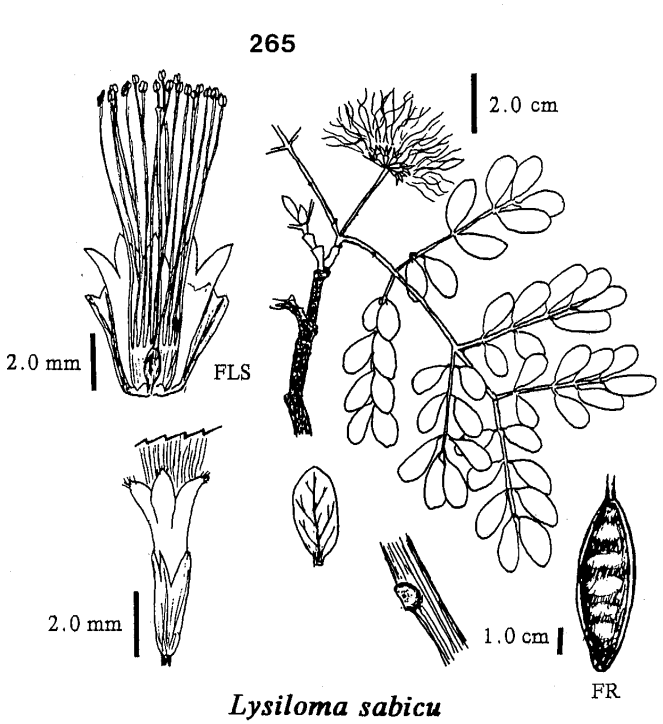
1. Flowers radially symetrical (actinomorphic); petals valvate in bud, usually united below into a tubular base. **Subfamily I. Mimosoideae**.
1. Flowers bilaterally symetrical (zygomorphic); petals imbricate in bud, usually distinct or nearly connate.
   2. The standard (banner) petal interior to the lateral petals (wings); stamens free. **Subfamily II. Caesalpinioideae**.
   2. The standard (banner) petal exterior to the lateral petals (wings); stamens diadelphous or monadelphous or rarely all free. **Subfamily III. Faboideae (= Papilionoideae).**

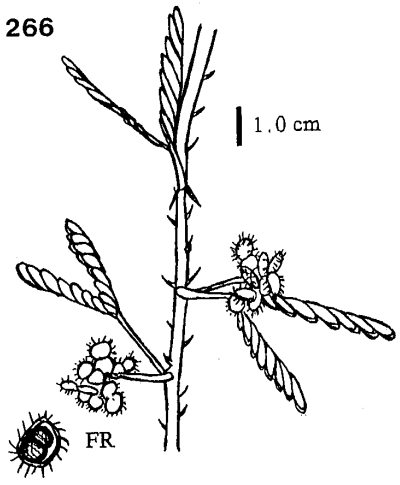
Subfamily I. Mimosoideae

1. Stamens numerous (more than 10),
   2. Filaments united at or below the middle.
      3. Unarmed trees;stipl1.les foliose; pods elastically dehiscent; valves separating from the marginal rib. ***Lysiloma sabicu* Benth.** (Horseflesh. Sabicu). Fig. 265.
      3. Armed trees or shrubs; stipules modified into spines; legume coiling in dehiscence; seeds arillate.
         4. Leaflets 1-6 cm long or longer.
            5. Petioles and petiolules stout, thick, the petiolules often 2-3 cm long; leaflets large, coriaceous, 2.5-7.0 cm long; stipu1ar spines often lacking. ***Pithecellobium keyensis* Britt. ex Britt. & Rose** [= ***P. quadalupense* Chapm**.]. (Ram's Horn). Fig. 267.
            5. Petioles and petiolules often slender, 2-5 mm long; leaflets 1-3 cm long; stipular spines usually present.

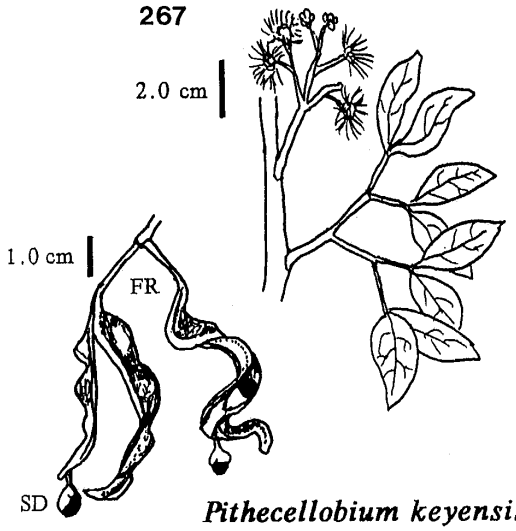

263
1.0 mm
CA
5.0 mm
INF
1.0 cm
FR
Acacia choriophylla


264
5.0 cm
FR
Leucaena leucocephala

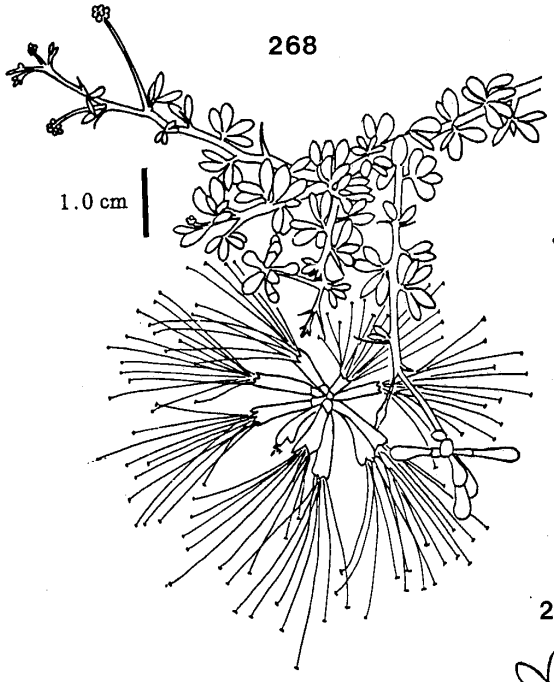

265
2.0 mm
FLS
2.0 mm
2.0 cm
1.0 cm
FR
Lysiloma sabicu



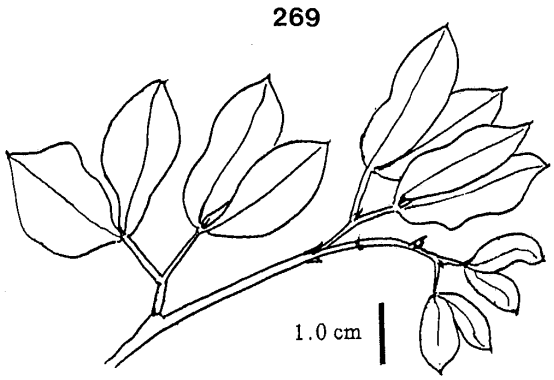
Mimosa pudica



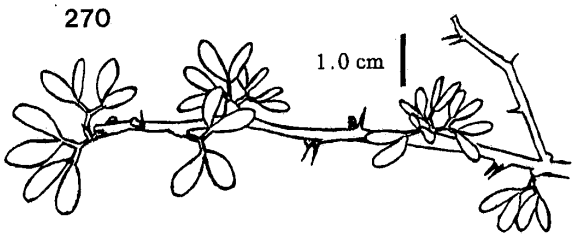
Pithecellobium keyensis



Pithecellobium hystrix



Pithecellobium mucronatum



Pithecellobium bahamense

6. Leaflets rounded at apex; low shrub. ***Pithecellobium bahamense* Northrop.** (Bahama Cat's-claw). Fig. 270.
6. Leaflets spinulose mucronate and with spinose stipules at bases of petioles and petiolules; shrub or small tree. ***Pithecellobium mucronatum* Britt.** [included within ***P. bahamense*** in Correll and Correll]. (Pointed Cat's-Claw]. Fig. 269.

4. Leaflets 2-8 mm long; petioles 6.0 mm long or less. ***Pithecellobium hystrix* (A. Rich.) Benth. in Hook**. (Bristly Cat's-claw). Fig. 268.

2. Filaments free; legume not coiling, turgid; seeds not arillate. ***Acacia choriophylla* Benth. in Hook.** (Cinecord). Fig. 263.

1. Stamens 10 or fewer; filaments distinct.

7. Herbs or small shrubs with sensitive leaves; stem armed; pod valves separating from the continuous margin. ***Mimosa pudica* L.** (Sensitive Plant). Fig. 266.
7. Trees; unarmed; pod valves not separating from margins. ***Leucaena leucocephala* (Lam.) de Wit.** (Jumbay. Jumbie Bean. Jimbay. Cow Bush). Fig. 264.

Other taxa: ***Acacia farnesiana* (L.) Willd. ?, C *alliandra formosa* (Kunth) Benth., C. *haematomma* (Bert.) Benth., *Desmanthus virgatus* (L.) Willd. (vars. *virgatus* and *depressus* (H. & B. ex WHld.) Turner), *Neptunia plena* (L.) Benth., *Pithecellobium glaucum* Urb., *P. unguis-cati* (L.) Benth.**

Subfamily II. Caesalpinioideae

1. Leaves once pinnate.

2. Anthers attached to filament along the back; trees. ***Tamarindus indica* L.** (Tamarind). Fig. 276.
2. Anthers attached to filament at base; herbs, shrubs, small trees.

3. Herbs. ***Cassia nictitans* L. var. *aspera* (Ell.) T. & G.** (Winking Cassia). Fig. 271.
3. Shrubs or small trees. ***Cassia chapmanii* Isely.** (Stinking Pea. Bahama Senna). Fig. 272.

1. Leaves twice pinnate.

4. Woody vines or scrambling shrubs; armed.

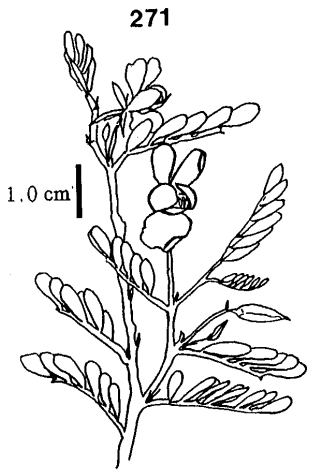
5. Seeds grey, round; pod prickly. ***Caesalpinia bonduc* (L.) Roxb.** (Grey Nickerbean. Briers). Fig. 274.
5. Seeds shiny, brown; pod not prickly.

6. Pod dehiscent; stamens exerted from corolla.

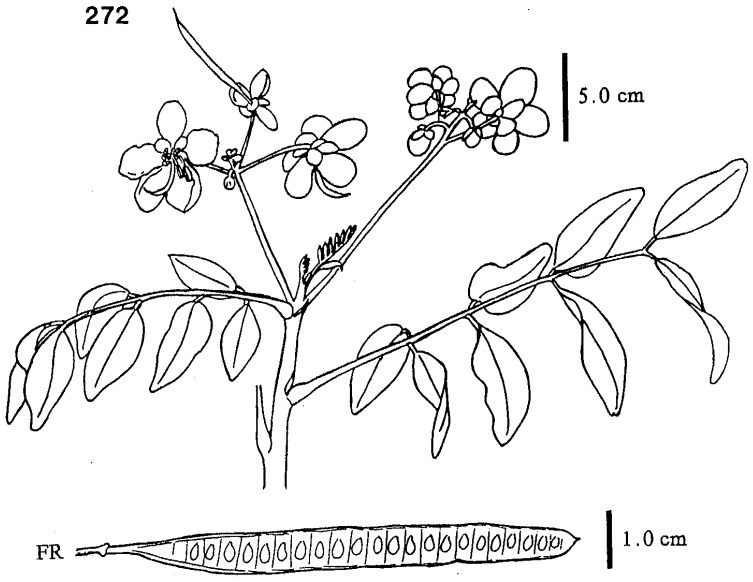
7. Young twigs brown-tomentose, becoming glabrous. ***Caesalpinia bahamensis* Lam.** (Bahama Caesalpinia). Fig. 273.
7. Young twigs not brown-tomentose; flowers yellow. ***Caesalpinia pulcherima* (L.) Sw.** [= ***Poinciana pulcherima* L**.]. (Barbadoes Pride). Fig. 277.

6. Pod indehiscent; stamens only slightly exerted from corolla. ***Caesalpinia vesicaria* L.** (Brasiletto).

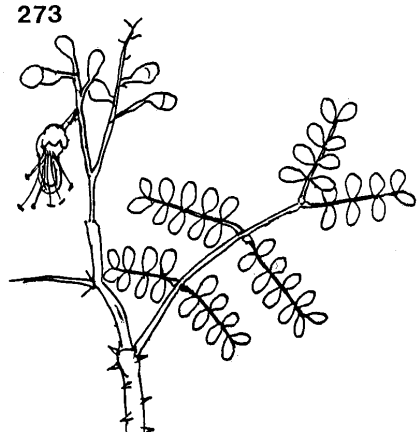
4. Large trees; unarmed; leaves bipinnate; flowers large; petals orange or scarlet. ***Delonix regia* (Bojer ex Hook.) Raf.** (Royal Poinciana. Flamboyant). Fig. 278.



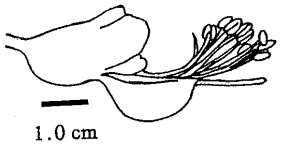
Cassia nictitans var. aspera

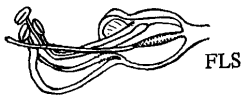


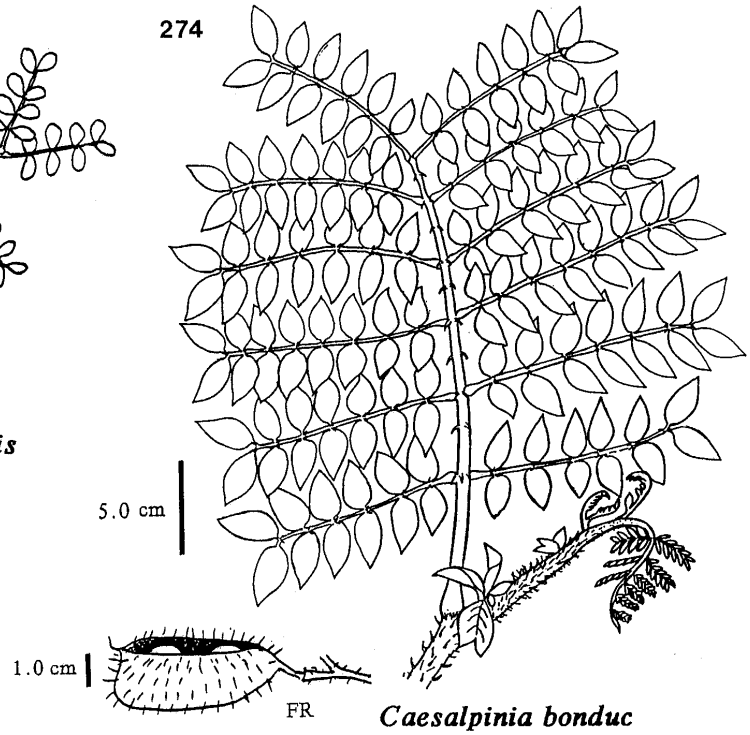
Cassia chapmanii



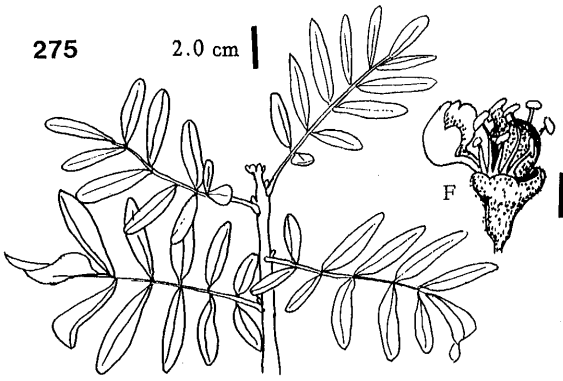
Caesalpinia bahamensis



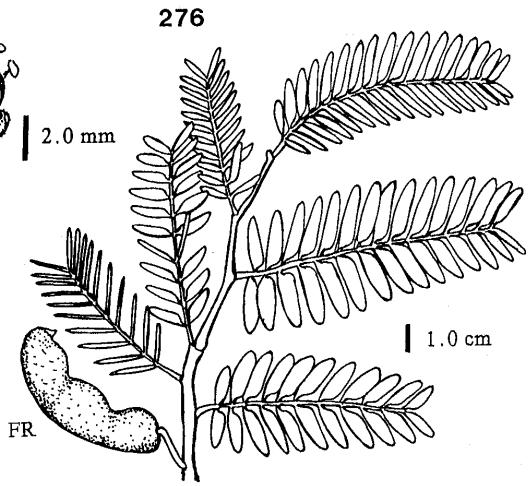




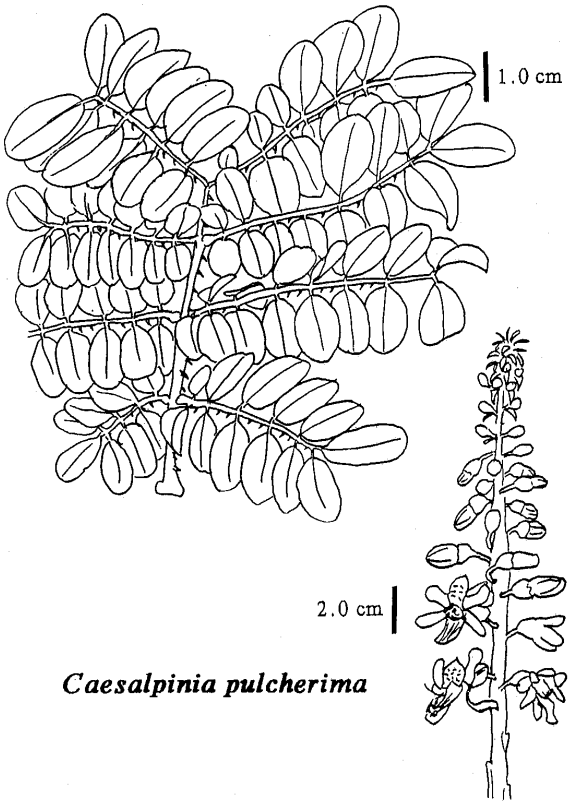
Caesalpinia bonduc



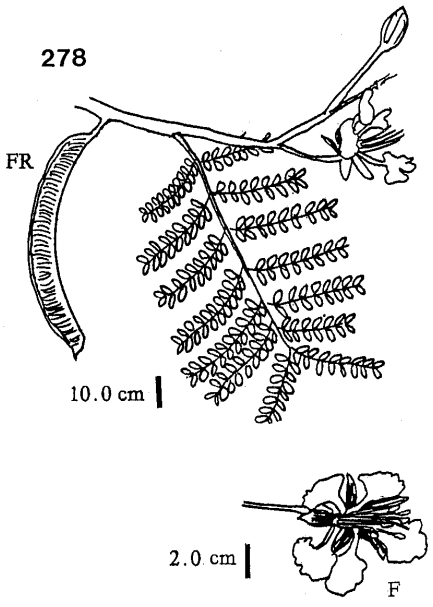
Ateleia gummifera



Tamarindus indica



Caesalpinia pulcherima

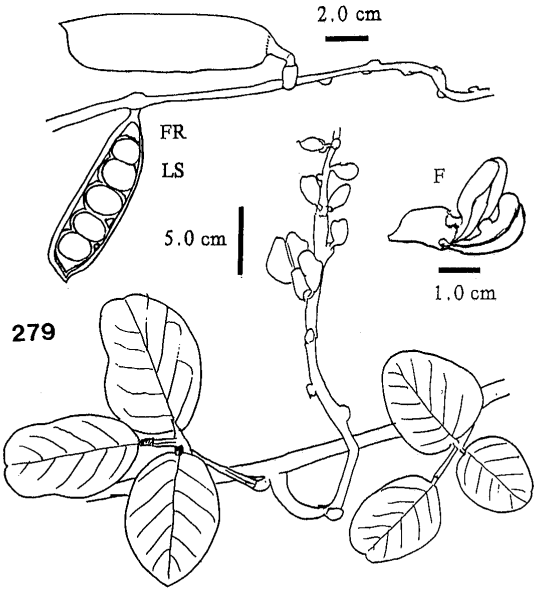


Delonix regia

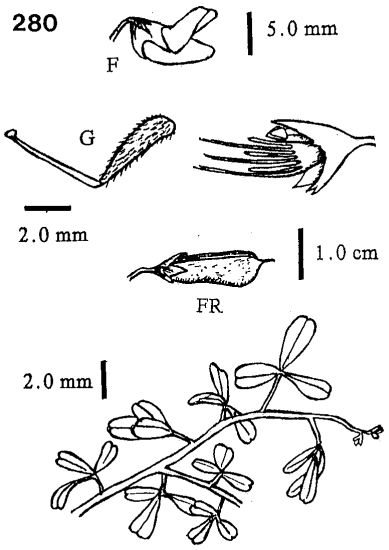
Other taxa: ***Caesalpinia major*** **(Medic.) Dandy & Exell,** ***C. divergens*** **Urban.,** ***Cassia biflora*** **L.,** ***C. caribaea*** **Northrop,** ***C. ligustrina*** **L.,** ***Cassia lineata*** **Sw.,** ***C. occidentalis*** **L.,** ***Haematoxylum campechianum*** **L.,** ***Peltophorum adnatum*** **Griseb.**

Subfamily III. Faboideae (Papilionoideae)

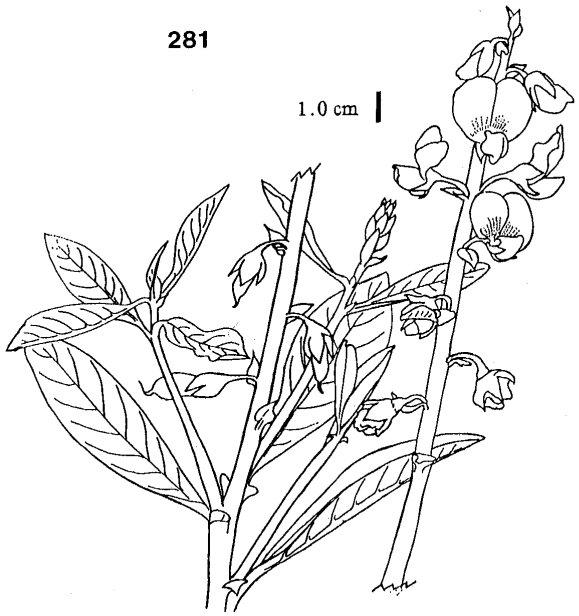
1. Large shrubs or trees.
    2. Leaves unifoliate. ***Dalbergia ecastophyllum*** **(L.) Taub.** (Dalbergia. Ti-ti). Fig. 286.
    2. Leaves odd-pinnately compound. ***Ateleia gummifera*** **(Bert. ex DC) Dietr**. (Stinking-pea Root). Fig. 275.
1. Herbs and vines.
    3. Herbs, erect or somewhat prostrate.
        4. Fruit a 2-valved legume.
            5. Leaves simple.
                6. Petals yellow or yellow with red markings.
                    7. Stipules large. ***Crotalaria spectabilis*** **Roth**. (Showy Rattlebox), Fig. 281.
                    7. Stipules small. ***Crotalaria retusa*** **L**. (Large Yellow Rattlebox). Fig. 282.
                6. Petals pink or purple. ***Macroptilium lathyroides*** **(L.) Urb.** Wild Bush Bean. Fig. 291.
            5. Leaves compound.
                8. Leaves trifoliate. ***Crotalaria pumila*** **Ortega**. (Low Rattlebox). Fig. 280.
                8. Leaves pinnate. ***Indigofera suffruticosa*** **Mill**. (Wild Indigo). Fig. 289.
        4. Fruit a loment.
            9. Stamens all united into a tube (monadelphous); stipules sheathing the stem with free, subulate tips. ***Stylosanthes hamata*** **(L.) Taubert**. (Common Pencil Flower). Fig. 293.
            9. Stamens 9 + 1 (diadelphous); stipules distinct or connate below, lanceolate. ***Desmodium canum*** **(G. F. Gmel.) Schinz et Thell**. (Tick-Trefoil. Wild Granite). Fig. 287.
    3. Twining vines.
        10. Leaves odd-pinnate. ***Clitorea ternatea*** **L**. (Blue-Pea), Fig. 285.
        10. Leaves trifoliate.
            11. Standard with distinct spur at base.
                12. Leaflets ovate to lanceolate. ***Centrosema virginiana*** **(L.) Benth**. Fig. 284.
                12. Leaflets lanceolate to linear. ***Centrosema angustifolia*** **(Kunth) Benth**. Fig. 283.
            11. Standard without a spurred base.
                13. Corolla yellow.
                    14. Fruits 4-6 cm long; plant not resinous. ***Vigna luteola*** **(Jacq.) Benth.** (Yellow Vigna). Fig. 294.
                    14. Fruits 1-2 cm long; plant with resin dots. ***Rhynchosia minima*** **(L.) D. C.** (Rhynchosia). Fig. 292.
                13. Corolla not yellow.
                    15. Rachis of inflorescence thickened at nodes; stems not crimson-pubescent.



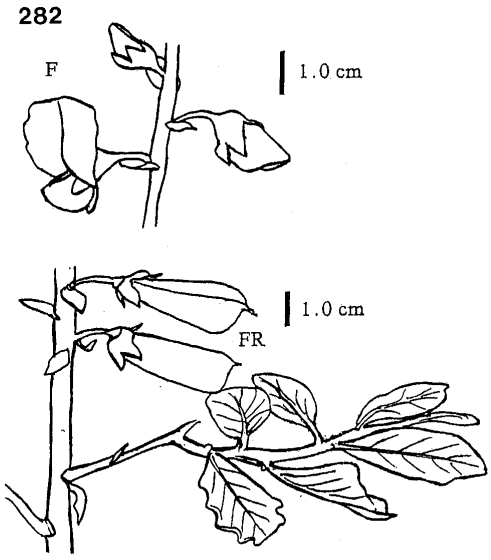
Canavalia nitida



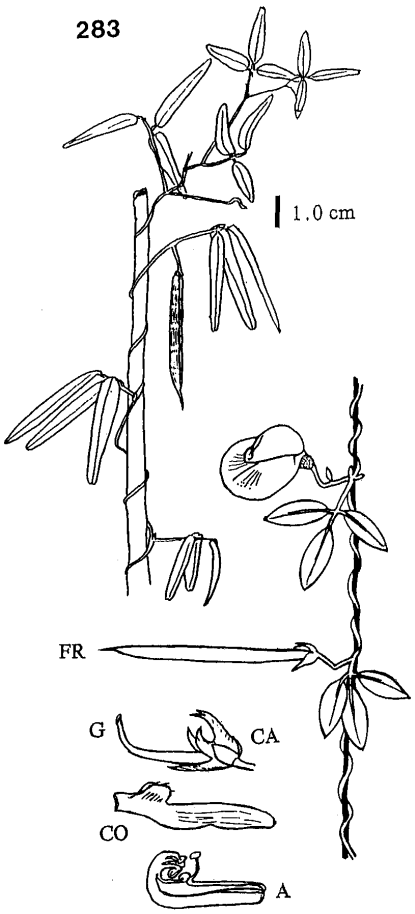
Crotalaria pumila



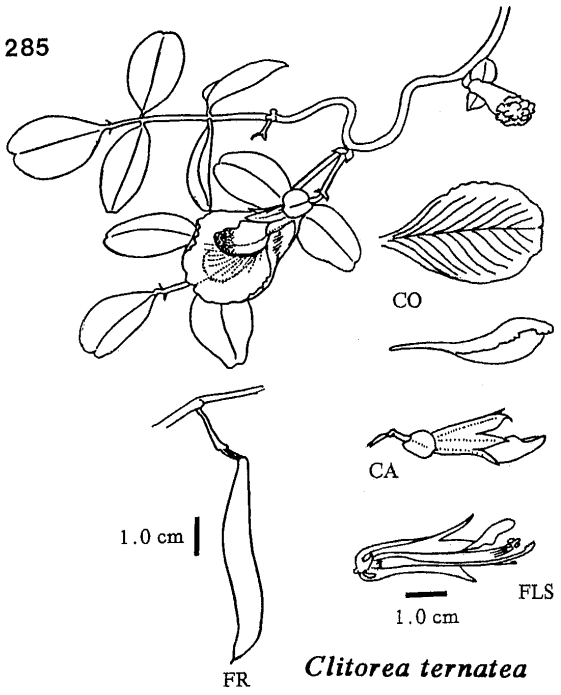
Crotalaria spectabilis



Crotalaria retusa

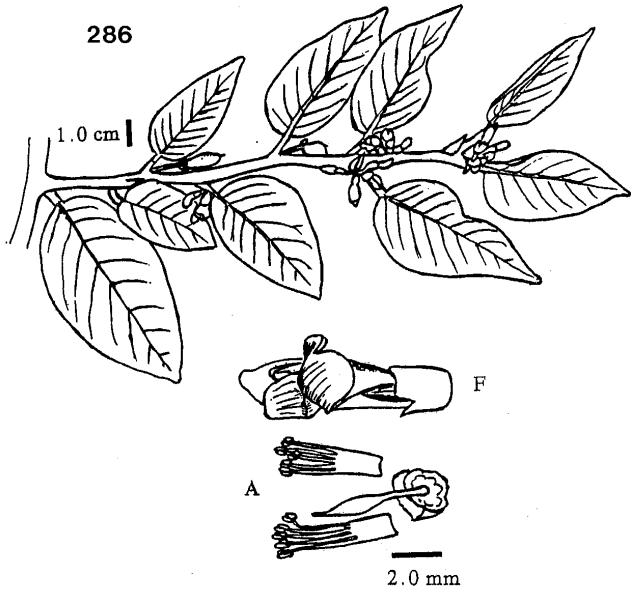


Centrosema virginiana

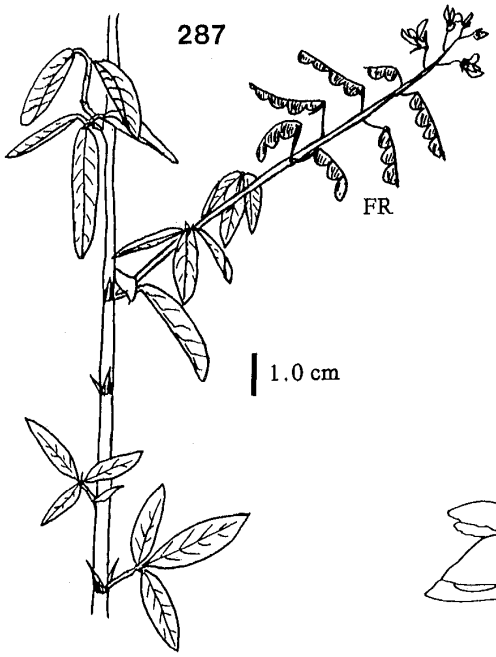


Clitorea ternatea

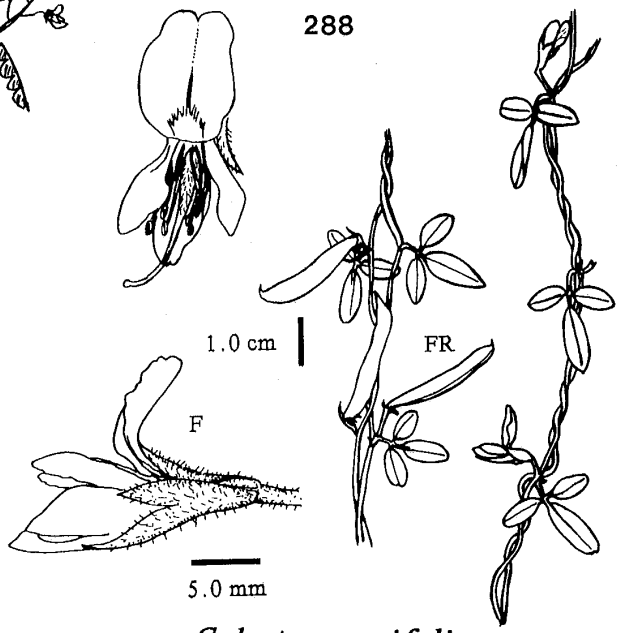
Centrosema angustifolia



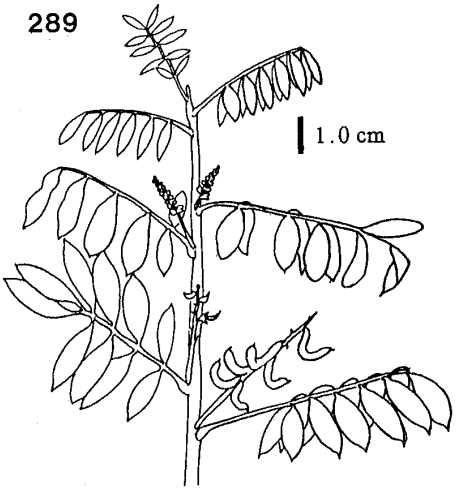
Dalbergia ecastophyllum

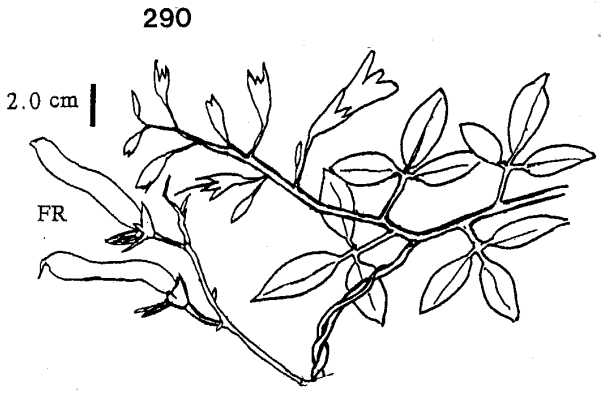


Desmodium canum

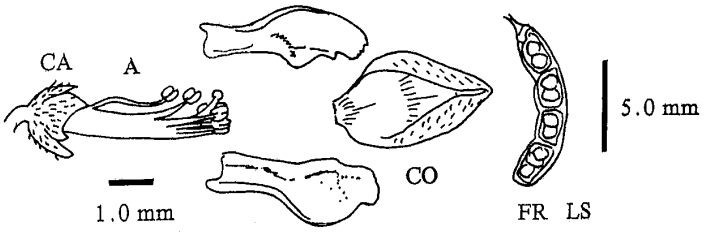


Galactea parvifolia

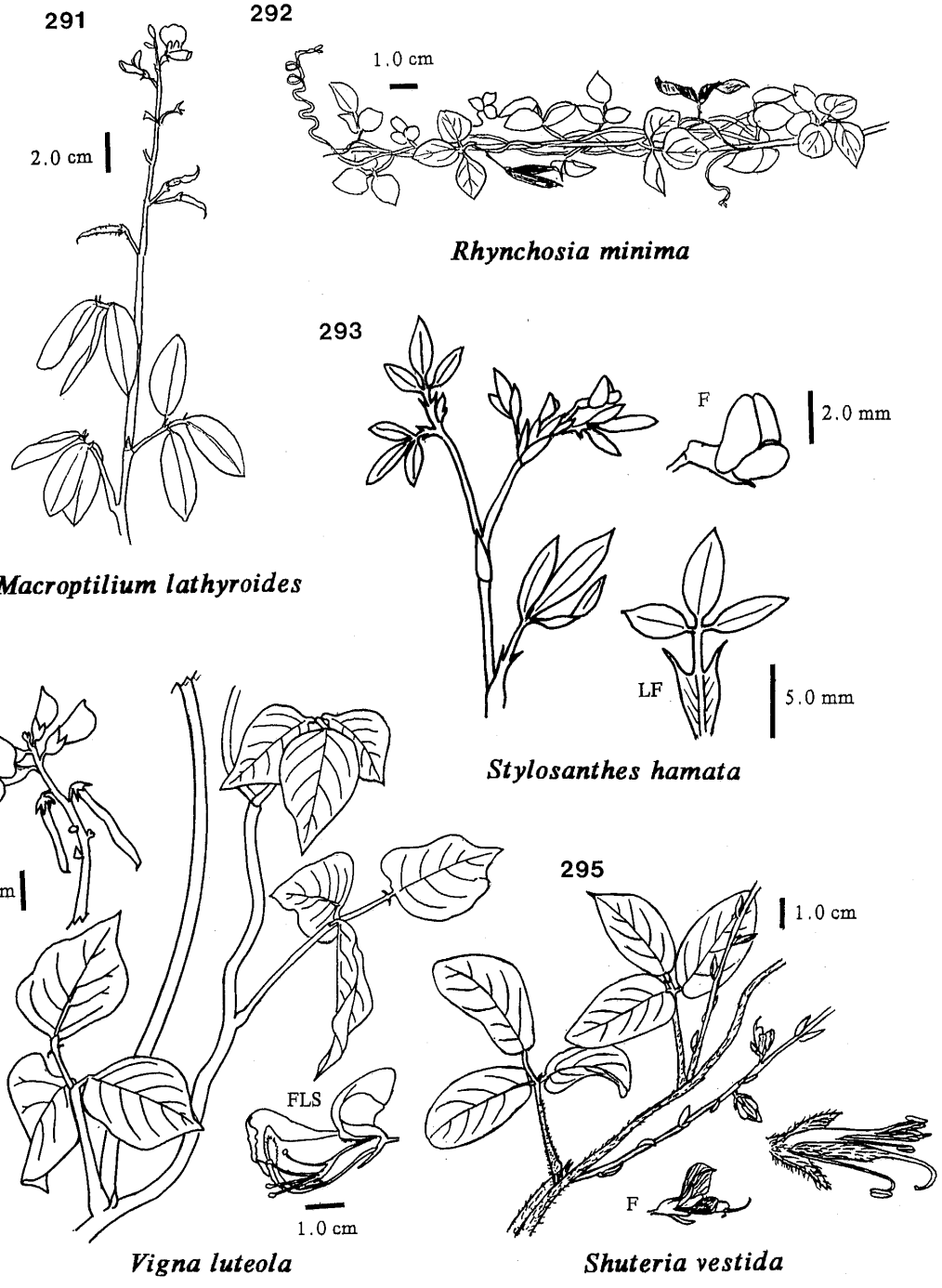




Galactea rudolphioides



Indigofera suffruticosa


291
2.0 cm
292
1.0 cm
Rhynchosia minima
293
F
2.0 mm
LF
5.0 mm
Macroptilium lathyroides
Stylosanthes hamata
294
1.0 cm
FLS
1.0 cm
295
1.0 cm
F
Vigna luteola
Shuteria vestida

16. Calyx lobes unequal
    17. Flowers red. ***Galactea rudolphioides* (Griseb.) Benth. & Hook. in Sauv.** (Red Milk Pea). Fig. 290.
    17. Flowers purple. ***Galactea parvifolia* A. Rich. in Sagra**. (Small-leaved Galactia), Fig. 288.
16. Calyx lobes equal (2-lipped); flowers pink. ***Canavalia rosea* (Sw.) DC**. (Bay-Bean. Horse-Bean), Fig. 279.

15. Rachis of inflorescence not thickened at nodes; stem with crimson hairs; standard pink along margin, cream with reddish lines in the center. ***Shuteria vestida* Wight and Arn**. Fig. 295.

Other taxa: ***Abrus precatorius* L., *Aeschynomene americana* L., *Cajanus cajan* (L.) Millsp., *Canavalia nitida* (Cav.) Piper, *Crotalaria incana* L., *C. verucosa* L., *Desmodium glabrum* (Mill.) DC., *D. tortuosum* (Sw.) DC., *Dolichos lablab* L., *Galactia spiciformis* T. & G. *Indigofera tinctoria* L., *Lonchocarpus domingensis* (Turp.) DC., *Phaseolus adenanthus* G. F. W. Meyer, *Phaseolus lunatus* L., *Piscidia piscipula* (L.) Sarg., *Sophora tomentosa* L., *Stylosanthes tuberculata* Blake, *Tephrosia senna* H. B. K.**

Lentibulariaceae. Bladderwort Family

1. Flowers purple. ***Utricularia purpurea* Walt.** (Purple Bladderwort). Fig. 296.
1. Flowers yellow. ***Utricularia cornuta* Michx.** (Horned Bladderwort). Fig. 297.

Other taxa: ***Utricularia gibba* L., *U. subulata* L., *Pinguicula pumila* Michx.**

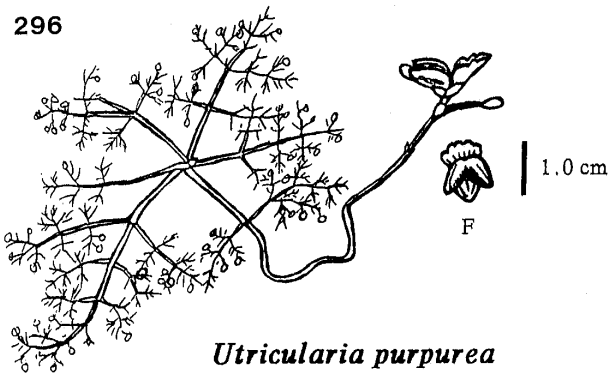
Linaceae. Flax Family

1. Staminodia present.
    2. Stem and calyx glabrous. ***Linum bahamense* Northrop var. *bahamense.*** (Flax).
    2. Stem and calyx hirsute. ***Linum bahamense* var. *corallicola* (Small) Rogers.** (Flax). Fig. 298.
1. Staminodia lacking; stem and calyx glabrous. ***Linum medium* var. *texanum* (Planch.) Fern.** (Flax), Fig. 299.

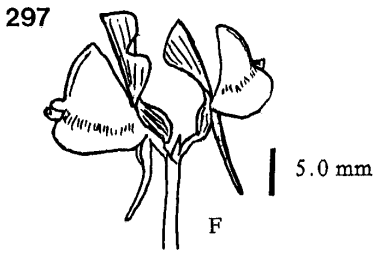
Loganiaceae. Logania Family

1. Corolla lobes valvate (edges meeting).
    2. Style one, clavate. ***Spigelia anthelmia* L.** (Spigelia. Pink). Fig. 300.
    2. Styles two, distinct, united at apex. ***Mitreola petiolata* (J. F. Gmel.) Torr. & Gray**. [= ***Cynoctonum mitreola* (L.) Britt**.]. (Miterwort). Fig. 301.
1. Corolla lobes imbricate (overlapping). ***Polypremum procumbens* L**. (Polypremum). Fig. 302.

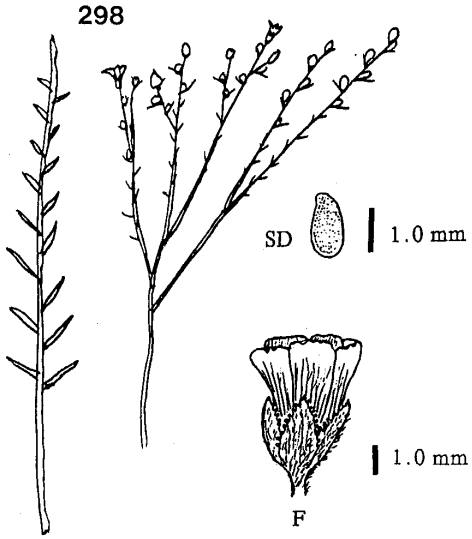
Other taxon: ***Mitreola sesselifolia* (J. F. Gmel.) G. Don.**



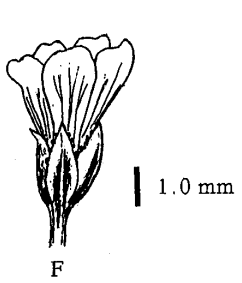
Utricularia purpurea



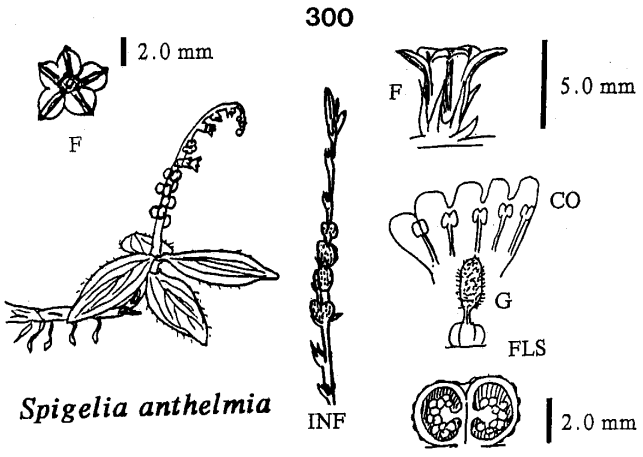
Utricularia cornuta



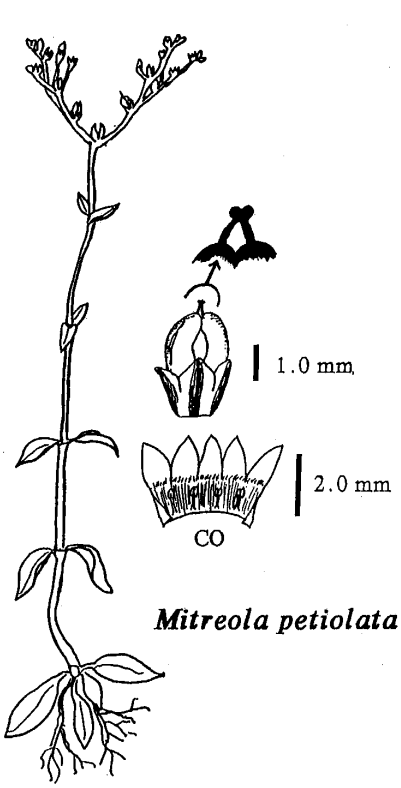
Linum bahamense var. corallicola



Linum medium var. texanum



Spigelia anthelmia



Mitreola petiolata

Loranthaceae. Mistletoe Family

***Dendropemon emarginatus* (Sw.) Steud.** (Scaly Mistletoe). Fig. 303.

Other taxon: ***Dendropemon purpureus* (L.) Krug & Urb.**

Lythraceae. Loosestrife Family.

***Ammannia teres* Raf.** (Ammannia).

Malpighiaceae. Malpighia Family

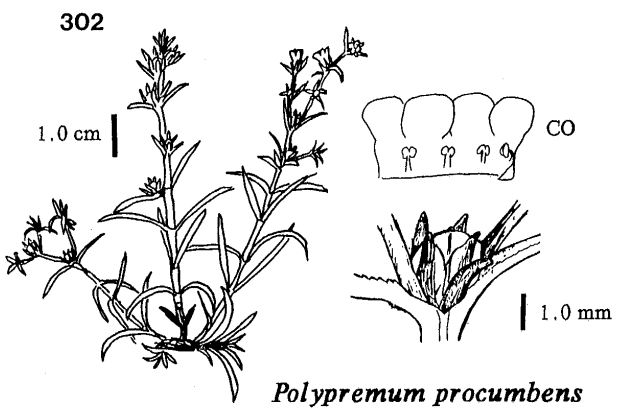
1. Fruit nutlike, winged (samaroid); vines.
   2. Flowers yellow; stem tuberculate; leaves coriaceous. ***Stigmaphyllon sagraeanum* A. Juss.** (Sagra's Stigmaphyllon). Fig. 304.
   2. Flowers blue (lilac); stem smooth; leaves not coriaceous. ***Triopteris jamaicensis* L.** (Triopteris). Fig. 306.
1. Fruit fleshy, wingless; shrubs and trees.
   3. Flowers in terminal panicles or racemes; corolla white, pink, or red (changing upon development); stigma subulate. ***Byrsonima lucida* (Mill.) DC.** (Plum-Berry. Locust-Berry. Guana Berry. Candle-Berry). Fig. 305.
   3. Flowers axillary; corolla pink to scarlet; stigma thick.
      4. Leaves coriaceous with stinging hairs (especially along the margins). ***Malpighia polytricha* A. Juss**. (Bahama Malpighia. Touch-Me-Not. Wild Cherry). Fig. 307.
      4. Leaves not coriaceous, essentially hairless or with minute malpighian hairs; margin entire. ***Malpihia punicifolia* L.** (Acerola. West Indian Cherry). Fig. 308.

Other taxa: ***Bunchosia glandulosa* (Cav.) DC.**

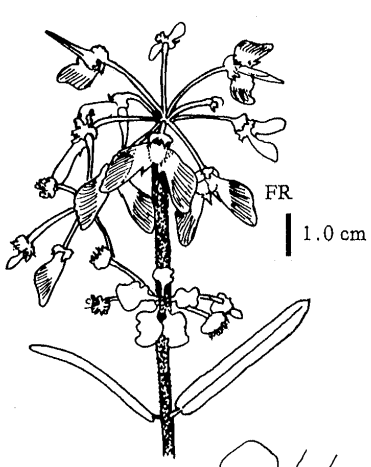
Malvaceae. Mallow Family.

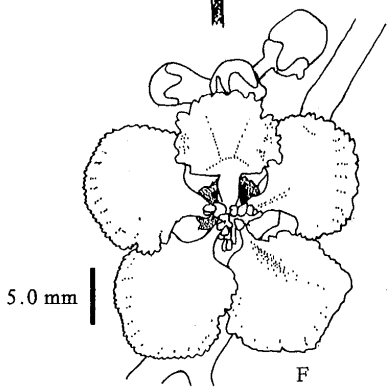
1. Fruit with several radiately arranged, mostly separate carpels; mostly herbs.
   2. Fruit dehiscent.
      3. Carpels membranous, bladdery; leaves felty. ***Herisantia crispa* (L.) Brizicky**. (Low Abutilon). Fig. 309.
      3. Carpels indehiscent, two-beaked; leaves lanceolate, serrate. ***Sida acuta* Burmf. var *carpinifolia* K. Schum.** (Wire-weed), Fig. 310.
   2. Fruit indehiscent, flattened, coriaceous; tree. ***Thespesia populnea* (L.) Soland.** (Seaside Mahoe. Cork Tree. Spanish Cork). Fig. 311.
1. Fruit a loculicidal capsule. ***Hibiscus* sp.** Fig. 312.

Other taxa: ***Abelmoschus esculentus* (L.) Moench. (cultivated okra), *Abutilon permolle* (Willd.) Sweet *Gossypium hirsutum* L. var. *punctatum* (Schumach. & Thonn.) J. B. Hatch, *Hibiscus brittonianus* Kearney, *H. coromandelianum* (L.) Garcke, *H. rosa-sinensis* L., *H. tiliaceus* L., *Malvastrum corchorifolium* (Desv.) Britt., *M. coromandelianum* (L.) Garcke, *Pavonia spicata* Cav., *Sida ciliaris* L., S. *rhombifolia* L., S. *spinosa* L., S. *urens* L.**

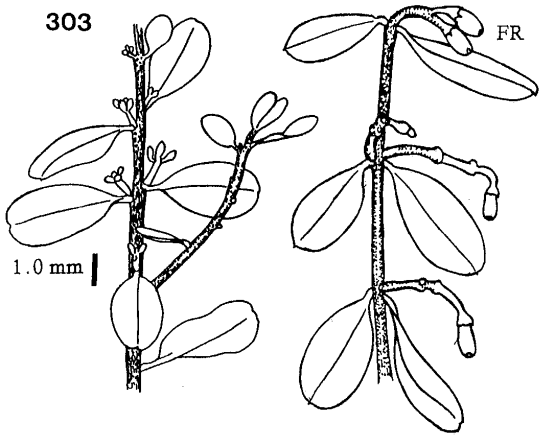


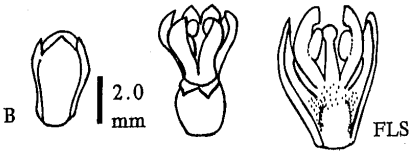
Polypremum procumbens



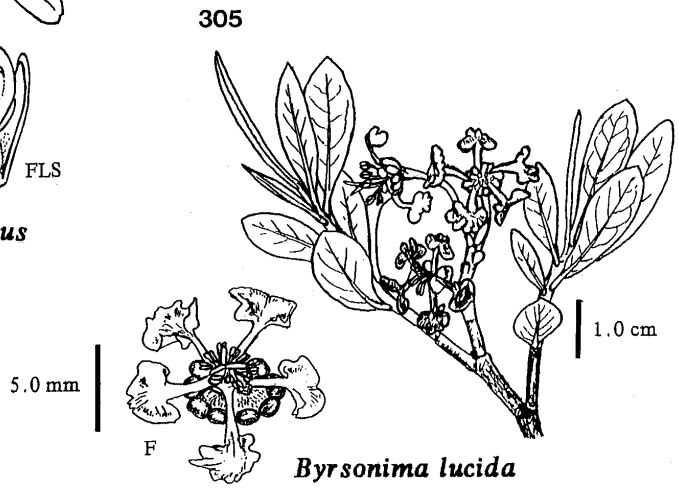


Stigmaphyllon sagraeanum

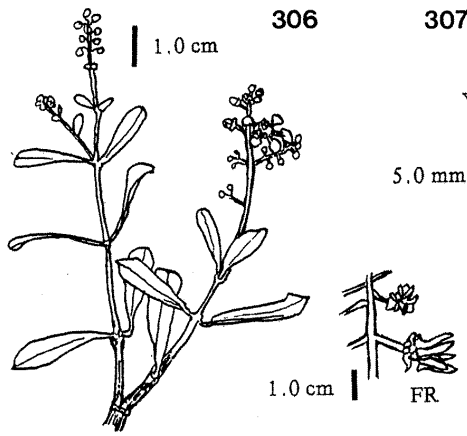




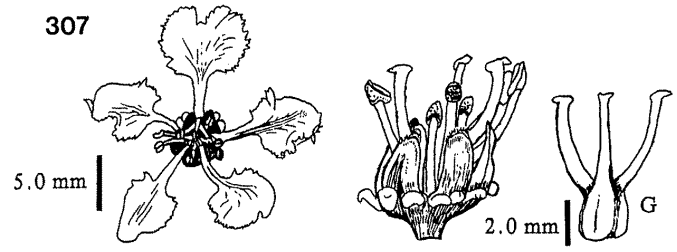
Dendropemon emarginatus

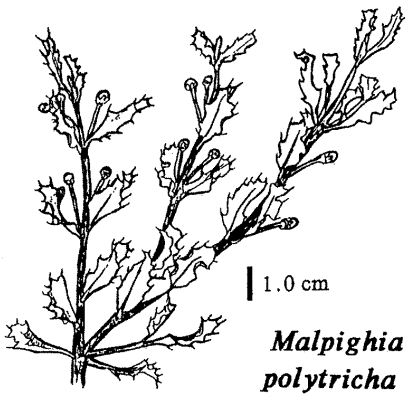


Byrsonima lucida

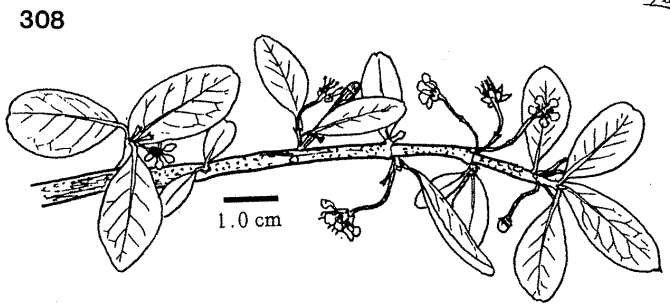


Triopteris jamaicensis

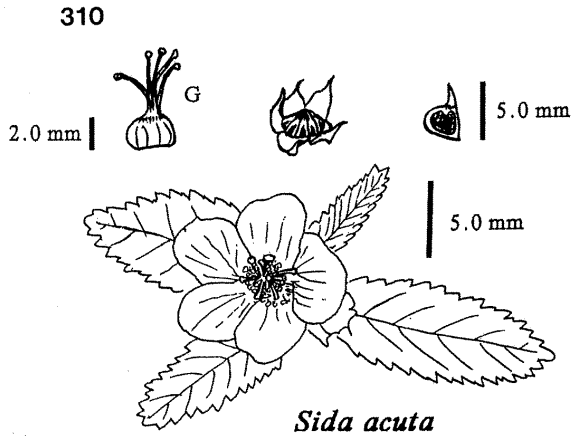




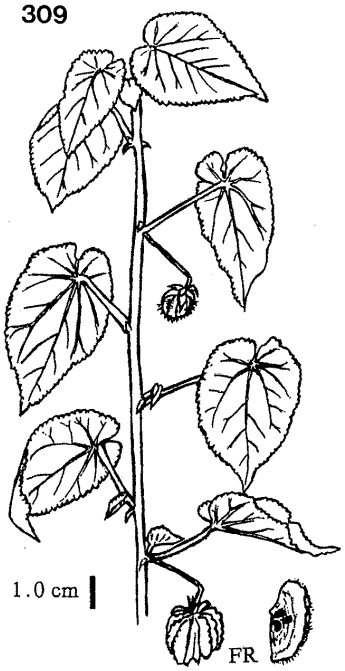
Malpighia polytricha



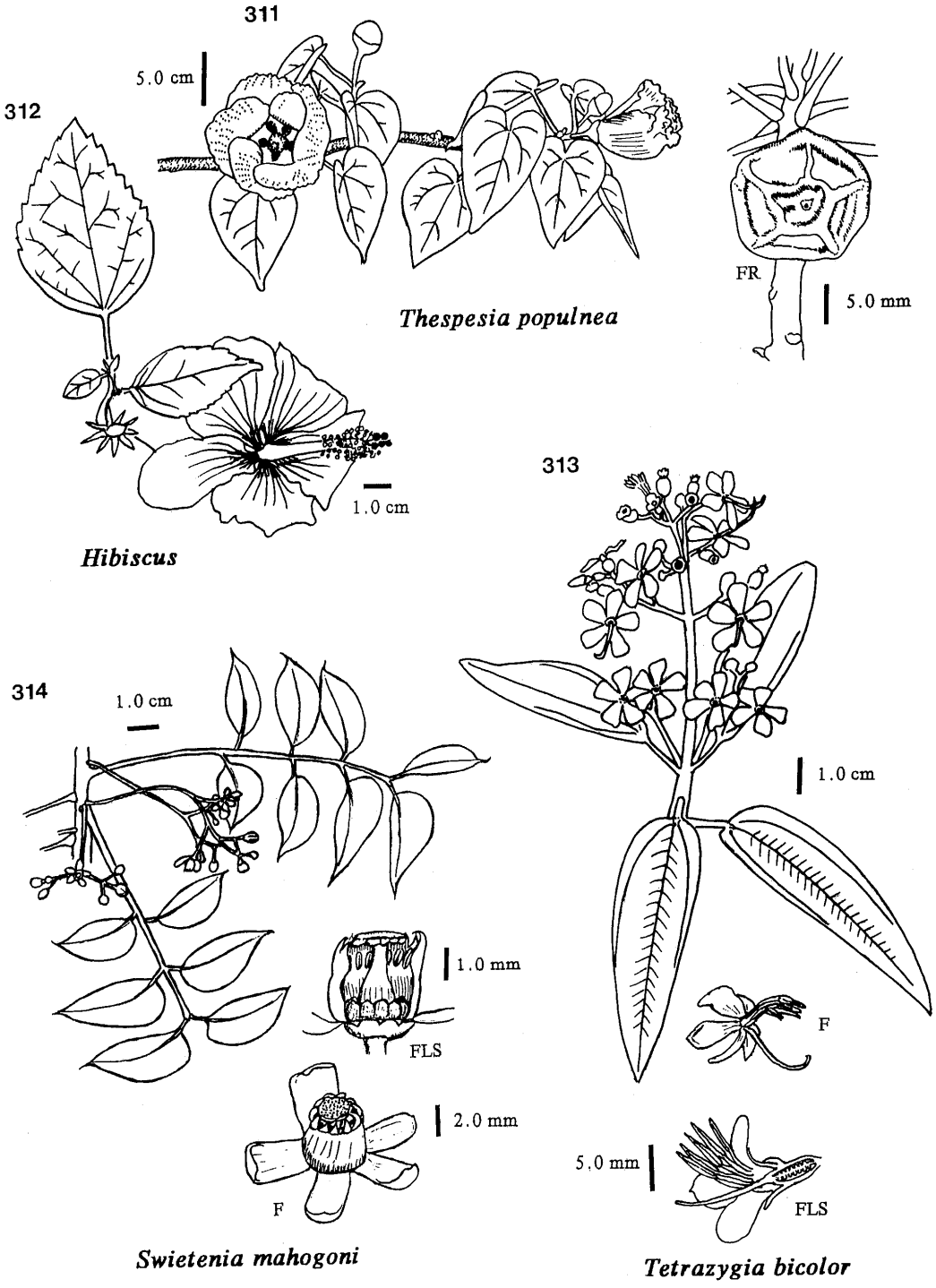
Malpihia punicifolia



Sida acuta var. carpinifolia



Herisantia crispa


311
5.0 cm
312
FR
5.0 mm
Thespesia populnea
1.0 cm
Hibiscus
313
1.0 cm
F
5.0 mm
FLS
Tetrazygia bicolor
314
1.0 cm
1.0 mm
FLS
2.0 mm
F
Swietenia mahogoni

Melastomataceae. Meadow-Beauty Family.

***Tetrazygia bicolor* (Mill.) Cogn.** (Tetrazygia). Fig. 313.

Meliaceae. Mahogany Family.

***Swietenia mahagoni* (L.) Jacq.** (Mahogany. Madeira), Fig. 314.

Menispermaceae. Moonseed Family.

***Cissampelos pareira* L.** (Velvety Cissampelos).

Menyanthaceae. Buckbean, Bogbean Family.

***Nymphoides grayana* (Griseb.) O. Kuntze**. (Bahama Floating Heart). Fig. 315.

Moraceae. Mulberry, Fig Family.

1. Leaves unlobed; fruit a fig.
    2. Syconia sessile. *Ficus aurea* Nutt. (Golden Wild Fig), Fig. 316.
    2. Syconia stalked.
        3. Syconia 7-10 mm in diameter; petioles < 1.0 cm long; leaves obovate. ***Ficus perforata* L.** (Small-Leaved Wild Fig. Jamaica Cherry Fig), Fig. 317.
        3. Syconia 8-18 mm in diameter; petiole > 1.0 cm long; leaves ovate, shiny. ***Ficus citrifolia* Mill.** (Short-Leaved Wild Fig), Fig. 318.
1. Leaves lobed; fruit a large multiple. ***Artocarpus altilis* (Park) Fosb.** (Breadfruit). Fig. 319.

Other taxon: ***Fatoua villosa* (Thunb.) Nakai.**

Moringaceae. Horseradish Tree Family.

***Moringa oleifera* Lam.** (Horseradish Tree).

Myricaceae. Bayberry, Wax Myrtle Family.

***Myrica cerifera* L.** (Bayberry.Wax Myrtle. Wild Tea; Mickle-berry). Fig. 321.

Myrsinaceae. MyrsineFamily.

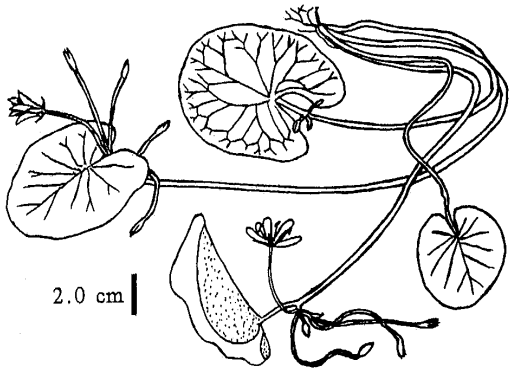
***Myrsine floridana* A. DC.** (Myrsine), Fig. 320.

Other taxon: ***Ardisia escallonioides* Cham. & Schlecht.**

Myrtaceae. Myrtle Family.

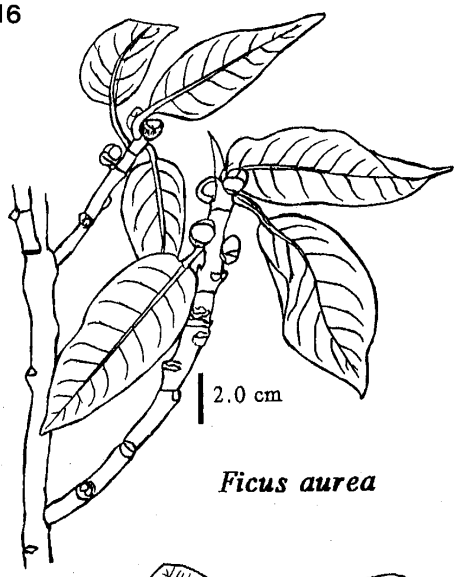
1. Calyx with a lid attached to one side.
    2. Leaves densely hairy below; calyx hairy. ***Calyptranthes pallens* (Poir.) Griseb**. (Pale Lid-flower. Spice Wood. White Stopper). Fig. 322.
    2. Leaves glabrous, shiny above; calyx glabrous. ***Calyptranthes zuzygium* (L.) Sw.** (Myrtle-of-the-River). Fig. 323.

315



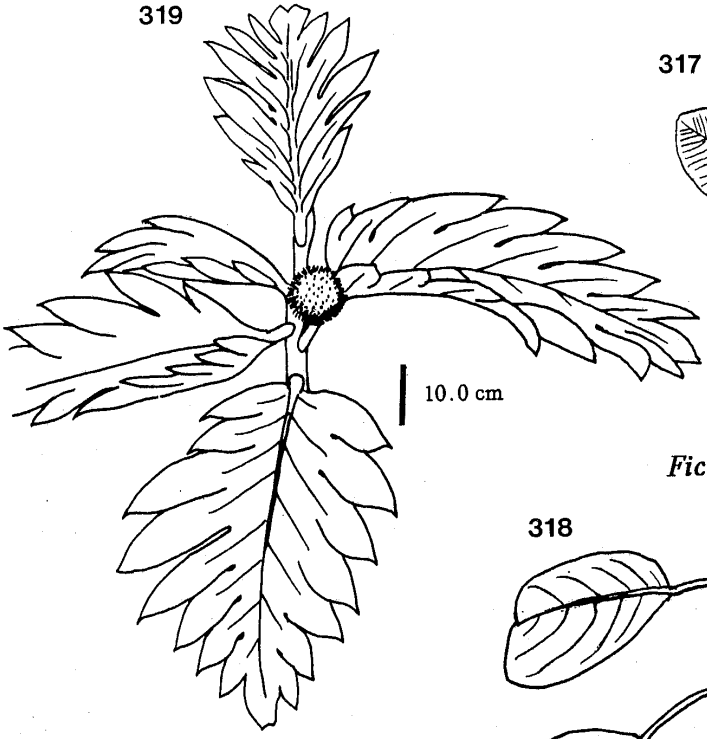
Nymphoides grayana

316



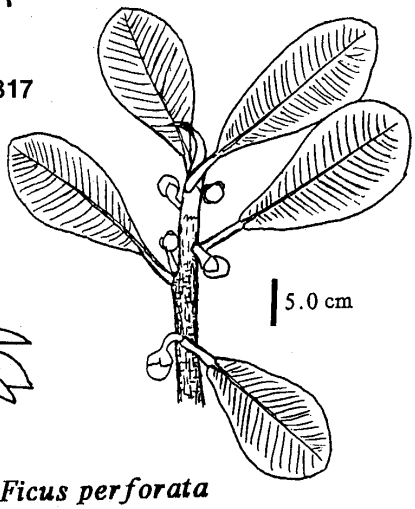
Ficus aurea

319



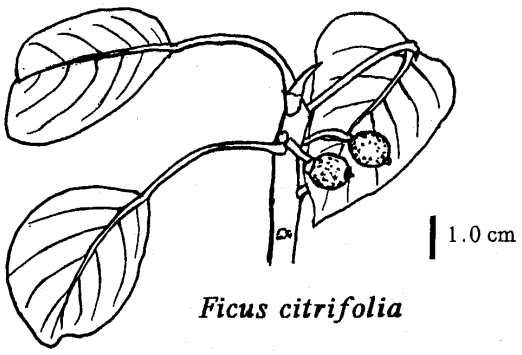
Artocarpus altilis

317

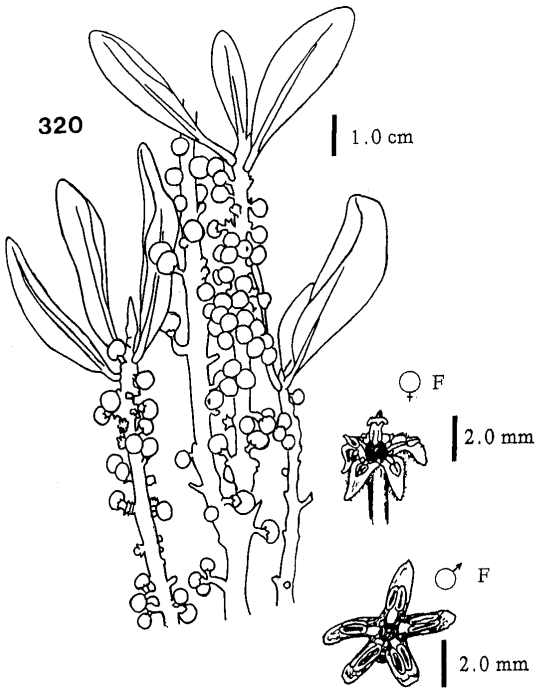


Ficus perforata

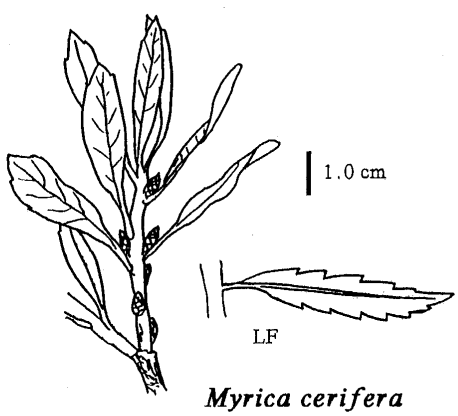
318



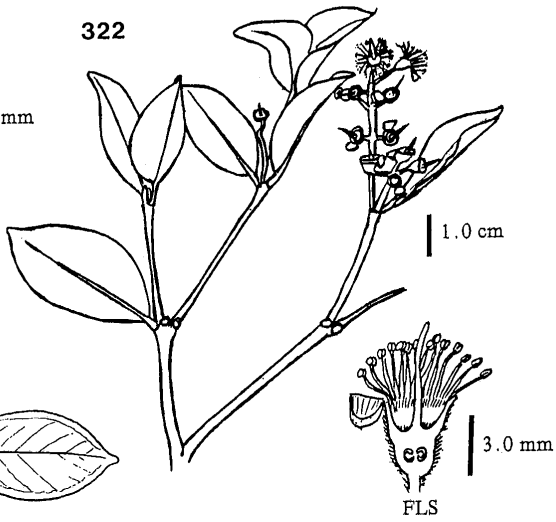
Ficus citrifolia



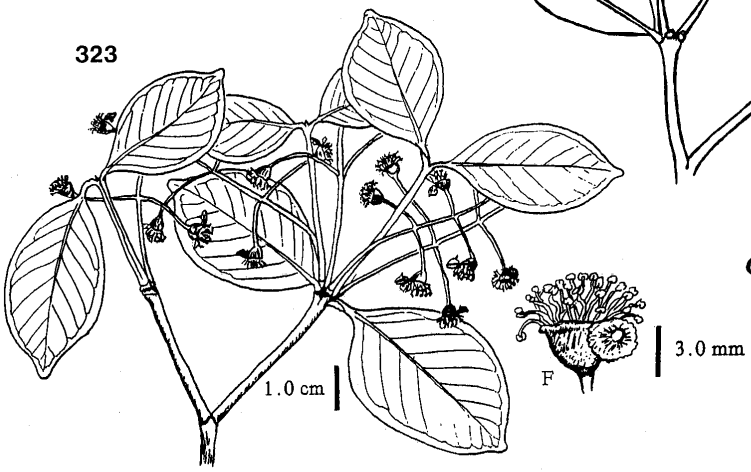
Myrsine floridana



Myrica cerifera



Calyptranthes pallens



Calyptranthes zuzygium

1. Calyx without a lid.
   3. Inflorescence centripetal, of short-stalked flowers in leaf axils or racemose; seeds 1-2 per fruit; embryo massive.
      4. Fruit sessile or short-stalked, clustered.
         5. Leaf apex pointed; leaf > 3.0 cm long; crushed leaves with musty odor. ***Eugenia axillaris* (Sw.) Willd.** (White Stopper. Ironwood. Wattle). Fig. 324.
         5. Leaf apex rounded; leaves < 3.0 cm long. ***Eugenia foetida* Pers.** (Red Stopper. Spanish Stopper). Fig. 325.
      4. Fruit solitary, long-stalked, red. ***Eugenia confusa* DC.** (Ironwood. Red-berry Stopper). Fig. 326.
   3. Inflorescence centrifugal; flowers in cymes; seeds generally more than 2 per fruit; embryos small.
      7. Flowers small; leaves without prominent venation; fruit long-stalked, < 1. 5 cm in diameter. ***Psidium longipes* (Berg) McVaugh.** (Long-stalked Stopper). Both ***P. longipes* var. *longipes*** and ***P. longipes* var. *orbiculare* (Berg) McVaugh** are present. Fig. 327.
      7. Flowers large; leaves with prominent pinnate venation; fruits (guavas) 3-6 cm in diameter. ***Psidium guajava* L.** (Guava). Fig. 328.

Other taxa: ***Melaleuca quinquenervia* (Cav.) S. T. Blake, *Myrcianthes fragrans* (Sw.) McVaugh, *Psidium androsianum* (Urb.) Correll [= *Eugenia androsiana* Urb. in Fedde.**

Nyctaginaceae. Four-O'Clock Family.

1. Plants herbaceous. ***Boerhavia diffusa* L.** (Spreading Boerhavia). Fig. 329.
1. Plants shrubs or small trees.
   2. Flowers subtended by colorful bracts. ***Bougainvillea glabra* Choisy.** (Bougainvillea). Fig. 332.
   2. Flowers not subtended by colorful bracts.
      3. Fruit drupelike (anthocarp); leaves elliptic-lanceolate. ***Guapira longifolia* (Heimerl) Little** [= ***Torrubia longifolia* (Hemerl.) Britt**.]. Correll cites ***G. discolor* (Spreng.) Little** as the Bahamian taxon. (Narrow-leaved Blolly. Beef-wood), Fig. 331.
      3. Fruit dry with 5 rows of glands; leaves ovate. ***Pisonia rotundata* Griseb**. (Round-leaved Pisonia). Fig. 330.

Other taxa: ***Boerhavia coccinea* Mill.?, *Commincarpus scandens* (L.) Standl., *Guapira obtusata* (Jaeq.) Little, *Mirabilis jalapa* L., *Pisonia aculeata* L.**

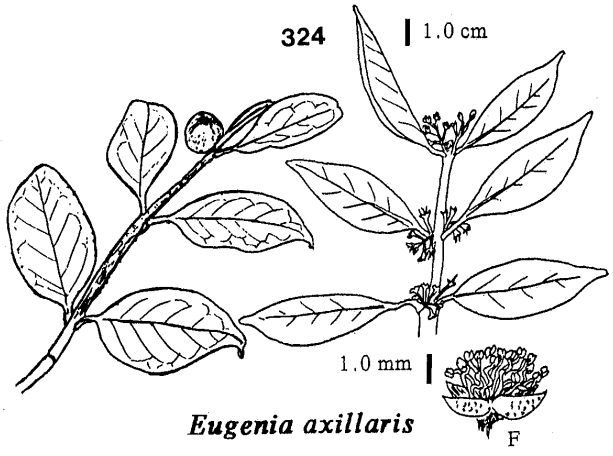
Nymphaeaceae. Water Lily Family.

***Nymphaea ampla* (Salisb.) DC.** (Water Lily).

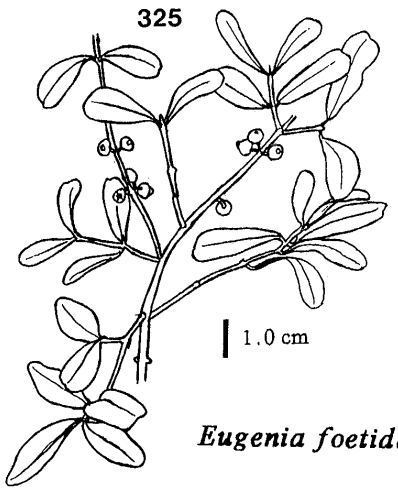
Olacaceae. Olax Family.

1. Stem armed; flowers yellow with long tufts of hairs. *Ximenia american a* L. (Tallow Wood. Spanish Plum). Fig. 335.
1. Stem unarmed; flowers red with short tufts of hairs. ***Schoepfia shreberi* Gmel.** [= ***S. chrysophylloides* (A. Rich) Planch**]. (White Wood. Schoepfia). Fig. 336.

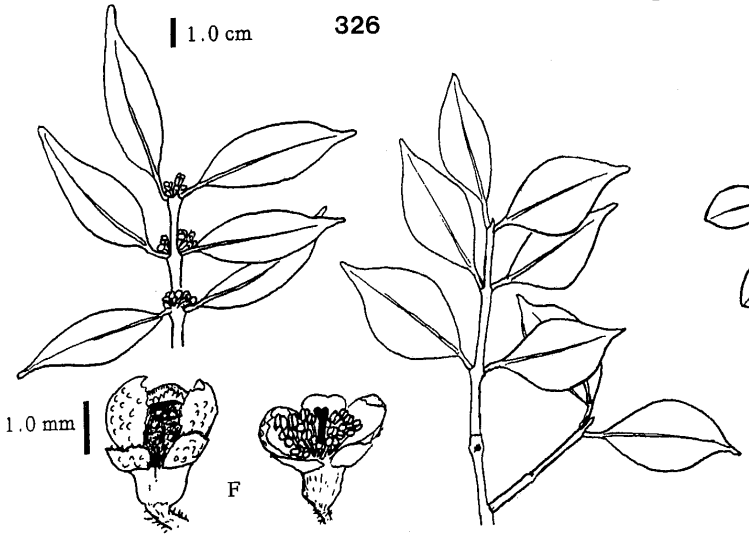
Other taxon: ***Schoepfia obovata* C. Wr.**



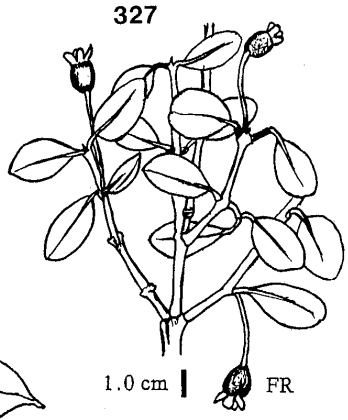
Eugenia axillaris



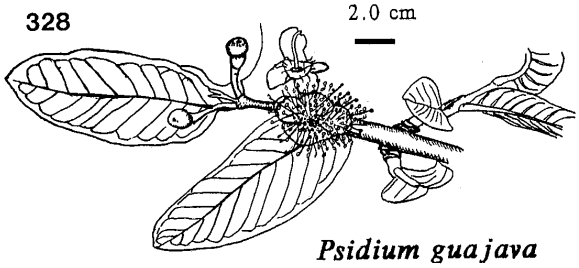
Eugenia foetida



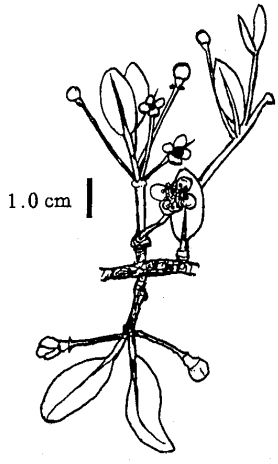
Eugenia confusa

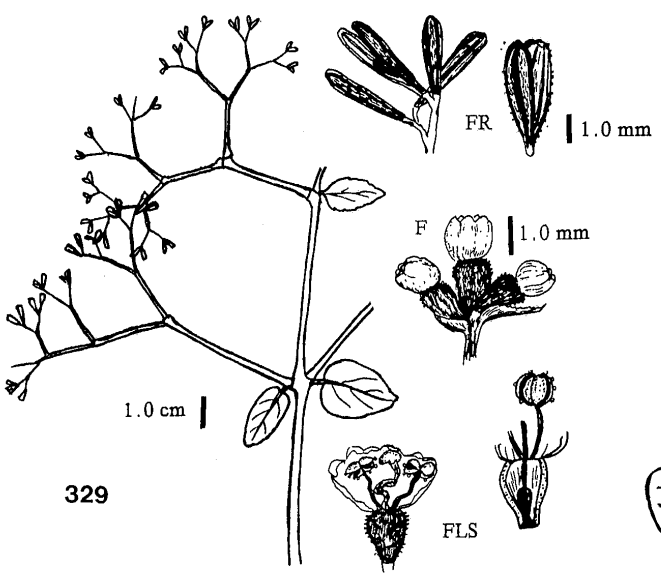


Psidium longipes

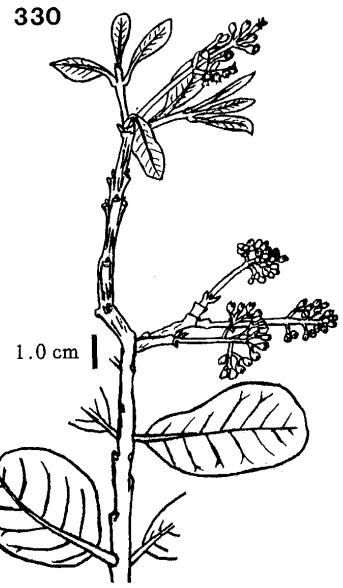


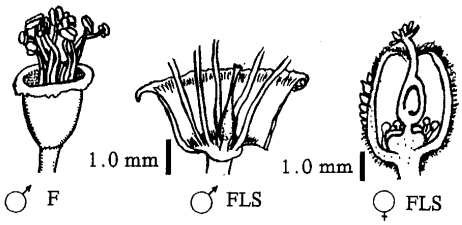
Psidium guajava



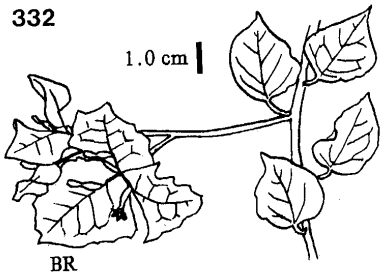


Boerhavia diffusa

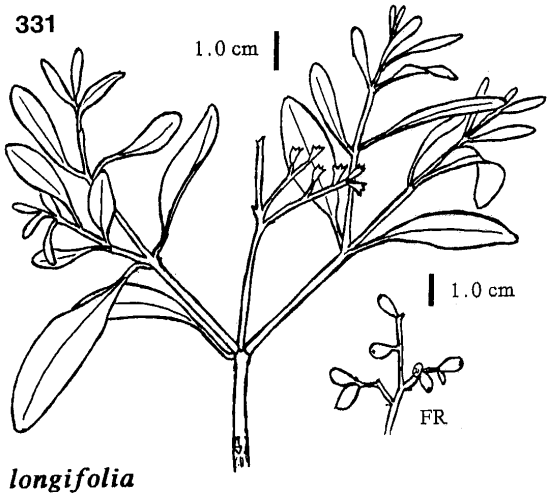


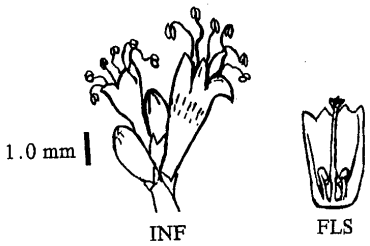


Pisonia rotundata



Bougainvillea glabra





Guapira longifolia

Oleaceae. Olive Family.

***Forestiera segregata* (Jacq.) Krug & Urban.** (Florida Privet. Ink-bush). Fig. 334.

Other taxon: ***Linociera bumelioides* Griseb**. [= ***Mayepea bumelioides* (Griseb.) Klug. & Urb**.].

Onagraceae. Evening Primrose Family.

***Ludwigia octovalvis* (Jacq.) Raven ssp. *sessiliflora* (Micheli) Raven.** (Bushy Ludwigia). Fig. 333.

Other taxon: ***Ludwigia curtissii* Chapm.**

Oxalidaceae. Wood-sorrell Family.

***Oxalis corniculata* L.** (Yellow Procumbent Wood-sorrell). Fig. 337.

Papaveraceae. Poppy Family.

***Argemone mexicana* L.** (Donkey Thistle. Mexican Poppy). Fig. 338.

Passifloraceae. Passion-flower Family.

1. Calyx subtended by 3 pectinate bracts; leaf margins with stalked, glandular hairs. ***Passiflora bahamensis* Britton.** (Bahama Passion-flower). Fig. 339.
1. Calyx not subtended by bracts.
   2. Petals 5, maroon; leaves entire. *Pas**siflora cupraea* L.** (Devil's Pumpkin. Wild Watermellon. Smooth Passion Flower), Fig. 340.
   2. Petals none; leaves entire, eliptic or hastate. ***Passiflora suberosa* L.** (Juniper Berry. Small Passion-flower). Fig. 341.

Other taxon: ***Passiflora multiflora* L., *P. rubra* L.**

Pedaliaceae. Sesame Family

***Sesamum indicum* L.** (Benny Seed. Sesame).

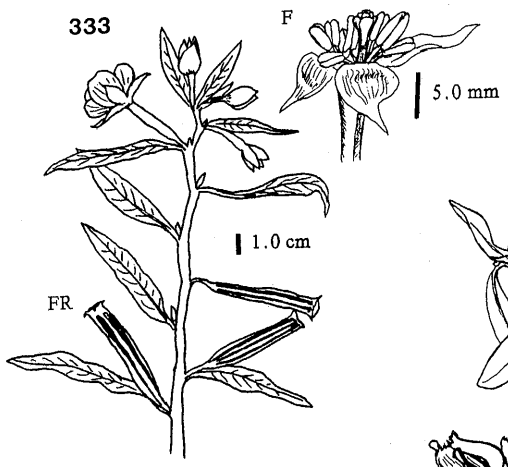
Phytolacaceae. Pokeweed Family.

***Rivina humilis* L.** (Wild Tomato. Pigeon Berry). Fig. 342.

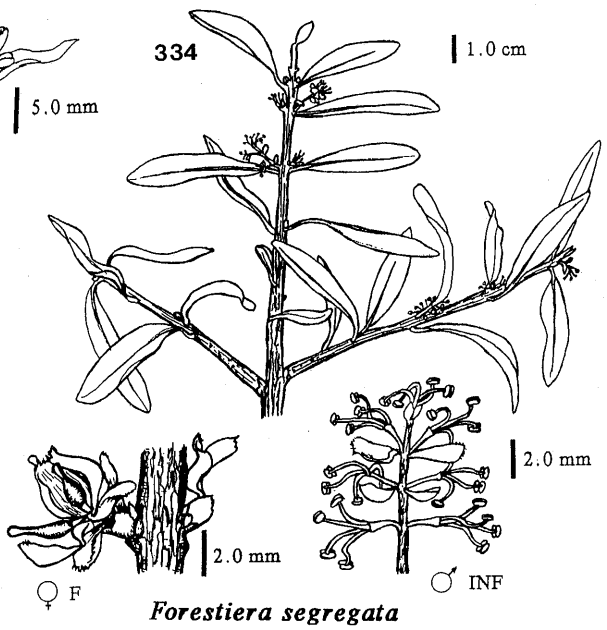
Other taxa: ***Petiveria alliacea* L., *Phytolacca icosandra* L.**

Piperaceae. Pepper Family.
(Includes Peperomiaceae)

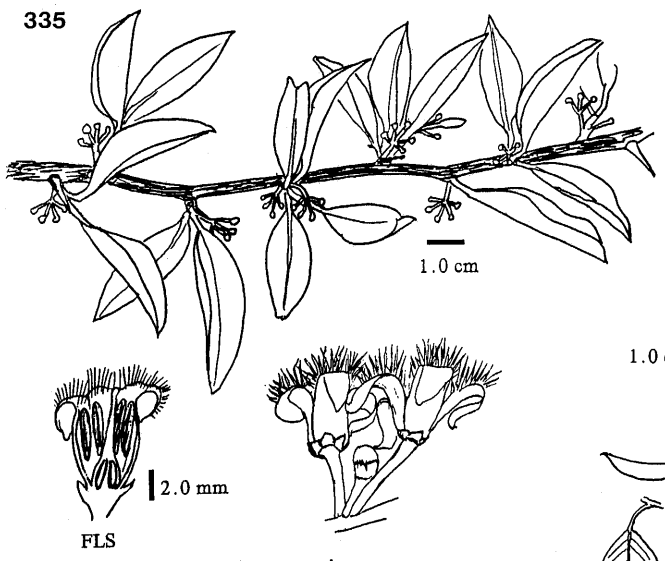
1. Leaves less than 3 cm long. ***Peperomia magnoliifolia* (Jacq.) A. Dietr.** (Magnolia-leaved Pepper).
1. Leaves greater than 3 cm long. ***Peperomia obtusifolia* (L.) A. Dietr.** (Wild Pepper).



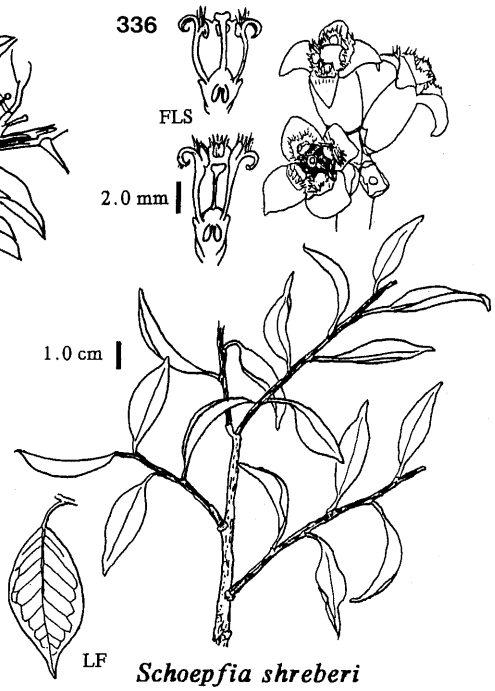
Ludwigia octovalvis
ssp. sessiliflora



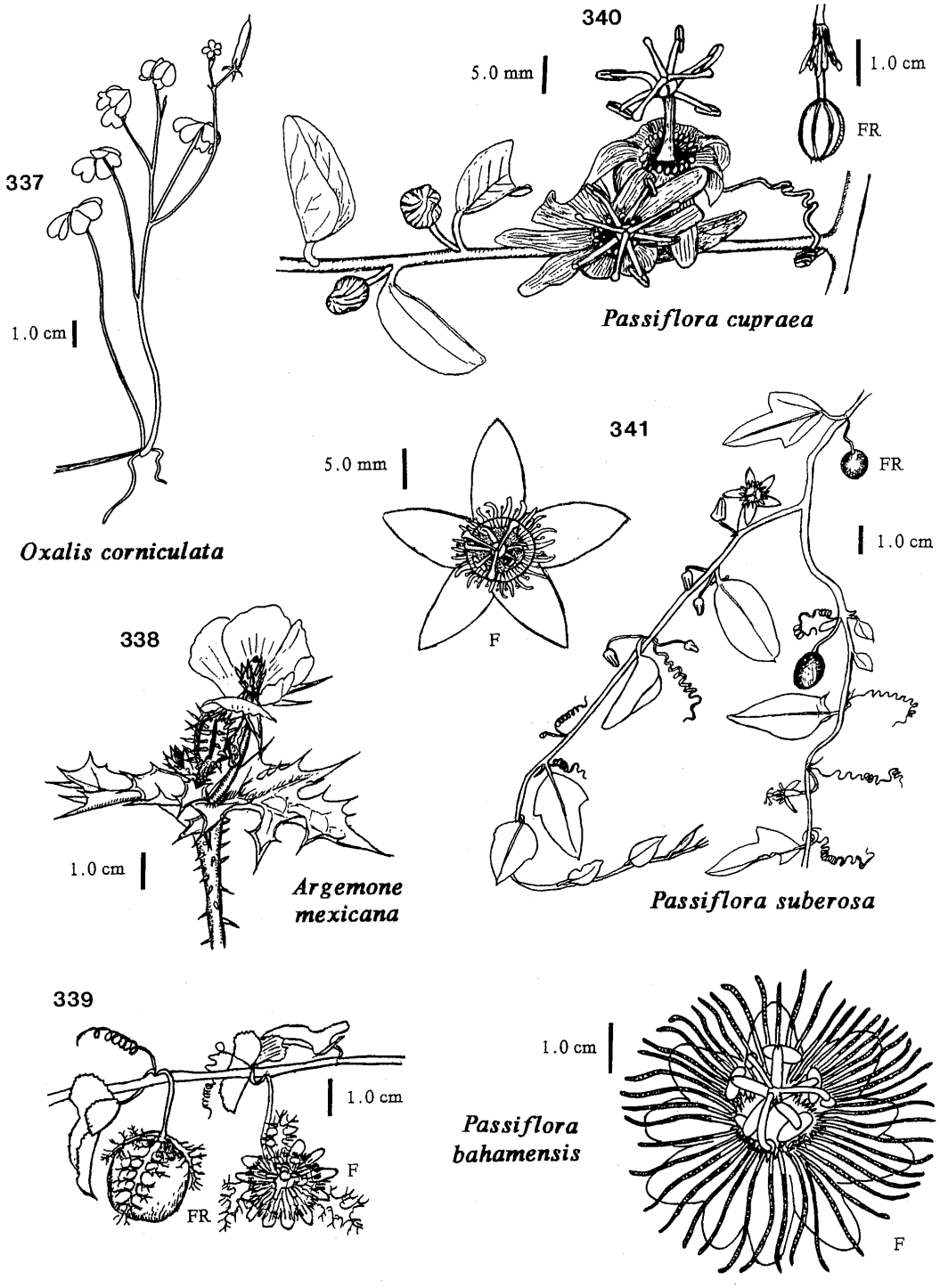
Forestiera segregata



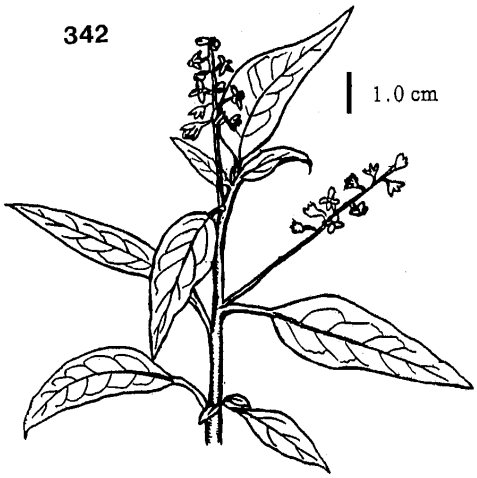
Ximenia americana



Schoepfia shreberi

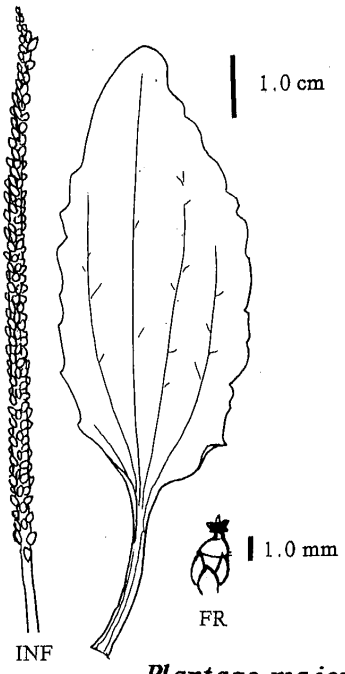

337
1.0 cm
Oxalis corniculata
340
5.0 mm
1.0 cm
FR
Passiflora cupraea
341
5.0 mm
F
FR
1.0 cm
Passiflora suberosa
338
1.0 cm
Argemone mexicana
339
1.0 cm
F
FR
1.0 cm
Passiflora bahamensis
F

342



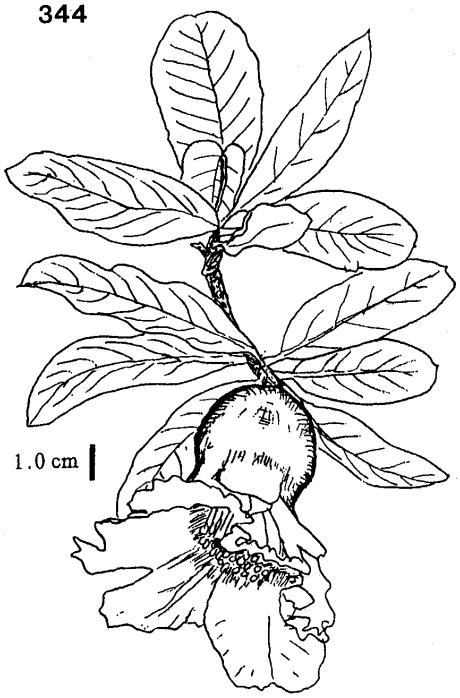
Rivina humilis

343



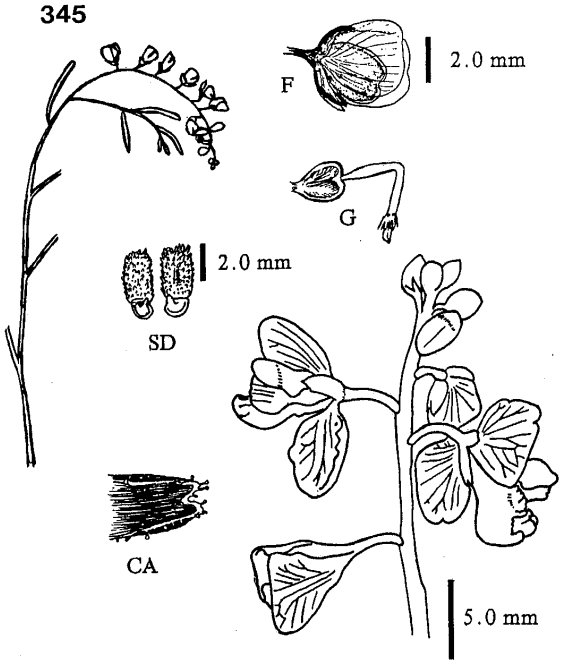
Plantago major

344

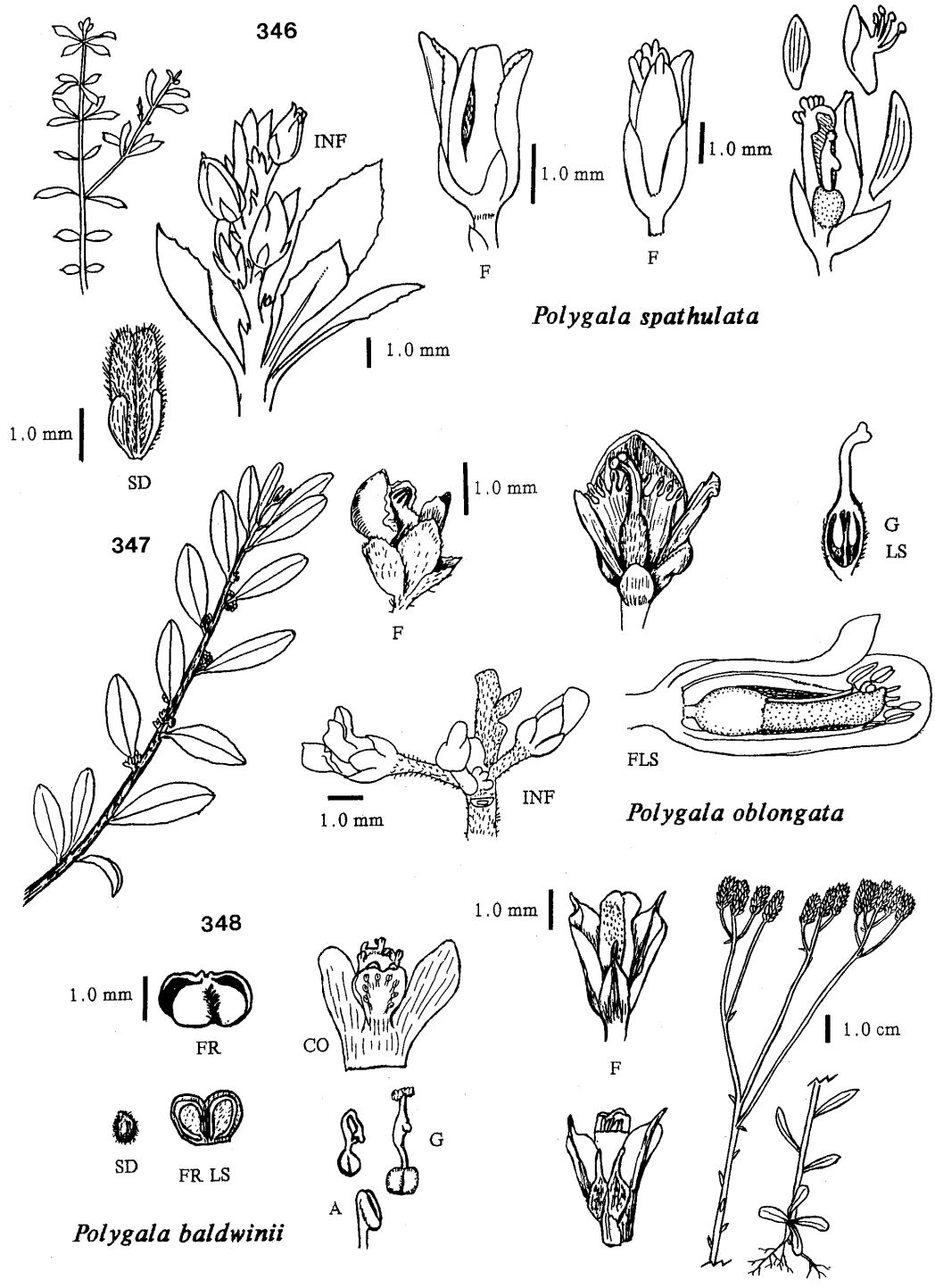


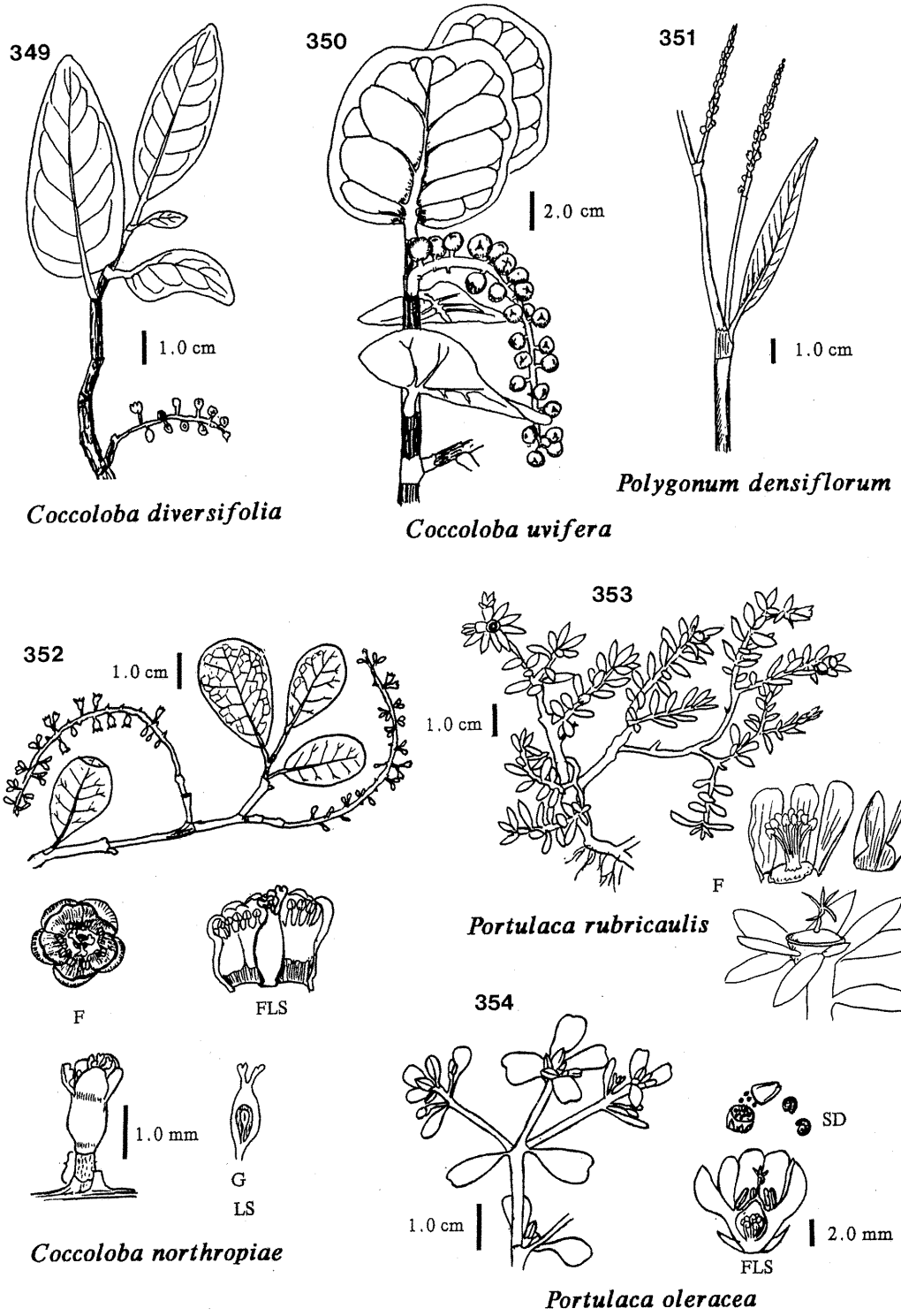
Punica granatum

345



Polygala grandiflora var. angustifolia


346
INF
1.0 mm
F
1.0 mm
F
1.0 mm
SD
Polygala spathulata
347
1.0 mm
F
G
LS
1.0 mm
INF
FLS
Polygala oblongata
348
1.0 mm
FR
CO
1.0 mm
F
1.0 cm
SD
FR LS
G
A
Polygala baldwinii


349
1.0 cm
350
2.0 cm
351
1.0 cm
Polygonum densiflorum
Coccoloba diversifolia
Coccoloba uvifera
352
1.0 cm
353
1.0 cm
F
Portulaca rubricaulis
F
FLS
354
1.0 mm
G
LS
SD
1.0 cm
2.0 mm
FLS
Coccoloba northropiae
Portulaca oleracea

Plantaginaceae. Plantain Family.

***Plantago major* L.** (Greater Plantain). Fig. 343.

Other taxon: ***Plantago virginica* L.**

Polygalaceae. Polygala Family.

1. Small tree; wings not petaloid. ***Polygala oblongata* (Britt.) Blake** [= ***P. penaea* L. ssp. *oblongata* (Britton) Gillis**]. (Polygala). Fig. 347.
1. Herbs; wings petaloid.
    2. Stems erect; racemes not sessile.
        3. The two ventral sepals united, with glandular hairs along the margin; wings green and purple; stamen bundle without a crown. ***Polygala grandiflora* Watt. var. *angustifolia* T. & G.** (Polygala). Fig. 345.
        3. Ventral sepals free, margins entire; wings green and white; stamen bundle with papillose crown, fused to keel. ***Polygala baldwinii* Nutt.** (Polygala). Fig. 348.
    2. Stems trailing; racemes short, sessile. ***Polygala spathulata* Griseb.** (Spatulate Polygala). Fig. 346.

Other taxa: ***Polygala krugii* Chod., *P. northropiana* R. N. Ban.**

Polygonaceae. Buckwheat Family.

1. Trees and shrubs.
    2. Leaves large, round, 7-20 cm broad. ***Coccoloba uvifera* (L.) L.** (Sea-grape). Fig. 350.
    2. Leaves smaller, ovate to elliptic.
        3. Leaves coriaceous, not reticulate-veined. ***Coccoloba diversifolia* Jacq.** (Pigeon-plum). Fig. 349.
        3. Leaves not coriaceous, reticulate veined. ***Coccoloba northropiae* Britton**. (Northrop's Pigeon Plum). Fig. 352.
1. Herbs. ***Polygonum densiflorum* Meissn**. (Dense-flowered Smartweed). Fig. 351.

Other taxa: ***Antigonon leptopus* Hook. & Arm., *Coccoloba krugii* Lindau, *C. tenuifolia* L., *Polygonum punctatum* Ell.**

Portulacaceae. Purslane Family.

1. Leaves subterete. ***Portulaca rubricaulis* Kunth. in H. B. K.** (Brown-seeded Purslane). Fig. 353.
1. Leaves flat. ***Portulaca oleracea* L.** (Purslane). Fig. 354.

Other taxa: ***Portulaca minuta* Correll, *Talinum tringulare* (Jacq.) Willd.**

Primulaceae. Primrose Family

***Samolus ebracteatus* Kunth.** (Larger Water-pimpernel).

Punicaceae. Pomegranate Family.

***Punica granatum* L.** (Pomegranate). Fig. 344.

Ranunculaceae. Crowfoot or Buttercup Family.

***Clematis bahamica* (O. Ktze.) Britt.** (Bahama Virgin Bower).

Other taxon: ***Clematis orbiculata* Correll.**

Rhamnaceae. Buckthorn Family.

1. Fruit dry, separating into nutlets; leaves alternate, not coriaceous; petals present.
   2. Leaves more or less pointed, upper surface not furrowed; young parts with rusty-red hairs. ***Colubrina arborescens* (Mill.) Sarg**. (Common Snake-bark. Bitters. Coffee Colubrina). Fig. 355.
   2. Leaves rounded or blunt at apex, upper surface furrowed along veins. ***Colubrina cubensis* (Jacq.) Brongn. var. *floridana* M. C. Johnson**. (Cuban Snake-bark. Soldierwood). Fig. 356.
1. Fruit a drupe leaves opposite, coriaceous, emarginate; petals none. ***Reynosia septentrionalis* Urban**. (Common Reynosia. Darling Plum) Fig. 357.

Other taxa: ***Auerodendron northropianum* (Urb.) Urb. [= *Reynosia northropiana* Urb.], *Colubrina eliptica* (Sw.) Briz. & Stern, *Gouania lupuloides* (L.) Urb., *Krugiodendron ferreum* (Vahl.) Urb., *Ziziphus mauritiana* Lam.**

Rhizophoraceae. Red Mangrove Family.

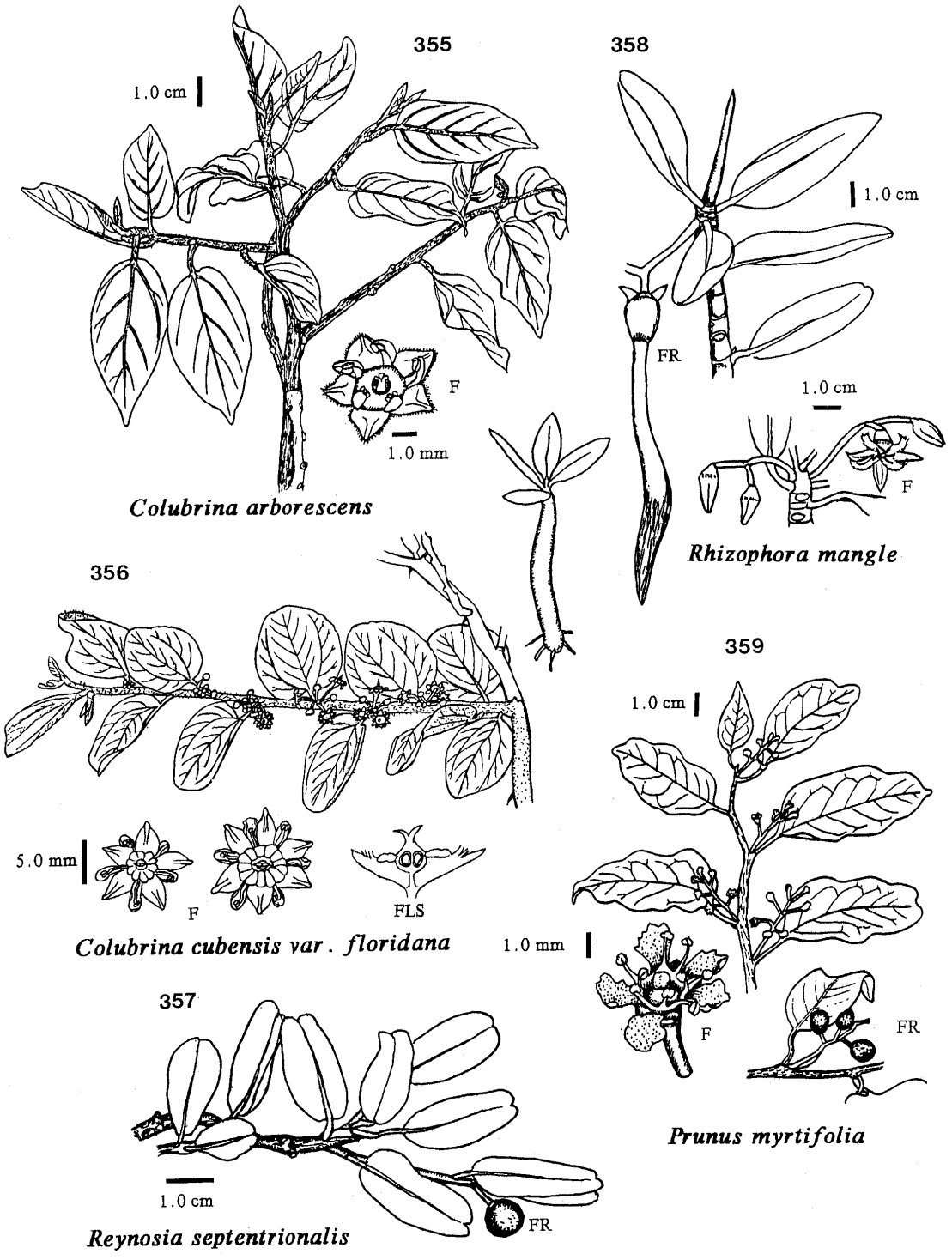
***Rhizophora mangle* L.** (Red Mangrove). Fig. 358.

Rosaceae. Rose Family.

***Prunus myrtifolia* (L.) Urban.** (West Indian Laurel-cherry). Fig. 359.

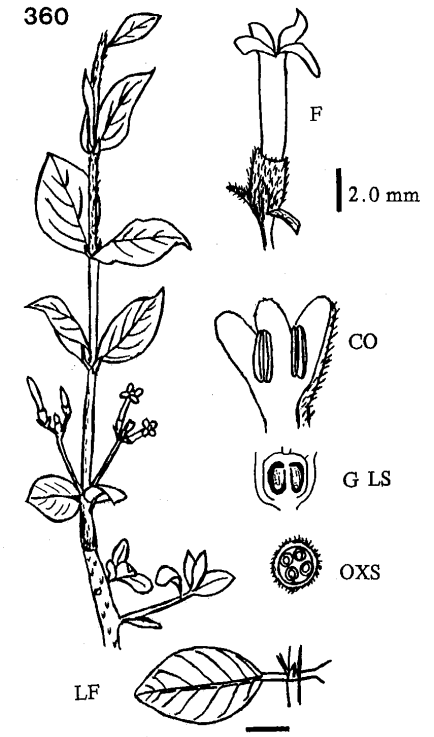
Rubiaceae. Madder Family.

1. Herbs or low, straggling shrubs.
   2. Stipules relatively small, inconspicuous.
      3. Fruit a drupe; corolla tube long, pink or white. ***Ernodia littoralis* Sw. vars. *littoralis* and *angusta* (Small) R. W. Long.** (Common Ernodea). Fig. 367.
      3. Fruit a capsule of 2 carpels, setulose. ***Spermacoce confusa* Rendle**. (Spermacoce). Fig. 377.
   2. Stipules foliaceous, resembling the leaves-. ***Galium hispidulum* Michx.** (Bedstraw). Fig. 368.
1. Shrubs or Trees.
   4. Locules with several or many ovules or seeds.
      5. Leaves small, fleshy, imbricated, connate, scaly stipules persistent; flowers orange. ***Rhachicallis americana* (Jacq.) O. Ktze.** (Wild Thyme. Hog-bush. Sandfly-bush. Saltwater-bush). Fig. 373.
      5. Leaves not small and fleshy; flowers white.

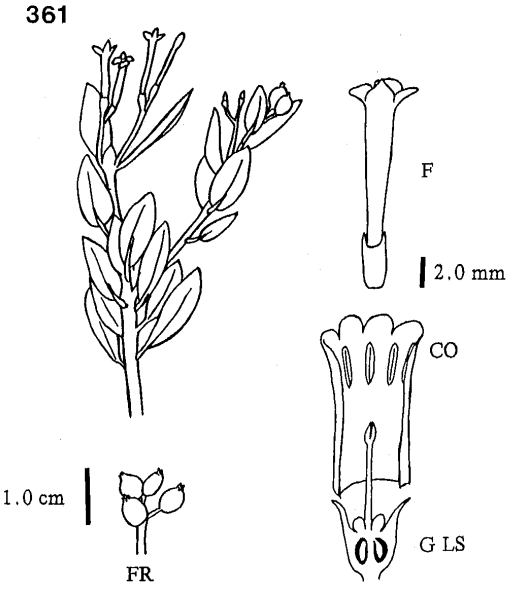

355
1.0 cm
F
1.0 mm
Colubrina arborescens
358
1.0 cm
FR
1.0 cm
F
Rhizophora mangle
356
5.0 mm
F
FLS
Colubrina cubensis var. floridana
359
1.0 cm
1.0 mm
F
FR
Prunus myrtifolia
357
1.0 cm
FR
Reynosia septentrionalis

6. Shrub unarmed; corolla to 2.0 cm long; flowers in cymes; berries 5-7 cm long. ***Casasia clusiifolia* (Jacq.) Urban**. (Seven-year Apple). Fig. 363.
6. Shrub armed; corolla shorter; flowers solitary, axillary.
7. Corolla lobes 5. ***Randia aculeata* L.** (Steelwood. Box Briar). Fig. 374.
7. Corolla lobes 4.
8. Leaves ovate-elliptic; flowers large, drooping. *Catesbaea spinosa* L. (Large-flowered Catesbaea. Prickly Apple. Spanish Guava).
8. Leaves oblanceolate; flowers < 1.0 cm long, sessile in axils. ***Catesbaea parviflora* var. *septentrionalis* Krug & Urban ex Urban.** (Small-flowered Catesbaea). Fig. 362.

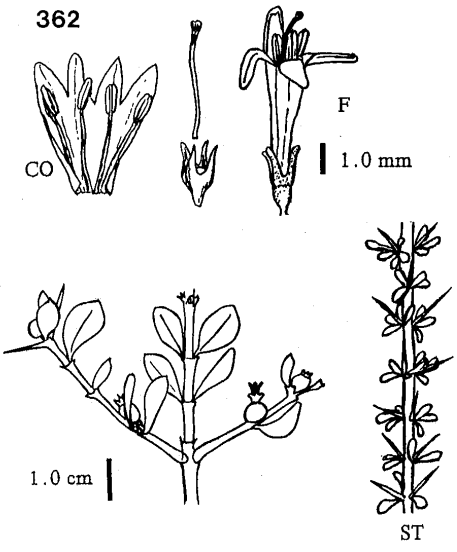
4. Locules with a single ovule or seed.
9. Ovule not pendulous.
10. Leaves revolute-margined, linear, striate; flowers small, white or pink; maritime shrub. ***Strumpfia maritima* Jacq.** (Strumpfia). Fig. 376.
10. Leaves, etc. not as above.
11. Plant glabrous; calyx lobes very shallow; flowers clustered at end of stalk. ***Psychotria ligustrifolia* (Northrop) Millsp**. (Smooth Wild Coffee), Fig. 370.
11. Plant pubescent; calyx lobes prominent; flowers in panicles. ***Psychotria pubescens* Sw.** (Hairy Wild Coffee). Fig. 371.
9. Ovule pendulous.
12. Filaments fused to corolla tube; calyx truncate
13. Leaves scabrous; corolla lobes fingerlike, recurving, irregular in number. ***Guettarda scabra* (L.) Vent.** (Common Velvet-Seed. Velvet-berry). Fig. 369.
13. Leaves not scabrous.
14. Tree; leaves thin, 4 cm or more long; corolla lobes 4-5. ***Antirhea lucida* (Sw.) Hook f. in Benth et Hook. f.** (Shining Antirhea). Fig. 360.
14. Shrub; leaves thick, to 3 cm long. ***Antirhea myrtifolia* (Griseb.) Urb.** (Myrtle-leaved Antirhea). Fig. 361.
12. Filaments not fused to corolla tube.
15. Low shrub, usually spiny; leaves 5 mm long or less. ***Scolosanthus bahamensis* Britt.** (Bahama Scol.), Fig. 375.
15. Larger shrubs, not spiny; leaves > 5 mm long.
16. Corolla lobed to junction with calyx; sylleptic flower-bearing branches. ***Erithalis fruticosa* L. var. *fruticosa*** and var. ***odorifera* (Jacq.) Griseb.** (Black Torch). Fig. 366.
16. Corolla not lobed to calyx; leaves with inconspicuous lateral venation.
17. Stamens exerted; filaments distinct; resiniferous shrub or tree. ***Phialanthus myrtilloides* Griseb.** (Candle-wood. Myrtle Phialanthus). Illustration 372 is an undetermined species of ***Phialanthus***.



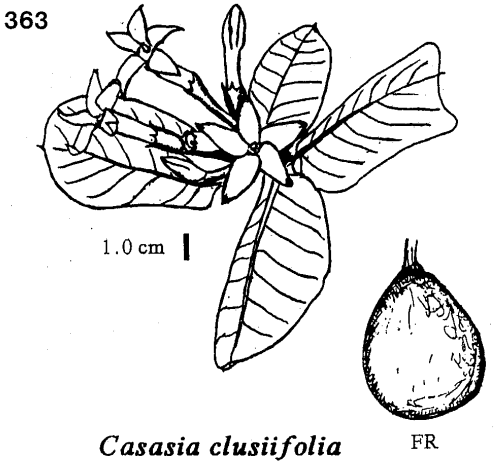
Antirhea lucida



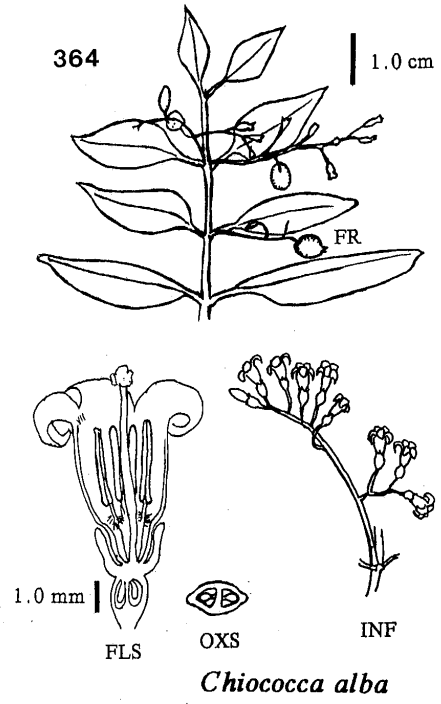
Antirhea myrtifolia



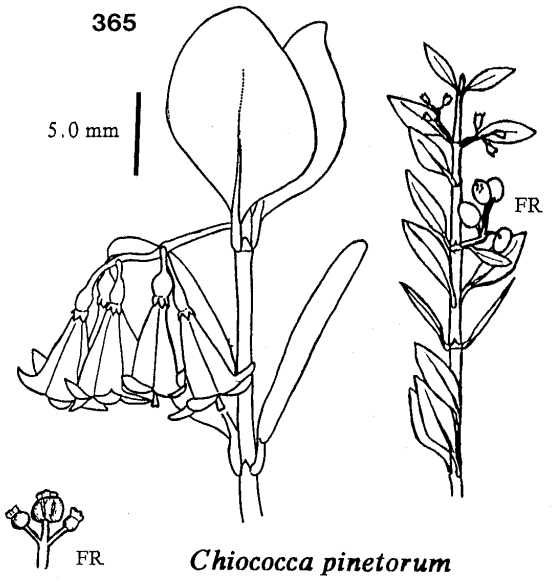
Catesbaea parviflora var. septentrionalis



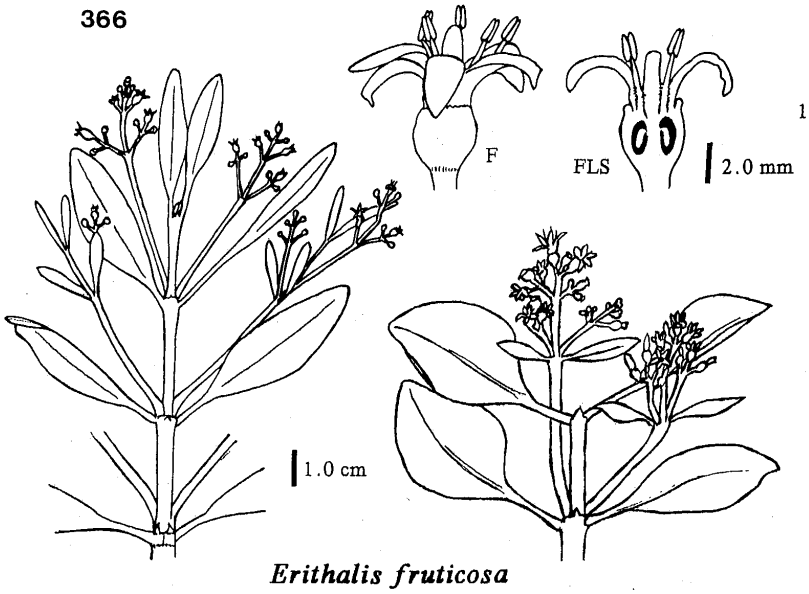
Casasia clusiifolia



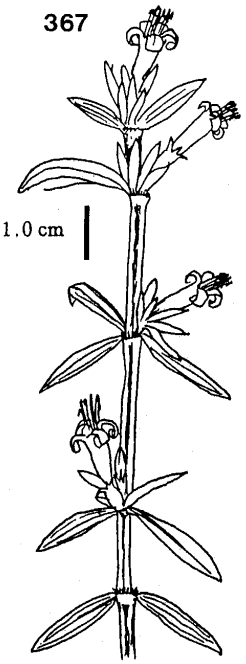
Chiococca alba



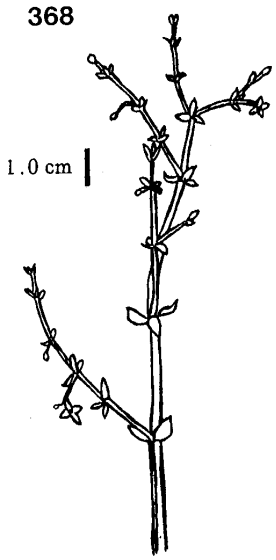
Chiococca pinetorum



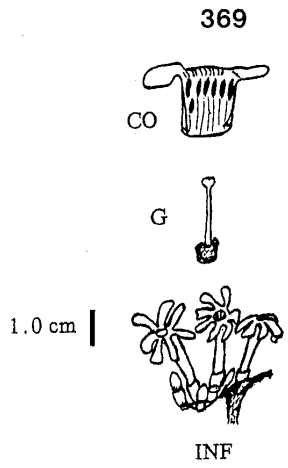
Erithalis fruticosa

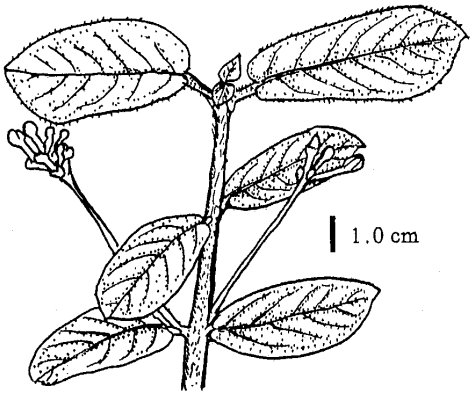


Ernodia littoralis

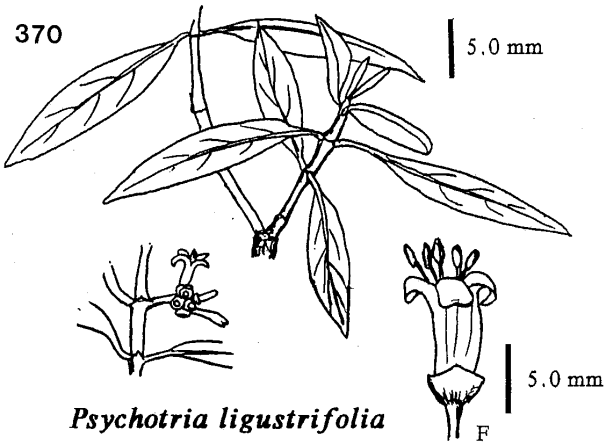


Galium hispidulum

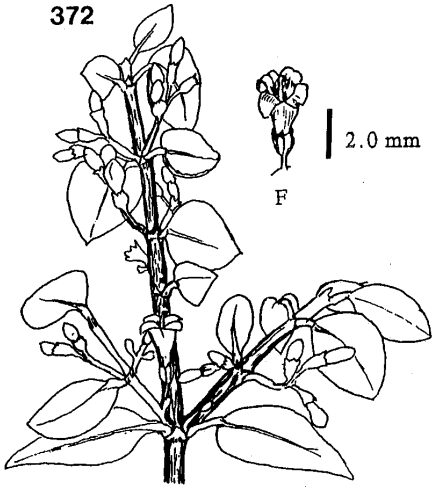




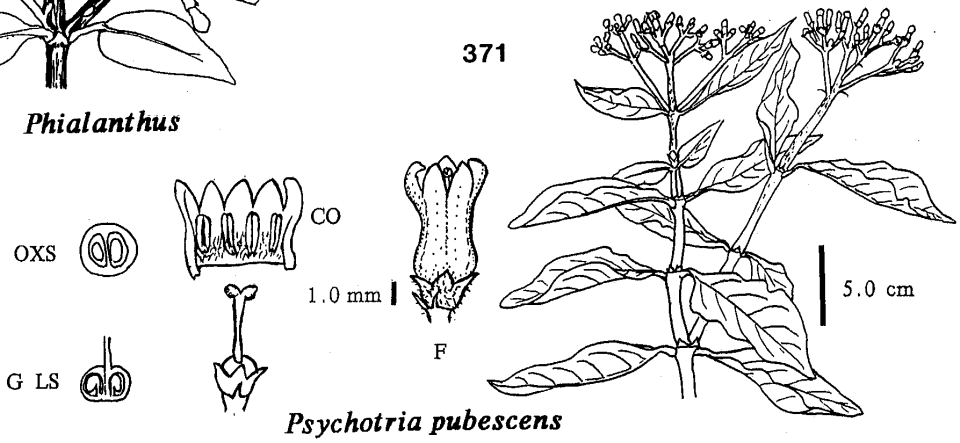
Guettarda scabra



Psychotria ligustrifolia

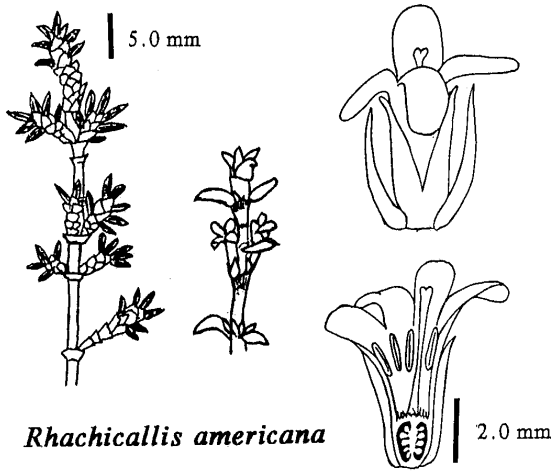


Phialanthus



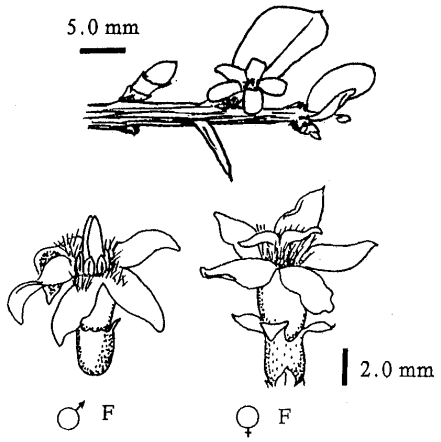
Psychotria pubescens

373



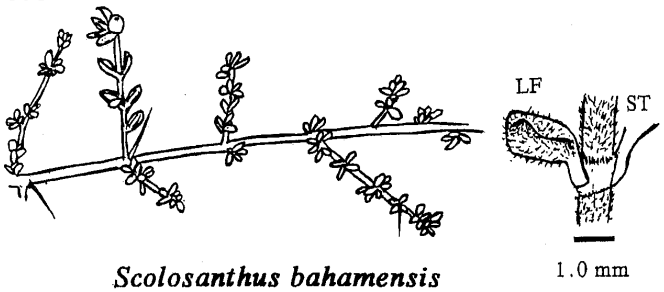
Rhachicallis americana

374



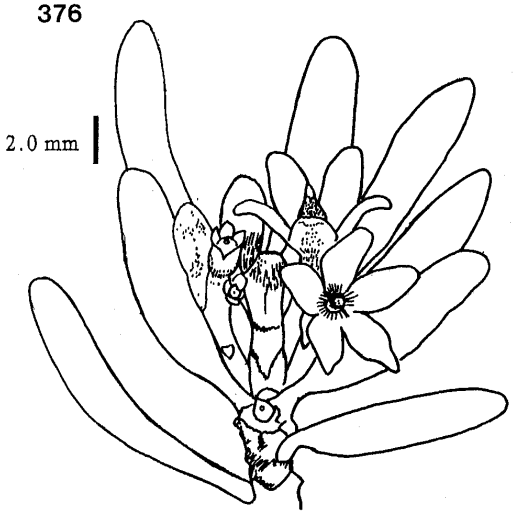
Randia aculeata

375



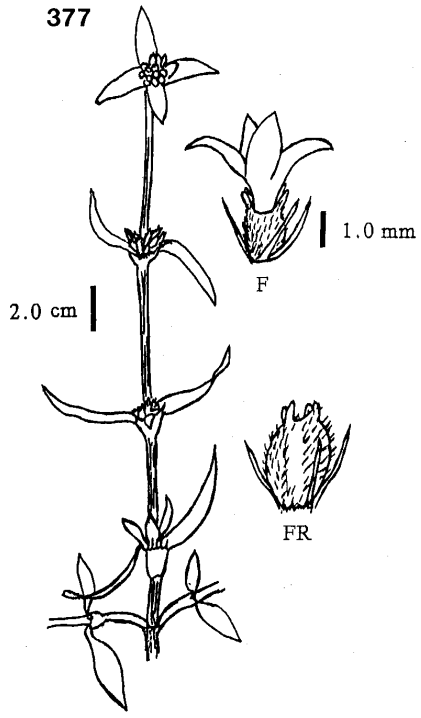
Scolosanthus bahamensis

376



Strumpfia maritima

377



Spermacoce confusa

17. Stamens included; filaments connate at base; woody vines or shrubs; drupe white, flattened.
    18. Corolla greenish-white to yellow; leaves bright green. ***Chiococca alba* (L.) Hitchc.** (West Indian Snowberry. Snakeroot. Pissabed, Rat Root). Fig. 364.
    18. Corolla white; leaves dark green ***Chiococca parvifolia* Wullschl. ex Griseb.** [= ***C. pinetorum* Britton**]. (Pineland Snowberry). Fig. 365.

Other taxa: ***Borreria laevis* (Lam.) Griseb., *B. verticillata* (L.) G. F. W. Mey., *Ernodea cokeri* Britt. ex Coker, *E. millspaughii* Britt., *E. taylori* Britt., *Exostema caribaeum* (Jacq.) Schult., *Guettarda elliptica* Sw., *Morida citrifolia* L., *Psychotria nervosa* Sw.**

Rutaceae. Citrus Family.

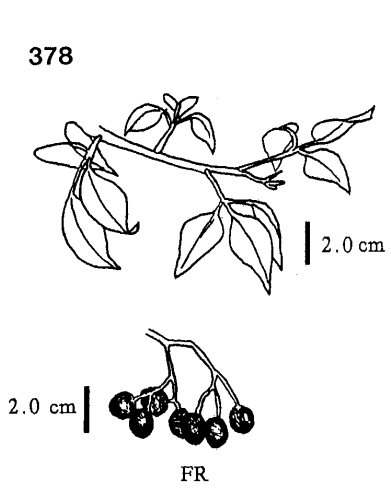
1. Leaves simple or trifoliate.
    2. Leaves trifoliate, petiole not winged; twigs unarmed. ***Amyris elemifera* L.** (White Torch. Torchwood). Fig. 378.
    2. Leaves simple; petiole winged (usually); twigs usually armed. ***Citrus***. *Citrus* is cultivated and some species, e. g. lemon and lime, may escape and persist. The following are also encountered: ***Citrus aurantifolia* (Christm.) Swingle** (Lime, Fig. 379), ***C. aurantium* L.** (Sevile or Sour Orange), C. *limon* (L.) Burm f. (Lemon), ***C.* X *paradisi* Macf.** (Grapefruit), and ***C. sinensis* (L.) Osbeck** (sweet orange).
1. Leaves pinnately compound; stem and/or leaves armed.
    3. Leaf rachis winged, margins crenate; twigs with spines. ***Zanthoxylum fagara* (L.) Sarg.** (Wild Lime. Satin-wood). Fig. 380.
    3. Leaf rachis not winged; margins entire; twigs and leaves with spines. ***Zanthoxylum coriaceum* A. Rich**. (Hercules' Club). Fig. 381.

Other taxa: ***Zanthoxylum cubense* P. Wils., *Z. flavum* Vahl.**

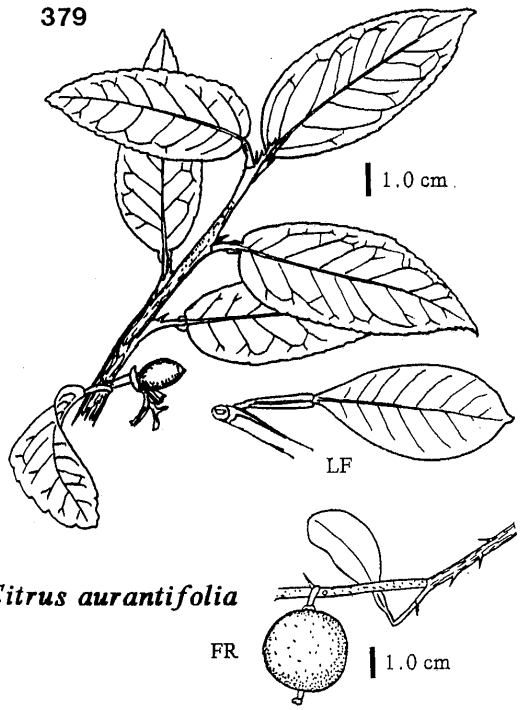
Sapindaceae. Soapberry Family.

1. Vines climbing with tendrils.
    2. Leaflets reticulate-veined, few-toothed or entire. ***Serjania subdentata* Juss. ex Poir.** (Fowl-foot). Fig; 382.
    2. Leaflets not reticulate-veined, dentate. ***Serjania diversifolia* (Jacq.) Radlk.** (Fowl-foot). Fig. 383.
1. Shrubs and trees.
    3. Fruit samaroid; leaves trifoliate. ***Thouinia discolor* Griseb**. (Quicksilver Bush. Naked-wood. Hard-bark). Fig. 386.
    3. Fruit a drupe; leaves evenly pinnate.
        4. Leaflets elliptic-ovate; inflorescence spicate or racemose-paniculate. ***Melicoccus bijugatus* (L.) Jacq**. (Genip). Fig. 385.
        4. Leaflets lanceolate; inflorescence corymbose-paniculate. ***Exothea paniculata* (Juss.) Radlk.** (Butter Bough), Fig. 384.

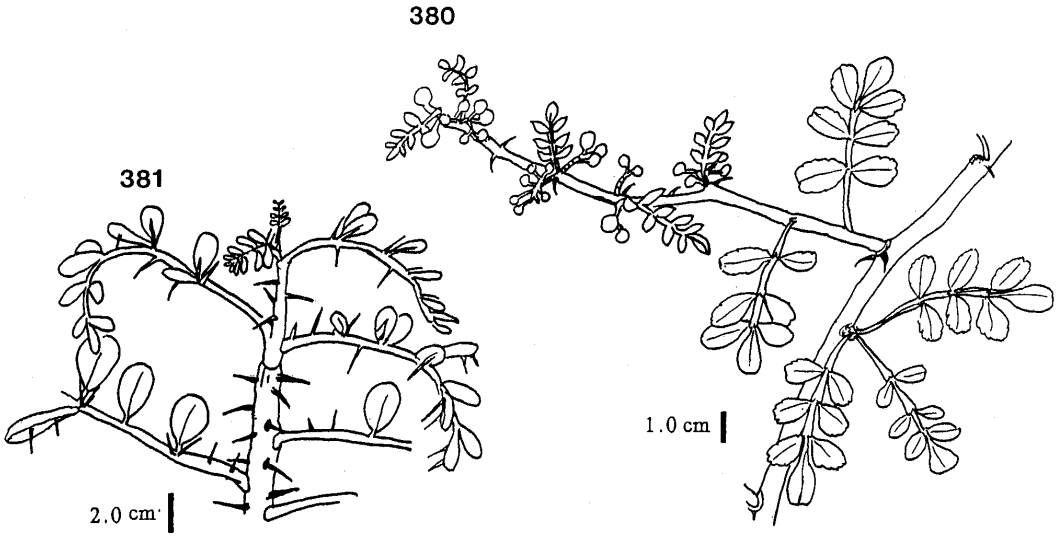
Other taxon: ***Dodonaea ehrengergii* Schlect., [= *Dodonaea viscosa* Hitch.], *Hypelate trifoliata* Sw.**



Amyris elemifera

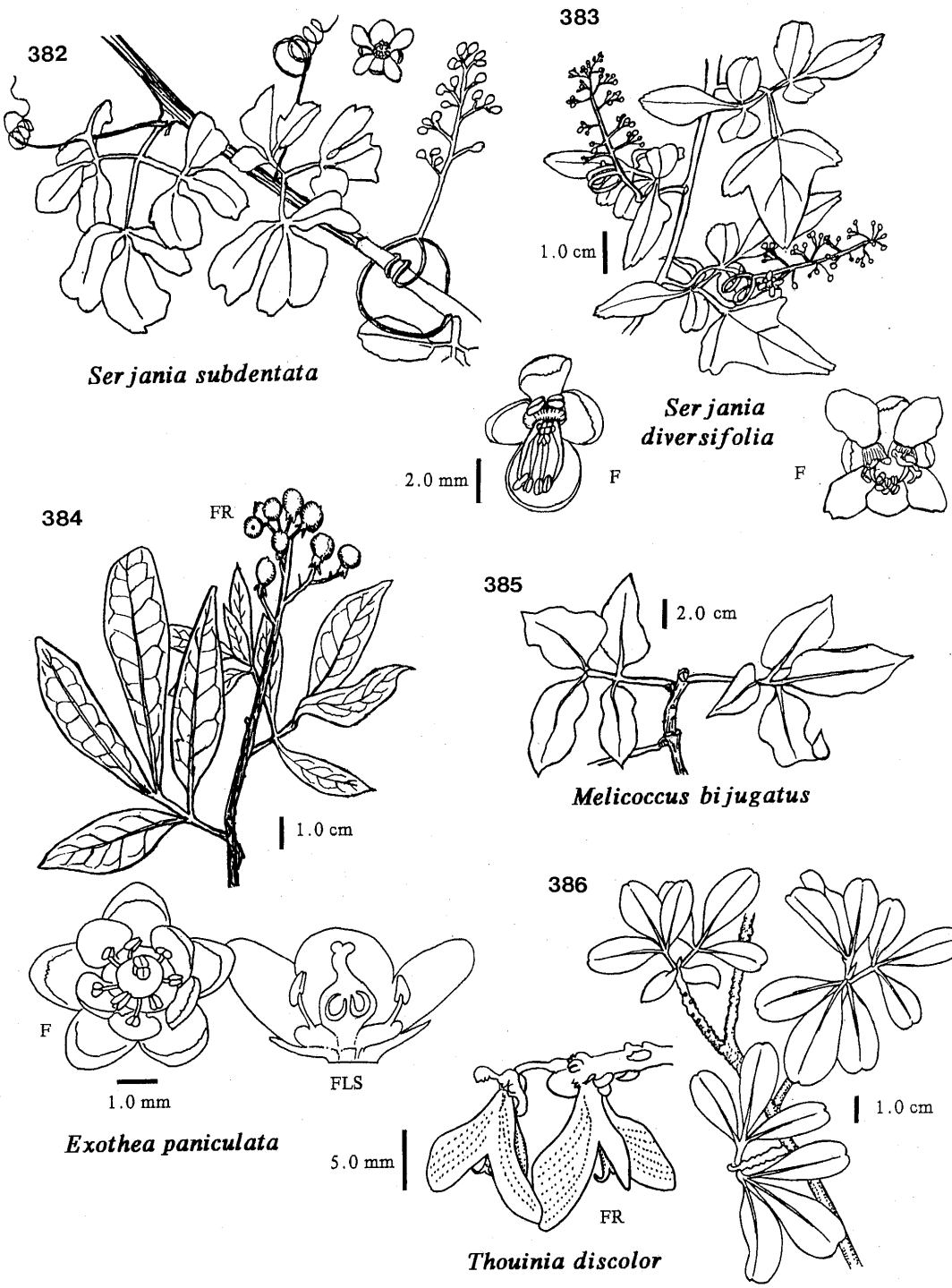


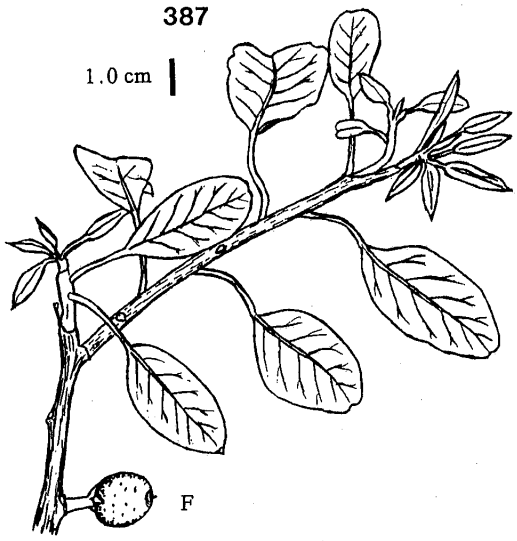
Citrus aurantifolia



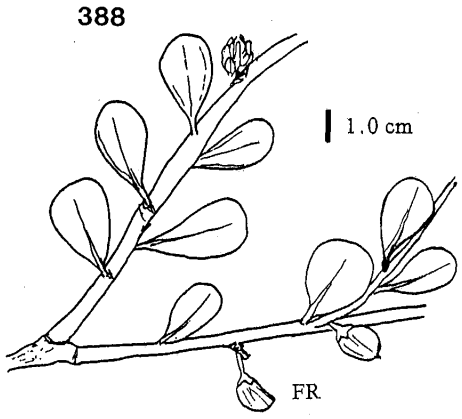
Zanthoxylum coriaceum

Zanthoxylum fagara

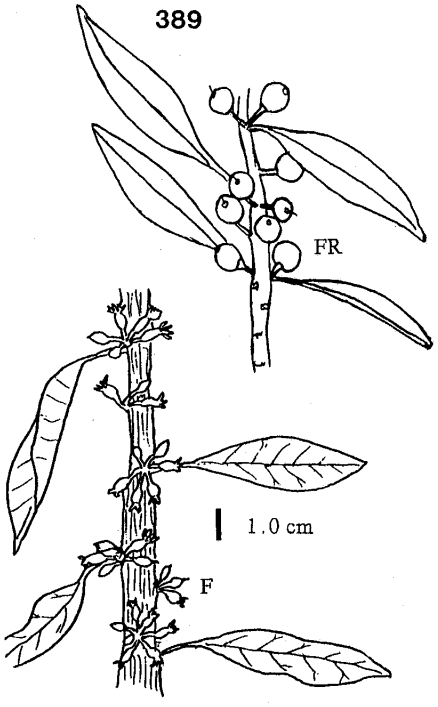

382
Serjania subdentata
383
1.0 cm
Serjania diversifolia
2.0 mm
F
F
384
FR
1.0 cm
385
2.0 cm
Melicoccus bijugatus
386
1.0 cm
F
1.0 mm
FLS
Exothea paniculata
5.0 mm
FR
Thouinia discolor



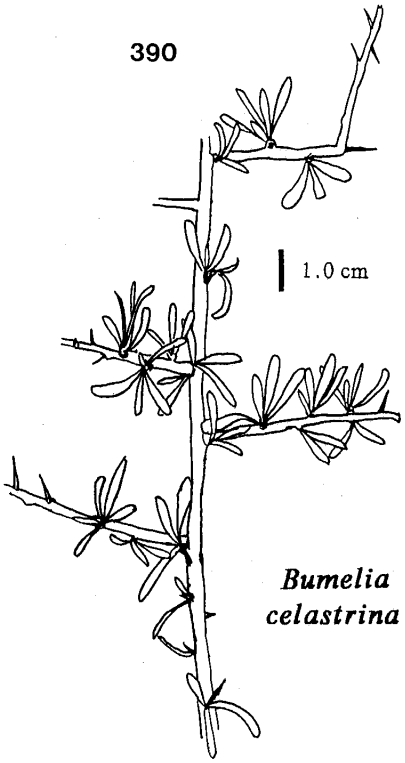
Mastichodendron foetidissimum



Bumelia americana



Bumelia salicifolia



Bumelia celastrina

Sapotaceae. Sapodilla Family.

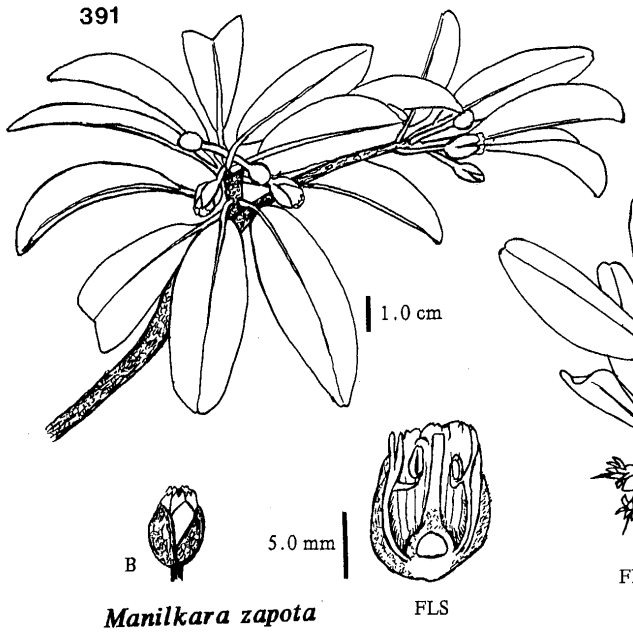
1. Calyx 4-5 parted.
    2. Large tree; petiole > 4.0 cm long; fruit an orange or yellow drupe, to 3.0 cm long. ***Mastichodendron foetidissimum* (Jacq.) H. J. Lam.** (Mastic Ironwood. Mastic-bully). Fig. 387.
    2. Small trees or shrubs; petiole < 4.0 cm; fruit smaller.
        3. Shoots not spiny; leaves obovate or lanceolate.
            4. Leaves obovate, < 6.0 cm long; ovary pubescent. ***Bumelia americana* (Mill.) Stearn**. (Bumelia. Milkberry. Wild Saffron). Fig. 388.
            4. Leaves lanceolate;.. up to 7.0 cm long; ovary glabrous. ***Bumelia salicifolia* (L.) Sw.** [= ***Dipholis salicifolia* (L.) A. DC**.]. (Bustic. Wild Cassada. Cassada Wood). Fig. 389.
        3. Shoots spiny; leaves narrow, linear to spatulate. ***Bumelia celastrina* Kunth in H. B. K**. (Saffron Plum). Fig. 390.
1. Calyx 6-12 parted.
    5. Leaves> 5.0 cm long, apex pointed; fruit 5-8 cm in diameter; corolla lobes without appendages. ***Manilkara zapota* (L.) P. van Royen.** (Sapodilla. Dilly]. Fig. 391.
    5. Leaves < 5.0 cm long, apex often notched; fruit ca. 3.0 cm in diameter; corolla lobes with hoodlike appendages. ***Manilkara bahamensis* (Baker) Lam. & Meeuse**. (Wild Dilly]. Fig. 392.

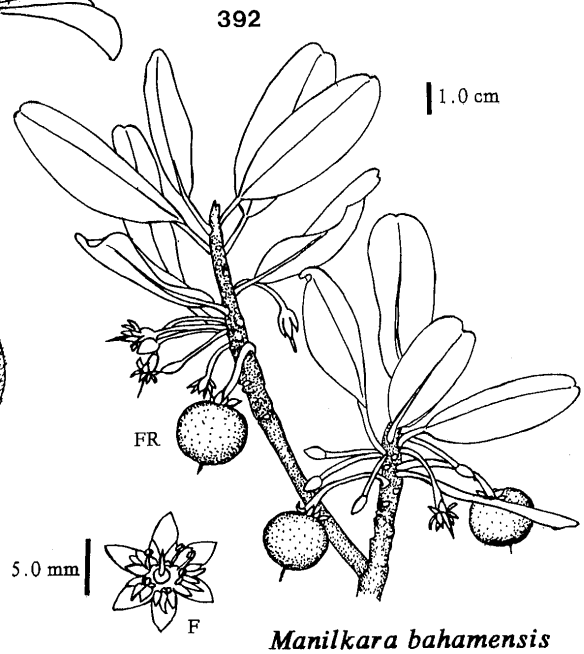
Other taxa: ***Bumelia glomerata* Griseb., *Chrysophyllum oliviforme* L., *Pouteria campechiana* (Kunth) Baehni, *P. dominigensis* (Gaertn. f.) Baehni.**

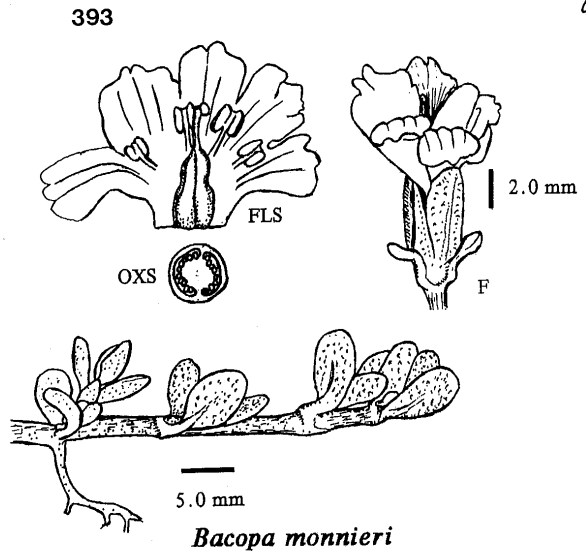
Scrophulariaceae. Figwort Family.

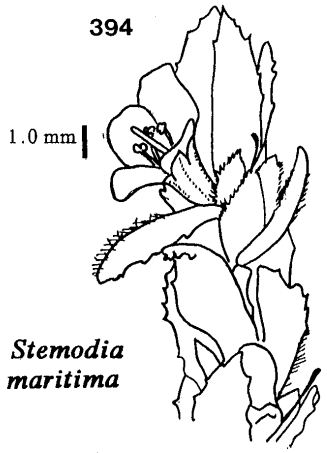
1. Low, creeping, fleshy herbs; flowers solitary, axillary. ***Bacopa monnieri* (L.) Pennell**. (Monnier's Hedge Hyssop). Fig. 393.
1. Erect herbs.
    2. Leaves distinctly serrate, lanceolate; plant glandular pubescent and odorous; flowers blue or purple; not parasitic. ***Stemodia maritima* L.** (Coast StemodiaL Fig. 394.
    2. Leaves entire or minutely serrate, linear; not glandular pubescent; flowers pink; root parasites.
        3. Corolla salverform; capsule enclosed by the calyx. ***Buchnera floridana* Gandoger**. (Bluehearts). Fig. 395.
        3. Corolla campanulate or funnelform; capsule not enclosed by calyx. ***Agalinis harperi* Pennell.** (Agalinis. False Foxglove). Fig. 396.

Other taxa: ***Agalinis maritima* (Raf.) Raf. [= *A. spiciflora* (Engelm.) Penn.], *Capraria biflora* L., *Hemianthus callitrichoides* Griseb., *Mecardonia vandellioides* (Kunth) Penn., *Russelia equisetiformis* Schlect. & Cham.**


391
1.0 cm
B
5.0 mm
FLS
Manilkara zapota


392
1.0 cm
FR
5.0 mm
F
Manilkara bahamensis


393
FLS
OXS
2.0 mm
F
5.0 mm
Bacopa monnieri


394
1.0 mm
Stemodia maritima

Simaroubaceae. Quassia, Bitterbark Family.

1. Leaflets more than 10.
   2. Leaves long, > 30 cm; leaflets 10-18, coriaceous, shiny above; fruit a fleshy drupe; carpel free below, one-ovulate. ***Simarouba glauca*** **DC.** (Paradise Tree). Fig. 397.
   2. Leaves shorter; leaflets 15-40; fruit a dry samara. ***Alvaradoa amorphoides*** **Liebm. ssp.** ***psilophylla*** **(Urb.) Cronq.** (Alvaradoa). Fig. 398.
1. Leaflets few (5-9), arranged alternately or oppositely; drupes with 1-2 seeds. ***Picramnia pentandra*** **Sw**. (Bitterbark. Snake-root. Bitter Bush). Fig. 399.

Solanaceae. Potato Family.

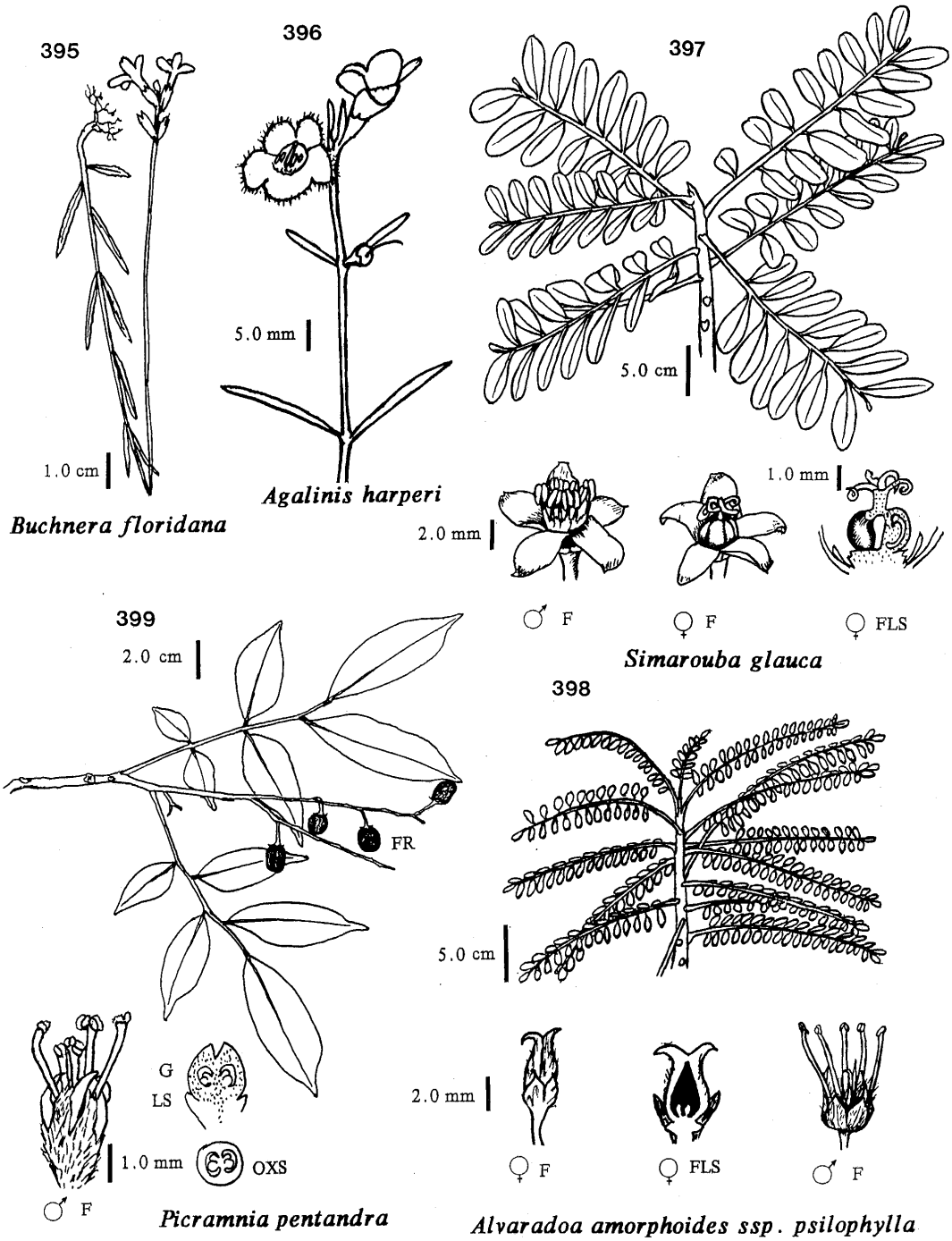
1. Corolla plicate; stamens fused into a cone.
   2. Plant not prickly.
      3. Plant with dense stellate pubescence. ***Solanum erianthum*** **D. Don.** (Wild Tobacco. Salve-bush). Fig. 400.
      3. Plant glabrous or with simple hairs. ***Solanum americanum*** **Mill**. (Ink-berry. Gooma-bush]. Fig. 401.
   2. Plant prickly. ***Solanum bahamense*** **L.** (Bahama Solanum. Canker-berry). Fig. 402.
1. Corolla rotate (not plicate); stamens not fused. ***Capsicum annuum*** **L. var.** ***aviculare*** **(Dierb.) D' Arcy & Eshbaugh.** Fig. 403. Cultivated peppers include: ***C. baccatum*** **L.,** ***C. frutescens*** **L.**, and ***C. chinense*** **Jacq**.

Other taxa: ***Physalis angulata*** **L.,** ***P. pubescens*** **L.,** ***Cestrum bahamense*** **Britt.,** ***Datura inoxia*** **Mill.,** ***D. stramonium*** **L.,** ***Lycopersicon esculentum*** **Mill.,** ***Nicotiana tabacum*** **L.,** ***Solanum ciliatum*** **Lam. [= S.** ***aculeatissimum*** **Jacq.].**

Sterculiaceae. Chocolate Family.

1. Stellate-canescent shrubs; leaves entire; style at least twice the length of the corolla; fruit coiled. ***Helicteres jamaicensis*** **Jacq**. (Cow Bush. Salz-bush. Blind Eye-bush). Fig. 404.
1. Stellate shrubs or herbs; leaves serrate; style shorter than corolla; capsule not coiled.
   2. Gynoecium of a single carpel; filaments fused and free from corolla most of their length; foliage bronze.***Waltheria bahamensis*** **Britt**. (Bahama Waltheria]. Fig. 405.
   2. Gynoecium of 5 united carpels; filaments fused to corolla 1/2 their length; foliage not bronze. ***Melochia tomentosa*** **L.** (Velvety Melochia). Fig. 406.

Other taxa: ***Helicteres semitriloba*** **Bertero ex DC.,** ***H. trapezifolia*** **A. Rich.,** ***Melochia pyramidata*** **L.,** ***Waltheria indica*** **L.**



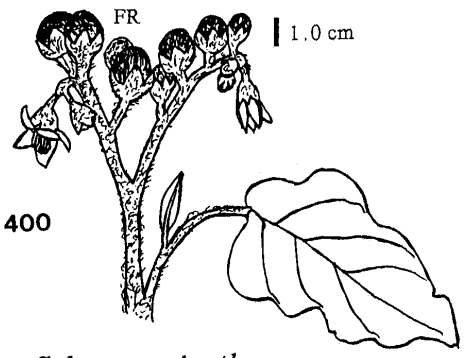
Buchnera floridana

Agalinis harperi

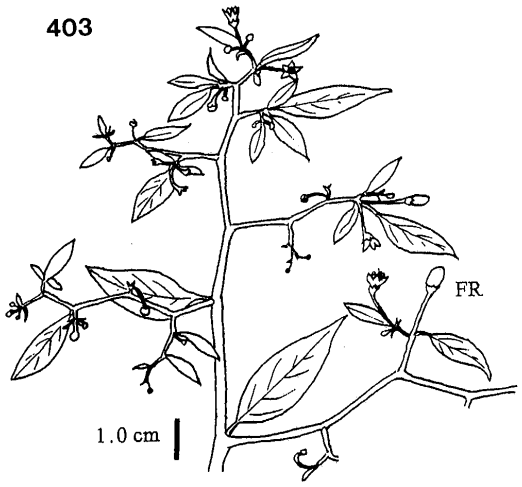
Simarouba glauca

Picramnia pentandra

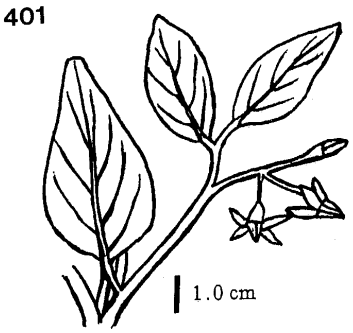
Alvaradoa amorphoides ssp. psilophylla



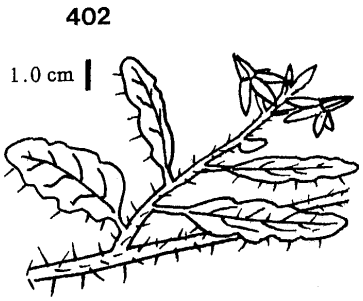
Solanum erianthum



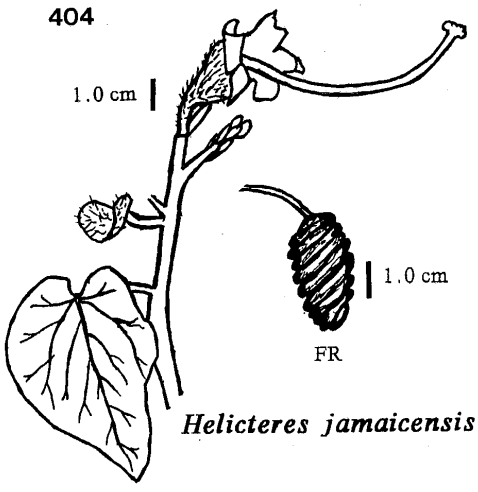
Capsicum annuum var. aviculare



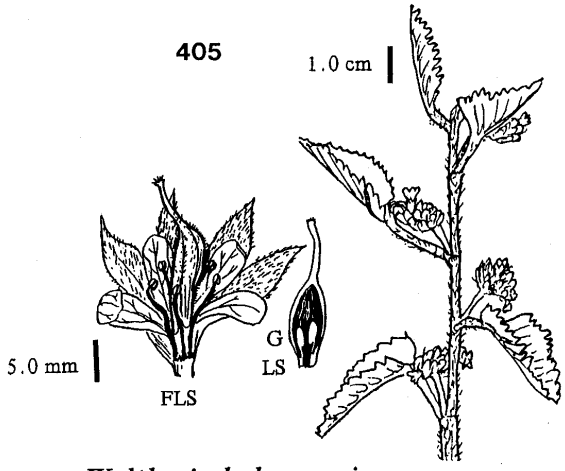
Solanum americanum



Solanum bahamense



Helicteres jamaicensis



Waltheria bahamensis

Surianaceae. Bay Cedar Family.

***Suriana maritima* L.** (Bay Cedar. Tassel Plant). Fig. 407.

Theophrastaceae. Joewood Family.

***Jacquinia keyensis* Mez. in Urb**. (Joewood. Joe-bush. Ironwood). Fig. 408.

Tiliaceae. Linden Family.

***Corchorus hirsutus* L.** (Woolly Corchorus. Mallet. Jack Switch), Fig. 410.

Other taxa: ***Corchorus olitorius* L., C. *siliquosus* L.**

Turneraceae. Turnera Family.

***Turnera ulmifolia* L.** (Buttercups. Yellow Alder). Fig. 409.

Other taxa: ***Piriqueta caroliniana* (Walt.) Urb., *Turnera diffusa* Willd.**

Ulmaceae. Elm Family.

***Trema lamarkianum* (Roem. & Schult.) Blume.** (Lamark's Trema. Pain-in-the-back). Fig. 411.

Other taxon: ***Celtis iguanae* (Jacq.) Sarg.**

Umbelliferae [= Apiaceae]. Carrot Family.

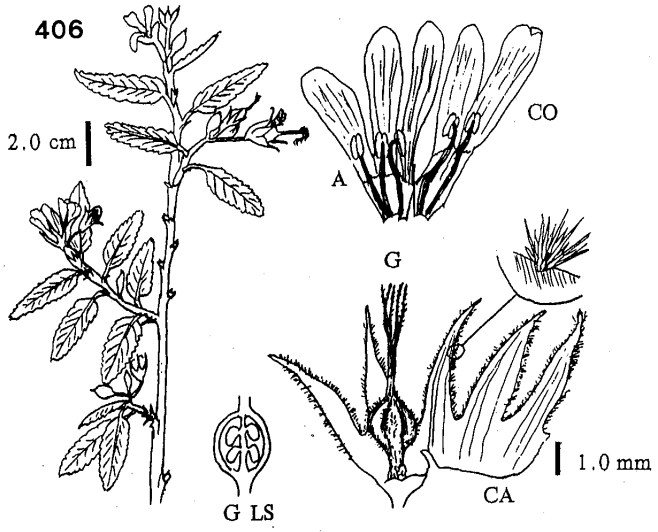
1. Flowers borne in heads. ***Centella asiatica* (L.) Urban in Mart**. (Marsh Pennywort), Fig. 412.
1. Flowers borne in compound umbels. ***Anethum graveolens* L.** (Dill). Fig. 414.

Other taxa: ***Hydrocotyle umbellata* L., *H. verticillata* Thunb.**

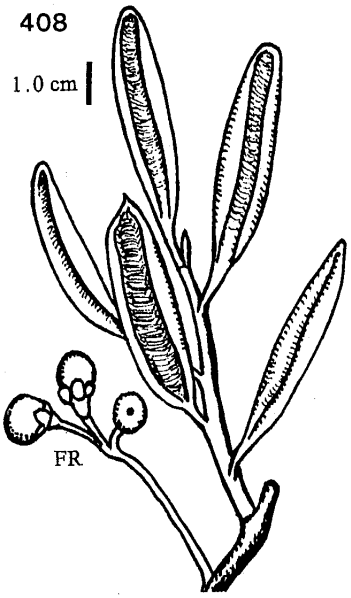
Urticaceae. Nettle Family.

***Pilea microphylla* (L.) Liebm.** (Lace Plant), Fig. 413.

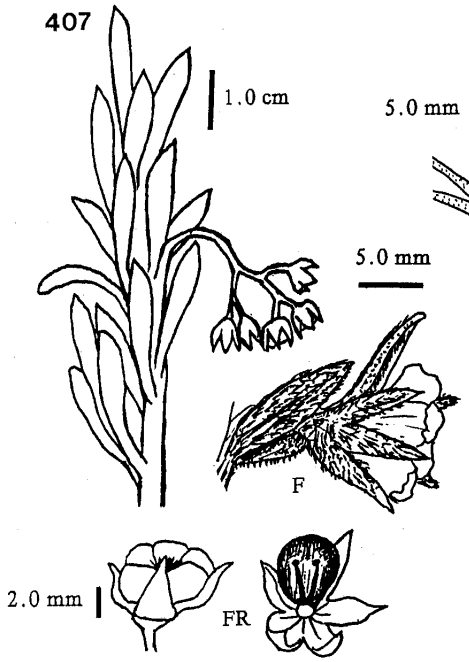
Other taxa: ***Pilea herniarioides* (Sw.) Wedd., *P. tenerrima* Miquel**.



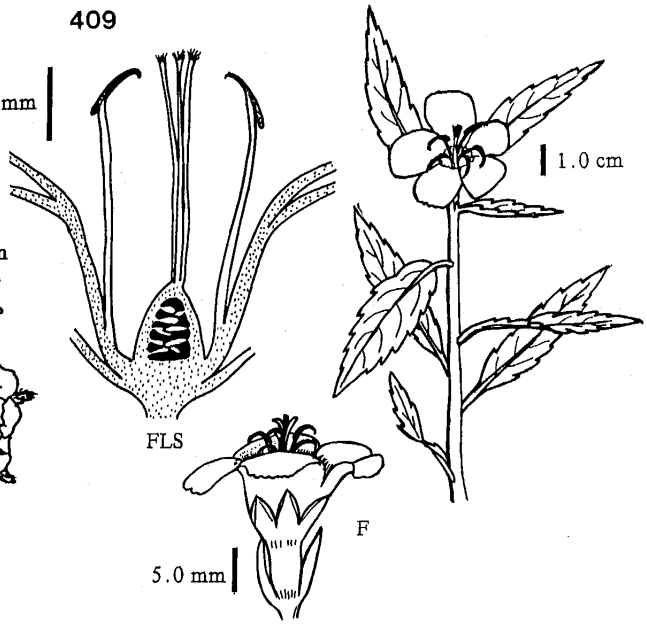
Melochia tomentosa



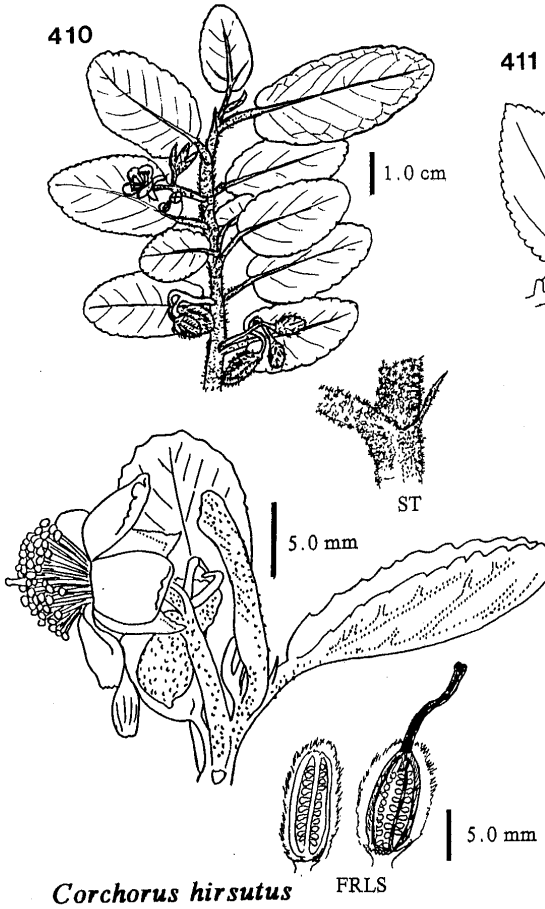
Jacquinia keyensis



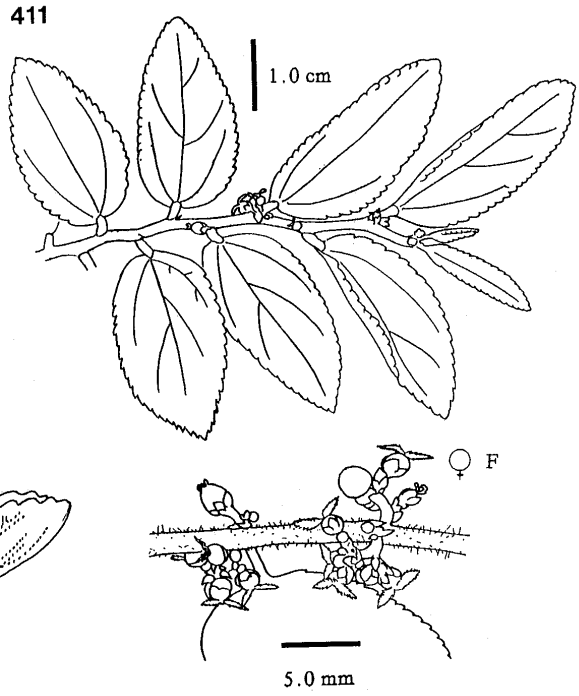
Suriana maritima



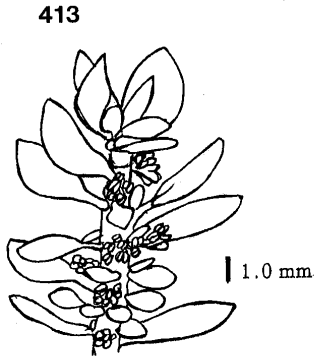
Turnera ulmifolia



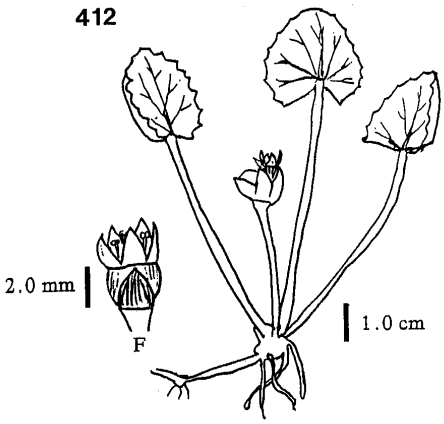
Corchorus hirsutus



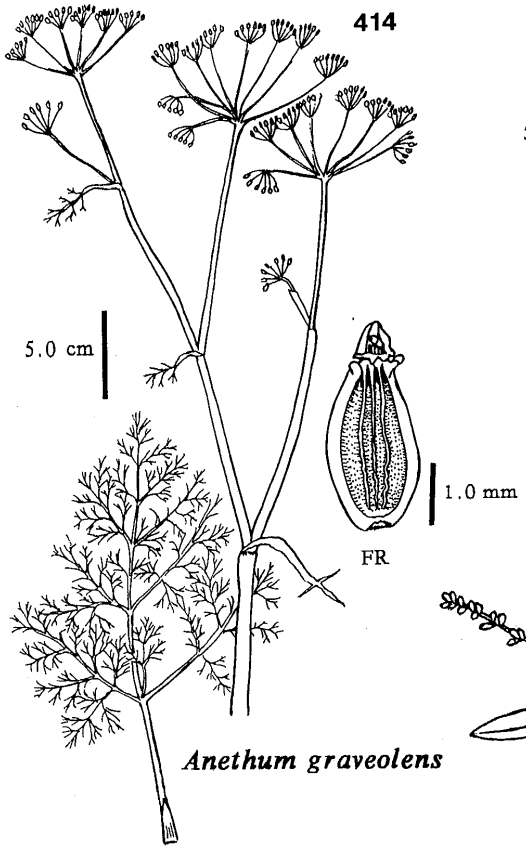
Trema lamarkianum



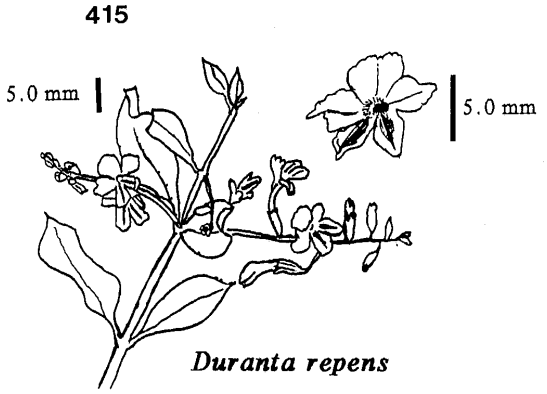
Pilea microphylla



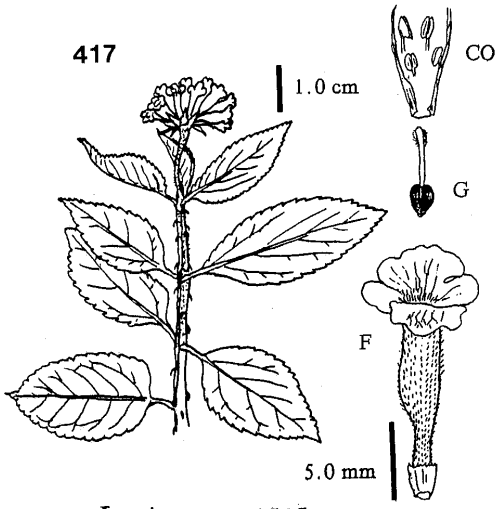
Centella asiatica



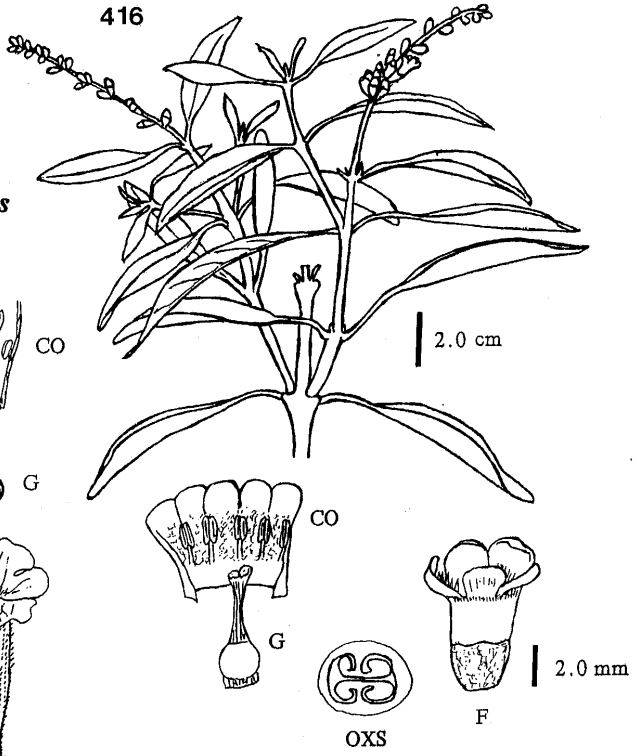
Anethum graveolens



Duranta repens



Lantana camara

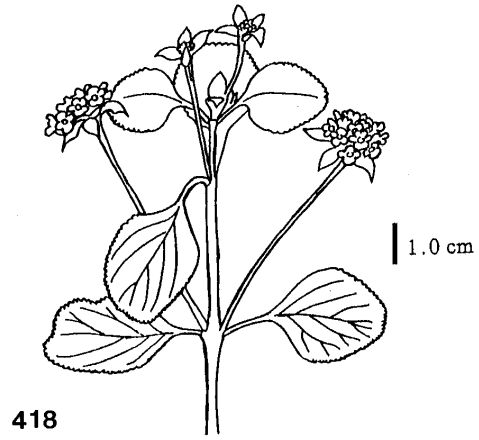


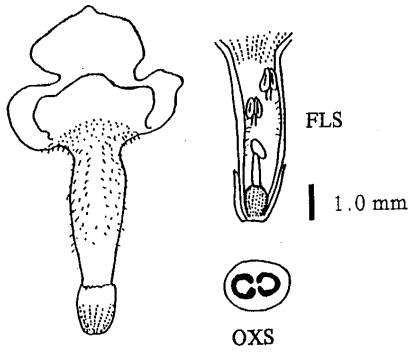
Citharexylum fruticosum

Verbenaceae. Vervain Family.

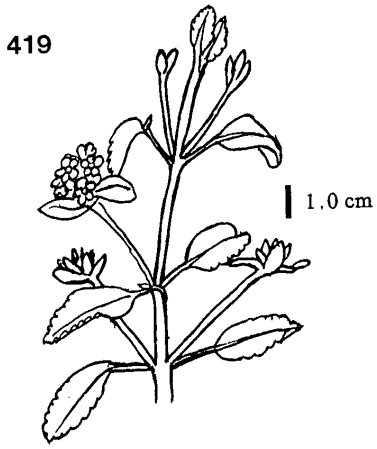
1. Shrubs and trees.
    2. Leaf margins entire.
        3. Plant brownish-tomentose; inflorescence a stalked cyme. ***Petitia domingensis* Jacq.** (Fowl Berry. Bastard Stopper. Petitia). Fig. 421.
        3. Plants glabrous or pubescent (not brown-tomentose); inflorescence a raceme.
            4. Corolla lilac blue with purple and white floral guides; distinctly zygomorphic; stem sometimes armed. ***Duranta repens* L.** (Pigeon BerryL Fig. 415.
            4. Corolla white, actinomorphic; stem unarmed. ***Citharexylum fruticosum* L.** (Spicate Fiddlewood. Long Tom). Fig. 416.
    2. Leaf margins crenate, dentate, or serrate.
        5. Leaf margins not spiny
            6. Flowers yellow or orange, changing to red; heads without large subtending bracts.
                7. Corolla changing orange to red; bracts 1/2 as long as corolla tube; leaves ovate to oblong, tip acute, margins crenate to serrate. ***Lantana camara* L.** (Lantana. Red Sagebush). Fig. 417.
                7. Corolla changing from yellow to orange: bracts 1/3 as long as corolla tube; leaves oblanceolate to ovate, tip acute or blunt, margin crenate. ***Lantana bahamensis* Britton**. (Bahama Lantana). Fig. 418.
            6. Flowers white; heads subtended by large bracts. ***Lantana involucrata* L**. (Wild Sage. Big Sage). Fig. 419.
        5. Leaf margins spiny; flowers not in heads. ***Pseudocarpidium wrightii* Millsp**. (Pseudocarpidium). Fig. 422.
1. Herbs.
    8. Spike axillary, contracted into an ovate head. ***Phyla nodiflora* (L.) Greene**. (Phylla. Capeweed). Fig. 420.
    8. Spike terminal.
        9. Plant < 0.5 m tall; stamens 2; flowers blue, partially buried in the caudate rachis. ***Stachytarpheta jamaicensis* (L.) Vahl.** (Jamaica Vervain. Blue Flower). Fig. 423.
        9. Plants 0.5-2.0 m tall; stamens 4; flowers in dense terminal spikes. ***Verbena bonariensis* L.** (Tall Vervain. South American Vervain). Fig. 424.

Other taxa: ***Callicarpa americana* L., C. *hitchcockii* Millsp., *Citharexylum caudatum* L., *Clerodendrum philippinum* Schauer., *Lantana balsamifera* Britt., *L. demutata* Millsp., *L. ovatifolia* Britt., *Priva lappulacea* (L.) Pers., *Stachytarpheta fruticosa* (Millsp.) B. L. Robins.**

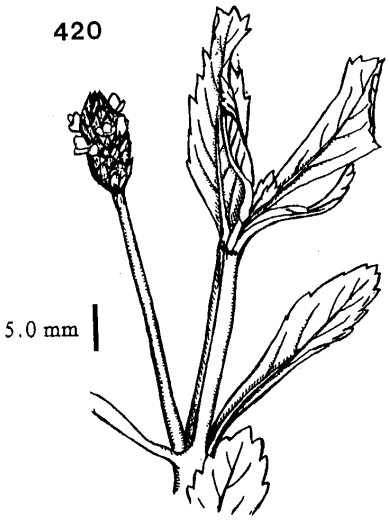


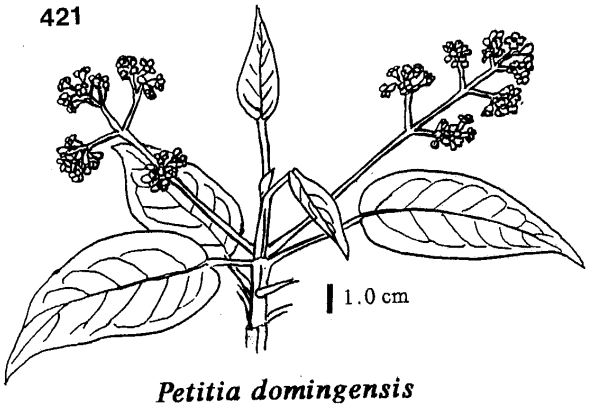


Lantana bahamensis

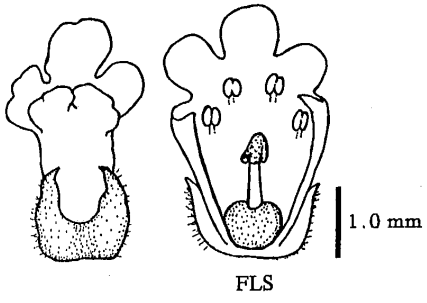


Lantana involucrata

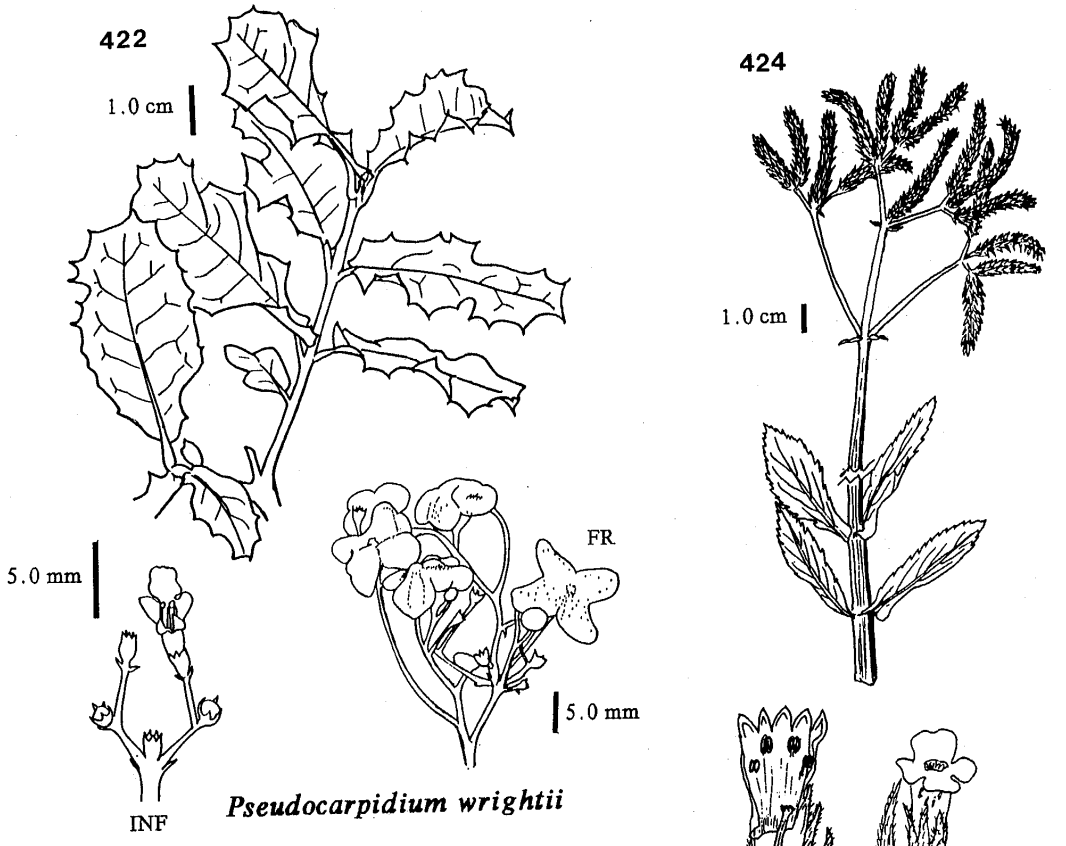




Petitia domingensis



Phylla nodiflora



Pseudocarpidium wrightii

Verbena bonariensis

Stachytarpheta jamaicensis

Viscaceae. Mistletoe Family.

***Phoradendron northropiae* Urban.** (Mrs. Northrop's Mistletoe), Fig. 425.

Other taxon: ***Phoradendron racemosum* (Aubl.) Krug & Urban, *P. rubrum* (L.) Griseb.**

Vitaceae. Grape Family.

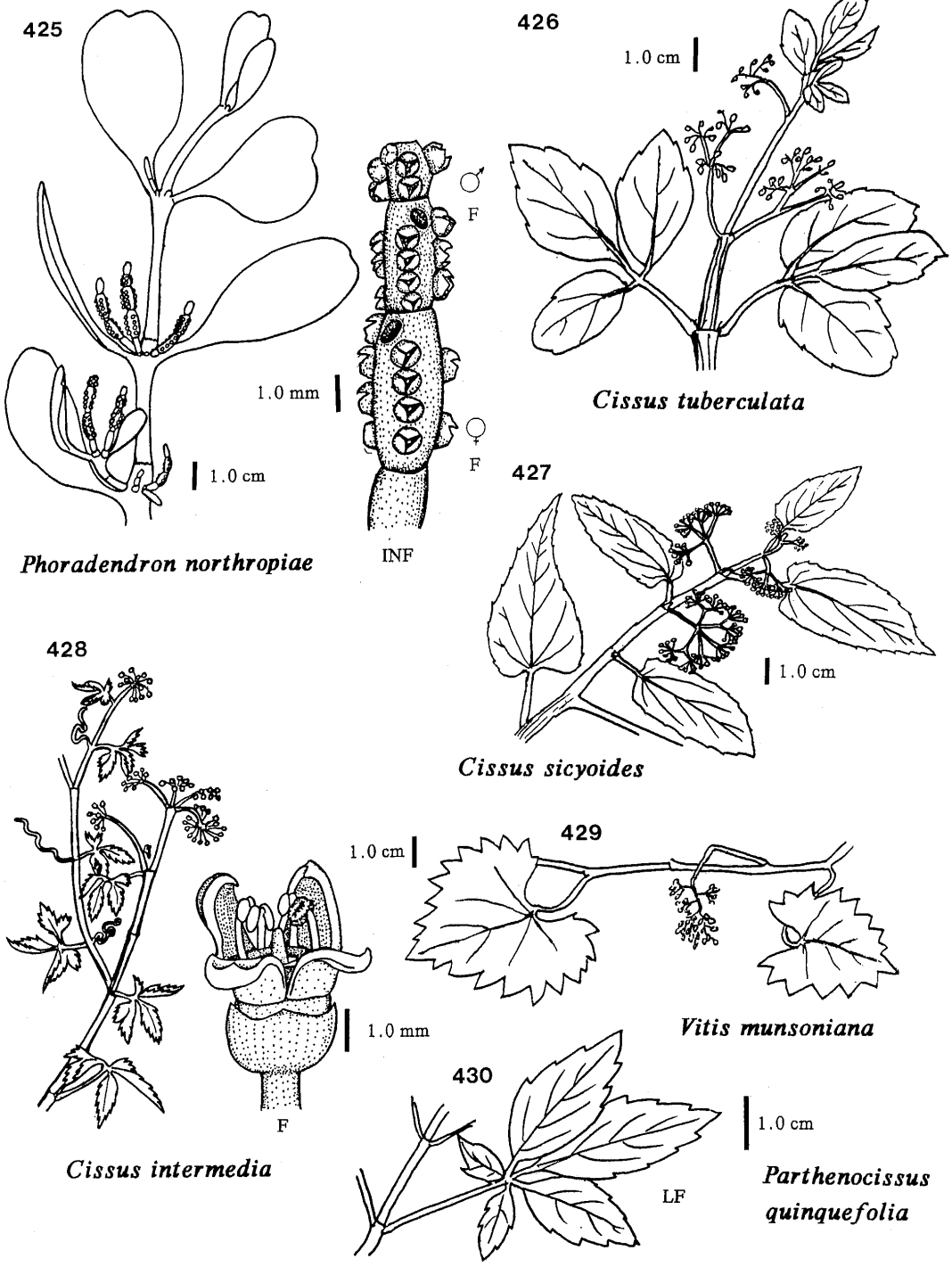
1. Leaves simple.
   2. Leaves cordate, strongly dentate. ***Vitis munsoniana* Simpson ex Planch**. (Wild Grape). Fig. 429.
   2. Leaves ovate, serrate (bristle-tipped). ***Cissus sicyoides* L.** (Common Cissus). Fig. 427.
1. Leaves compound.
   3. Leaves 3-foliate.
      4. Leaflets 3-6 cm long; fruit tubercu1ate. ***Cissus tuberculata* Jacq**. (Warty Cissus), Fig. 426.
      4. Leaflets 1-3 cm long; fruit smooth. ***Cissus intermedia* A. Rich**. (Bull Vine), Fig. 428.
   3. Leaves 5-7 foliate. ***Parthenocissus quinquefolia* (L.) Planch**. (Virginia Creeper), Fig. 430.

Other taxon: ***Cissus trifoliata* (L.) L.**

Zygophyllaceae. Lignum Vitae Family.

***Guaiacum sanctum* L.** (Lignum Vitae).

Other taxon: ***KaIIstroemia maxima* (L.) Hook. & Arn.**


425
1.0 mm
1.0 cm
♂
F
♀
F
INF
Phoradendron northropiae
426
1.0 cm
Cissus tuberculata
427
1.0 cm
Cissus sicyoides
428
1.0 cm
1.0 mm
F
Cissus intermedia
429
Vitis munsoniana
430
1.0 cm
LF
Parthenocissus quinquefolia

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GLOSSARY

Abaxial. On the side of an organ away from the axis (= dorsal).
Abscission. Breaking away or sheading of a part (e. g. a leaf from a stem).
Achene. A dry, one-seeded, indehiscent fruit; e. g. in sunflowers.
Actinomorphic. Radially symetrical; able to be bisected into equal halves in two or more planes.
Adnation. Fusion of unlike parts; e. g. a stamen with a petal.
Alternate. Borne (as in leaves) one at a node.
Androecium. Collectively, all of the stamens.
Anisotomous. Divided into two unequal branches.
Anther. The pollen bearing sac of the stamen attached to the filament.
Anthesis. The expansion or time of expansion of a flower.
Anthocarp. The tubular perianth which persists in the fleshy or dry fruit of the Nyctaginaceae; formed from the fusion of the petals and sepals.
Annulus. Thick-walled cells on the sporangium of ferns.
Apex (pl. **apices**; adj. **apical**). The tip or summit.
Apocarpous. A condition where the carpels are free, not fused.
Areola (pl. **areolae**; adj. **areolate**). A small space marked out on a surface; e. g. by venation on a leaf.
Aril (adj. **arillate**). A fleshy outgrowth from the funiculus (often nr. the hilum) associated with or covering the seed, e. g. *Acacia choriophylla.*
Aromatic. Strongly scented.
Attenuate. Gradually becoming slender and/or narrow.
Awn. A bristlelike appendage.
Axil (adj. **axillary**). The angle formed between two organs, e. g. leaf and stem.
Basifixed. Attached at the base, e.g. the anther of *Cassia.*
Berry. Strictly, a fleshy or pulpy fruit developed from a single ovary with the seed or seeds enclosed only by a hard seed coat.
Bisexual. Having both the androecium and gynoecium in one flower (= perfect).
Bladder. A saccate, modified leaf in members of the Lentibulariaceae specialized for capturing small invertebrates.
Brackish. Water with greater salinity than fresh but less salinity than ocean water.
Bract (adj. **bracteate**). A modified leaf subtending a flower or belonging to an inflorescence.
Bristle. A stiff hair, e. g. in the Cyperaceae or Asteraceae.
Bulb. A short, subterranean stem enclosed by fleshy, overlapping leaf bases.
Calyx. Collectively, all of the sepals.
Canescent. Gray pubescent or hoary.
Capillary. Very slender and hairlike.
Capitate. Compacted into a dense cluster or head, e. g. the inflorescence in the Asteraceae.
Capitulum (pl. **capitula**). An involucral head in the Asteraceae.
Capsule. A dry, dehiscent fruit maturing from a compound ovary. Can be loculicidally or septicidally dehiscent.
Carpel. The component of the gynoecium of an Angiosperm flower which bear the ovules.
Carpellate. A unisexual flower that contains the gynoecium but lacks a functional

androecium. Equivalent to pistillate.
Caruncle. A protuberance near the hilum on a seed.
Catkin. An ament; a bracted spike of apetalous, unisexual flowers e. g. in elms, oaks, and willows.
Caudate. A tail-like appendage.
Centrifugal. Developing (as in flowers of an inflorescence) from the center outward; the youngest thus in the center, e. g. some members of the Myrtaceae.
Centripetal. Developing (as in flowers of an inflorescence) from the outside inward, the youngest thus being at the margin.
Chaff. A small, thin scale or bract as occurs among the florets of the sunflower.
Circumscissile. Dehiscing as if cut circularly around; e. g. the fruits of *Plantago.*
Clavate. Club shaped; thickened on the end. Claw. The long, narrow base of a petal which abruptly dilates to the limb, e. g. in the Malpighiaceae.
Clinandrium. In orchids, that part of the column in which the anther is embedded and concealed.
Column. In orchids, a structure formed by the fusion of stigma, style, and anthers.
Complete. A flower which has all the essential and non-essential floral parts (i. e. gynoecium, androecium, calyx, and corolla)
Compound. A leaf subdivided into leaflets. The leaflet arrangement may be pinnate or palmate. If the leaflets themselves are again divided, this is twice or bipinnately compound.
Conical. Cone shaped.
Connation. Fusion of similar structures, e. g. the petals with each other.
Connivent. Coming together or converging.
Coriaceous. Leathery or tough in texture.
Cordate. Heart shaped, as is the leaf base on many leaves.
Corm. An enlarged fleshy stem base.
Corolla. Collectively, all of the petals; the term corolla tube is often used when all the petals are fused.
Corona. A crown or inner petal-like appendage, e. g. in the Asclepiadaceae.
Cotyledon. The first leaves of the embryo.
Crenate. Scalloped as on a leaf margin.
Crownshaft. The stem or trunk of some monocots.
Culm. The stem of sedges and grasses.
Cyathium (pl. cyathia). The inflorescence of some members of the Euphorbiaceae; often cup shaped bearing unisexual flowers inside.
Cyme. A convex or flat-topped determinate inflorescence, the central flower opening first.
Cystolith. A mineral concretion (usually calcium carbonate) on a cellulose stalk in the epidermis of some plants, e. g. the Acanthaceae and Urticaceae. Deciduous. Falling (abscising) after one growing season.
Deflexed (= **reflexed**). Abruptly bent or turned downward.
Dehisce (adj. **dehiscent**). To open spontaneously when ripe as in anthers or capsules.
Deliquescent. Softening or withering upon touch as the perianth of the Commelinaceae.
Deltoid. Shaped like an equilateral triangle.
Dentate. With sharp, spreading, rather coarse teeth.
Determinate. With a definite number; in an inflorescence with a single terminal flower opening before those below, as in a cyme.

Diadelphous. Stamens in two groups, e. g. where there are nine fused and one free stamen in the Leguminosae.
Dichotomous. Forking and reforking into equal branches.
Didynamous. With four stamens in two pairs, usually two long and two short. Dilated. Enlarged, expanded, inflated.
Disc. A fleshy, glandular portion of a flower as in the Celastraceae.
Disk (or **disc**) floret. The tubular flowers in the center of the head of some members of the Asteraceae.
Distichous. Two-ranked; arranged in two rows on opposite sides of an axis but in the same plane.
Dorsal. The back; the side away from the axis as the lower side of a leaf; opposite ventral.
Drupe. A one-seeded fruit with a fleshy mesocarp and stony endocarp.
Echinate. With short, thick, blunt prickles.
Elliptic (adj. elliptical). In the form of an ellipse; oblong with evenly rounded ends.
Emarginate. With a shallow notch at the apex.
Embryo. The young plantlet within the seed.
Endosperm. The reserve food stored in the seed surrounding the embryo.
Entire. The margin of a leaf with no teeth, lobes, or divisions.
Epiphyte. A plant which grows upon another plant but does not directly obtain nutrients from it, e. g. members of the Orchidaceae and Bromeliaceae.
Falcate. Scythe-shaped, with a curved axis.
Fascicle (adj. **fasciculate**). A close cluster or bundle as in the needles of a pine.
Fibrous. Descriptive of small, fine, densely clustered rootlets often found in grasses.
Filament. The stalk of the stamen.
Filiform. Threadlike; long and slender.
Floral guide. Visible (colored) or invisible (ultraviolet) markings at the entrance to the corolla used by pollinating insects for orientation.
Floral parts. Elements of the angiosperm flower; in a perfect, complete flower consisting of the essential and non-essential parts.
Floret. In the grasses the small flower consisting of lemma, palea, and essential floral parts. In the Asteraceae, the component flowers of the capitulum.
Foliose (or **foliaceous**). Leaflike in form or texture.
Foot. A lateral projection from the column of an orchid flower.
Frond. The leaf of a fern.
Fruit. A ripened ovary containing the seed(s).
Funnelform. A sympetalous corolla tube which is shaped like a funnel, i.e. where the sides (throat) gradually widening to the flared lobes.
Glabrous. With no pubescence.
Gland (adj. **glandular**). A secreting organ.
Glandular trichome. A gland with a long stalk (gland-tipped hair).
Globose. Sphere shaped.
Glochid (pl. **glochidia**). A minute barbed hair, often in tufts at the spine base in some members of the Cactaceae, e. g. *Opuntia.*
Glomerate. A compact cluster of flowers.
Gynobasic. Style attachment at the base of the carpel(s); e. g. the Lamiaceae.
Gynoecium. Collectively, all the carpels, styles, and stigmas.
Gynostegium. The central, crownlike structure formed by the fusion of style, stigma,

and stamens in the flowers of the Asclepiadaceae.
Halophytic. Plants tolerant of high levels of minerals, especially sodium chloride.
Hastate. Arrowhead shaped but with the basal lobes at right angles to the axis.
Haustorium. The morphological structure which forms the link between a parasite and its host; often a modified root.
Head. A dense cluster of sessile or nearly sessile flowers on a receptacle as in the Asteraceae.
Herb (adj. **herbaceous**). A plant without a persistent woody stem.
Hilum. The scar on a seed marking the point of attachment to the funiculus.
Hybrid. A plant resulting from a cross between genetically different parents.
Hypanthium. An enlargement of the receptacle, often cuplike.
Hypogynous. A flower where the insertion of the floral parts is below the ovary (= ovary superior).
Imbricate. Overlapping, as do shingles on a roof.
Incomplete. A flower which lacks one or both series of non-essential floral parts (i. e. is missing the calyx and/or corolla).
Indusium. A flap of tissue covering the sorus in many ferns. Called a false indusium if it is merely an inrolled edge of the frond.
Inferior. A condition where the insertion of the floral parts is above the ovary; the flower is also said to be epigynous.
Inflorescence. A grouping of flowers.
Infructescence. A grouping of fruits.
Insectivorous. Deriving some nutrition by capture (passive or active) and digestion of small invertebrates as in the Lentibulariaceae.
Involucre. A set of bracts inserted below the flowers. Equals the phyllaries in the Asteraceae.
Involute. Rolled inward or toward the top side as in some leaves.
Lanceolate. Lance shaped, much longer than broad, widest below the middle and tapering toward the apex.
Latex. Milky juice, e. g. in the Asclepiadaceae and Euphorbiaceae.
Leaf. The photosynthetic organ of a plant.
Leaf scar. Characteristic zone on the stem of a woody plant marking the point of abscision of the leaf.
Legume. A simple fruit (derived from one carpeD which dehisces along two sutures.
Lemma. In grasses, the second bract below the gynoecium which is inserted above the glumes.
Lenticular. Lens shaped, as are the fruits in some sedges.
Liana. A woody vine such as *Smilax.*
Ligule (adj. **ligulate**). In grasses, an outgrowth between the blade and the sheath. In the Asteraceae, the strap shaped corolla of the ray florets. Linear. Long and narrow, the sides parallel or nearly so.
Lip (= **labellum**). An enlarged or otherwise modified petal which occurs ventrally in most orchid flowers.
Locule. The cavity within the carpel (or ovary) which contains the ovule(s) or seed(s).
Loment. A legume divided by transverse constrictions into one-seeded segments that separate at maturity; e. g. in *Desmodium.*
Lyrate. Pinnatifid but with an enlarged terminal lobe.
Mericarp. A portion of a fruit which splits away and appears to be a separate fruit as in

the Apiaceae.
Merous. Suffix refering to the number of floral parts (usually the sepals and petals), e.g. 6-merous.
Midrib. The main, central vein of a leaf.
Monadelphous. All the stamens united into a group or tube as in the Malvaceae.
Monoecious. With staminate and carpellate flowers on the same plant.
Mucronate. With a short, small, abrupt tip (mucro).
Mycotrophic. A symbiotic relationship involving the roots of an angiospermous, achlorophyllous plant and a mycorrhizal fungus that is in association with the roots of a nearby tree; e. g. in *Leiphaimos* (Gentianaceae).
Node. The zone on a stem where the leaf or leaves arise.
Nodulose. Having little knobs or knots.
Nonresupinate. Not turned upside down; in reference to some flowers in the Orchidaceae where the lip is the uppermost petal; see Fig. 82.
Nut. An indehiscent, one-locular, one-seeded fruit with a stony pericarp.
Nutlet. Diminutive of nut, e. g. the components of the fruit in the Boraginaceae.
Ob-. Prefix meaning in an opposite direction, thus obovate is inversely ovate (with the broadest part toward the tip).
Oblique. With unequal sides, not at right angles; slanting.
Oblong. Longer than broad with the sides or ends nearly parallel.
Ochrea (pl. **ochreae**). A nodal sheath formed by the fusion of stipules in the Polygonaceae.
Opposite. Two at a node, as in leaves.
Ovary. The carpel(s) which contain the ovules; also called a pistil.
Ovate. Shaped like a longitudinal section of a hens egg with the broader end basal.
Palea. The bract subtending the essential floral parts of a grass floret.
Palmate. A type of compoundedness or venation with the lobes or veins radiating out from a single point, like finger on a hand.
Panicle. An indeterminate, compound, elongate inflorescence; often very branched.
Papillus (pl. **papillae**). A minute, rounded projection.
Pappus. The modified calyx of the floret in the Asteraceae, borne at the apex of the ovary and often persistent on the achene.
Parasite. A plant which is morphologically attached to another (to a host by means of an haustorium) and derives nutrition from it.
Peduncle. The stalk of a flower or flower cluster.
Peltate. Attached by some other surface than the margin umbrella fashion.
Pelucid. Transparent or translucent to light.
Perennial. A plant which persists for three or more seasons.
Perfect. A flower with both the androecium and gynoecium (= bisexual).
Perigynous. “Around the ovary”, as are the petals and sepals when inserted on a hypanthium, e. g. the Rosaceae.
Petal. A single unit of the corolla, often colored and showy.
Petiole. The portion of a leaf between the stem and the blade.
Petiolule. The stalk of a leaflet.
Phyllary. One of the involucral bracts of the capitulum (head) in the Asteraceae.
Pinna (pl. **pinnae**). A leaflet of a compound leaf, often used in connection with a fern frond.
Pinnate. In reference to a compound leaf, where the leaflets are arranged on each side

of a common rachis.
Pinnatifid. Nearly pinnate, cleft almost to the midrib.
Pinnule. A divison of a pinna; the secondary division of a compound leaf. Pistillate. See carpellate.
Plaited. Having folds, usually lengthwise.
Plicate. Folded as a fan into plaits.
Ploidy. Suffix refering to chromosome number, e. g. haploid, diploid, triploid, tetraploid, polyploid.
Pneumatophore. Aerial roots that grow vertically from subterranean, horizontally oriented roots of most mangrove species.
Pod. Used in place of legume, also a general term for any dry, dehiscent fruit.
Pollen. Technically, the male gametophyte; the grains within the anther which contain the male sex cells.
Pollinium (pl. -**pollinia**). A coherent, waxy mass of pollen found in such families as the Asclepiadaceae and Orchidaceae.
Polygamodioecious. A sexual condition in a plant species where some individuals have staminate and perfect flowers and other individuals have carpellate and perfect flowers.
Polygamomonoecious. A sexual condition in a plant species where individuals have staminate, carpellate, and perfect flowers.
Polygamous. Bearing unisexual and bisexual flowers on the same plant.
Polystichous. Leaves borne in many series.
Prickle. A sharp outgrowth from the epidermis.
Pseudostem. Not a true stem, as found in some monocots.
Pseudobulb. The thickened, bulblike stem of some orchids.
Pubescent. Covered with hairs.
Punctate. With dots, depressions, or pits; may be colored or translucent.
Quadrate. Square in form.
Raceme. A simple, indeterminate inflorescence of pedicellate flowers arranged on an elongate axis.
Radiate. Bearing ray flowers.
Ray. The ligulate floret in the Asteraceae.
Receptacle. The expanded end of the peduncle which bears the floral parts.
Reflex. Abruptly turned or bent downward or backward.
Reniform. Kidney shaped.
Repand. With a slightly uneven and sinuate margin.
Resupinate. Turned upside down by a twisting of the pedicel as in some orchid flowers where the lip is the lowermost petal; see Fig. 91.
Reticulate. Netted; anastamosing.
Retuse. With a shallow notch at a rounded apex.
Rhizome. Prostrate or subterranean stem, often rooting at the nodes. Rhombic. Diamond shaped.
Rosette. A cluster of whorled leaves at ground level.
Rotate. Wheel-shaped; a corolla with a flat, circular limb at right angles to a short tube.
Ruminate. Looking as though chewed; enfolded; often used in reference to endosperm of the Annonaceae.
Saccate. Bag shaped, pouchy, bladdery.
Salverform. A sympetalous corolla where the sides of the tube (throat) are nearly

parallel and with abruptly flaring lobes.
Samara (adj. samaroid). A dry, winged, indehiscent fruit, usually one-seeded.
Scabrous. With a rough or gritty surface to the touch.
Scale. A variety of small, dry, appressed leaves or bracts.
Scandent. Climbing.
Scape. A leafless stem which bears at the apex one flower or flower cluster.
Scorpioid. A coiling, determinate inflorescence with two rows of flowers.
Scurfy. With scalelike or flaky particles on the surface.
Seed. The ripened ovule which contains the embryo and stored food (endosperm).
Sepal. One unit of the calyx or outer floral whorl; often green and not showy.
Sepaline. Relating to sepals.
Septum (pl. septa; adj. septate). A partition as between carpels in a locule.
Serrate. Saw-toothed along the margin with teeth pointing forward.
Sessile. Without a stalk.
Seta (pl. setae; adj. setaceous, setulose). Bristle; bristlelike
Sheath. Any thin, tubular structure surrounding another structure such as the leaf bases around the stem in the grasses.
Silicle. An elongate silique; less than three times as long as wide.
Silique. A specialized capsule where the replum (septum) separates from the valves; greater than three times as long as wide.
Simple. Pertaining to a leaf with a single, undivided blade.
Sinuate. With a deep, wavy margin.
Sorus (pl. **sori**). A cluster of sporangia usually on the abaxial side of a frond in ferns.
Spadix. A fleshy spike, often with unisexual flowers and subtended by a spathe; found in the Araceae.
Spathe. A bract surrounding or subtending a flower cluster or spadix. Spatulate. Spoon shaped.
Spike. A simple, elongate, indeterminate inflorescence with sessile flowers.
Spine (dim. **spinulose**). A strong, sharp-pointed structure which in origin is a leaf or part of a leaf.
Sporangium. A spore case.
Spore. An asexual, one-celled reproductive body.
Spur. A tubular or saclike projection from a petal or sepal.
Stamen. The pollen bearing unit of the androecium composed of anther and filament.
Staminate. A unisexual flower that contains stamens but lacks a functional gynoecium.
Staminode (pl. -**staminodia**). A sterile stamen.
Standard. The broad, erect upper petal of a Papilionaceous flower.
Stellate. Starlike, with pointed, radiating branches.
Stigma. The receptive surface at the tip of the style which receives the pollen.
Stipe. The petiole of a fern frond.
Stipule (adj. -stipular). The leaflike structure found at the base of a petiole; as in most Rubiaceae.
Stomium. The liplike opening in the wall of the sporangium.
Striate. With fine, longitudinal lines or ridges.
Style. An elongate (more or less) part of the gynoecium between the ovary and the stigma.
Stylopodium. A disklike enlargement at the base of the style as in some members of the Apiaceae.

Subcylindric. Nearly cylindric.
Subtend. To stand below or close to.
Succulent. Juicy, fleshy, and thickened.
Sucker. A fast-growing, soft, vegetative shoot arising *from* the rootstock of a woody plant.
Superior. In reference *to* ovary postion, with androecium, corolla, and calyx inserted below; (= hypogynous).
Suture. A seam or line of splitting or dehiscence.
Syconium. A multiple, hollow infructescence of a fig.
Sylleptic (**syllepsis**). Axillary branches which develop contemoraneously with the parent shoot and without an initial period of dormancy; recognized by the lack of congested basal bud scales and a long first internode, e. g. in *Erithalis.*
Tendril. A slender, coiling modified leaf or stem by which climbing plants cling to their support, e. g. grapes and *Passiflora.*
Terete. Round in cross section; cylindrical.
Terrestrial. Growing on land, not water.
Tetradynamous. An androecium of six stamens, four longer than the outer two as in the Brassicaceae
Thorn. A stiff, pointed, woody structure, in origin a modified branch.
Tomentose. Covered with dense, soft, wholly, matted hairs.
Trifoliate. A compound leaf with three leaflets.
Trigonous. Three-angled.
Tripartite. Divided into three parts.
Truncate. Ending with a straight edge at right angles *to* the axis, as if cut off.
Tuber (adj. **tuberous**). A thickened underground stem with nodes and buds (eyes) on the sides.
Tubercle. A small rounded protruberance or knob as in the style base of *Eleocharis.*
Umbel. An inflorescence where all the flower pedicels arise from a common point.
Undulate. Wavy margin or surface.
Unisexual. Of one sex, as are staminate and carpellate flowers.
Utricle. A bladdery, one-seeded, usually indehiscent fruit.
Valve. One of the carpels separating from a capsule during dehiscence.
Versatile. Attached at the middle and turning freely on its support.
Vestigial. Imperfectly developed as in a much reduced organ.
Villous. Covered densely with long, soft (not matted) hairs.
Vine. Any twining, trailing, or scandent plant.
Viviparous. Germination of a seed while still of the parent tree as in *Rhizophora.*
Whorl (**whorled**). Arrangement of leaves in a circle around the stem at a node. Also refers to one of the four floral parts (sepals, petals, stamens, or carpels).
Zygomorphic. Bilaterally symetrical, i. e. able *to* be bisected into equal halves in only one plane.

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[1] from various personal contacts of Linda M Prince
[2] from Correll & Correll (1982)

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