BETULACEAE

Trees or shrubs; leaves alternate, penninerved, usually serrate or dentate; inflorescences in pistillate or staminate aments like small cones; perianth simple, membranaceous, free or united or lacking; stamens 2-12; ovary 2-celled, hypogynous, usually laterally compressed, often winged.

A small family of perhaps six genera and a hundred or more species mostly found in arctic and north temperate regions. A half dozen species extend into Central America. Trees or shrubs with the pistillate flowers in cone-like inflorescences and the staminate flowers in catkin-like inflorescences. The family is of relatively little economic importance in the tropics. The wood is used for fuel and tans and dyes are present but not important in our region.

Alnus arguta (Schlecht.) Spach, Ann. Sci. Nat. II, 15:205. 1841.

Aliso, ilamo, lemop, alder.

A dark brown dye for textiles may be obtained from the bark. The plant extends from Mexico to El Salvador in the mountains. A common source of fire wood in western Guatemala easily distinguished by the orange color of the freshly cut wood.

Ostrya virginiana var. guatemalensis (Winkl.) Macbride, Field Mus. Bot. 4: 193. 1929.

Aliso rojo, aliso colorado, aliso blanco, duraznillo, mescal, tatiscoba, gamuso, canillo de venado, hop hornbean.

The bark contains tannins and has been used for tanning in Mexico and probably in Guatemala. The tree is found from Mexico to Honduras and is occasionally abundant. The hard wood is used as a fuel.

BIGNONIACEAE

Trees, shrubs or woody vines, rarely herbs; the branchlets terete or angular, nodes with interpetiolar gland-fields or plate-like galnds, or interpetiolar ridges, rarely with neither or sometimes with both; leaves generally opposite, exstipulate, simple,

unifoliolate, or variously digitately or pinnately compounded, in scandent plants often trifoliolate or with a tendril replacing the terminal leaflet; inflorescence of a single flower or usually variously compounded; calyx gamosepalous, 5-lobate, campanulate or tubular or in Crescentia bilabiate; corolla gamopetalous, the tube dilated above, the limb somewhat bilabiate, the 5 lobes usually imbricate in bud; fertile stamens 4, rarely 2; staminodes usually short or inconspicuous; ovary superior, 2-1-celled; fruit capsular or baccate; seeds usually compressed, often winged.

The family is mostly tropical and most abundant in the American tropics with a few in the old world tropics and a few more in temperate regions. Most tropical genera are difficult to study because adequate material is rarely available. Both flowers and fruits are desirable for study and flowering material often lacks foliage. Several important timber trees come from this family and some of these are now rare due to excessive cutting. Fine ornamentals are abundant in the family.

Arrabidaea chica (Hum. & Bonpl.) Verlot, Rev. Hort. 154. 1868.

Maxaste, mashaste, majaste.

An attractive vine distributed from Central to South America. The mature leaves are boiled with rushes to color them red. The rushes are then used to make mats. Palm fiber, used for hats, is dyed dark brown in the same manner. The dye is said to be color fast.

Arrabidaea sieberi P. DC. in DC. Prodr. 9: 186. 1845. A. lundellii Standl. Field Mus. Bot. 8: 48. 1930.

Tietie.

The common name from Belize is an allusion to the fact that the tough stems, like those of other scandent Bignoniaceae are used as a substitute for rope, especially in the construction of frame-work houses.

Crescentia alata HBK., Nov. Gen. & Sp. Pl. 3: 158. 1819.

Morro, jícaro, Jícara, morrito, cutuco, cuchara, guacal, raspa guacal, simax, rutc; calabash tree.

A common tree on the lowlands from lower California to Nicaragua and possibly to Guanacaste in Costa Rica. It extends up to about 1,000 meters in appropriate localities. The tree, the fruits from it and the uses of the fruits were first described by Oviedo y Valdes in his "La Historia General de las Indias". Oviedo described both species of Crescentia quite accurately and knew more about them than did Linnaeus 200 and more years later.

The wood of the calabash tree is usually so small that it is rarely used. It has been used from early times for stirrups and finely carved ones from the colonial epoch are occasionally found in Central America in use although most have gone into collections of antiques. The wood is easy to work when green but becomes hard and resistant to wear when dry. The seeds are used, when ground, as an ingredient in a non-alcoholic beverage called horchata. The oil pressed from the seeds is bland and makes a relatively stable edible oil. The seeds should be investigated as a source of edible oil in Central America since the tree is abundant along part of the Pacific coastal area. The durable and resilient covering of the fruits has been put to many uses principally as containers for food and liquids and also as cups, scoops and other useful utensils. Even in this day of plastics utensils made from the hard coverings of the fruit are used commonly by the country people where the tree grows. The pulp of the fruit is said to be edible but I have tried it many times and found it to be unpalatable. Cattle are said to eat the contents of the fruits and to find them to be nutricious. Fermentation takes place in the fruits after they have fallen from the trees and cattle eat them in this stage or after they have become dry.

The morro or Jícaro trees have attracted the attention of Catholic Europeans since the time of discovery, not only because of their uses but also because of the shape of the leaves which are in the form of a cross. The tree has been assumed to have religious significance and is still thought of in this relationship. The early Spanish explorers thought that the Indians of the region surely must have had knowledge of the cross and its significance in Catholicism because the leaves of this tree resemble a cross.

Crescentia cujete L. Sp. Pl. 626. 1753.

Jícaro, Jícara, morro, guira cimarrón, guacal, morro guacalero, totamo, cutuco, jícaro de cuchara, jícaro de guacal, huacal, calabacero, luch, huaz, xigal, hom; calabash tree, wild calabash.

Widely distributed from Mexico through Central America and probably carried to South America in pre-Columbian times. It appears to be spontaneous if not actually planted in many places in Central America and has been carried as a cultigen to tropical regions in many other parts of the world. I have never seen the plant to occur commonly and abundantly either in Central America or along the Pacific region of South America. The fruits and their durable covering have much the same uses as those of C. alata.

The fruits are usually larger in size than those of C. alata and more elongated. Reports in literature of very large vessels made from the fruit of this tree are based usually on misidentifications and confusion with the fruits of the calabash, Lagenaria siceraria, which have many of the same usages. It has been reported that the eating of fruits from this tree caused abortion in cattle. I know of no published report with substantiating evidence.

Jacarabda copaia (Aubl.) D. Don, Edinb. Phil. Journ. 9:264. 1823.

Jacarandá, gallinazo, jacaranda.

Thought to be native from Belize to Brazil. Occasionally cultivated in the Central American highlands as an ornamental. The showy purplish or blue flowers are very attractive. The wood from this species is suitable for interiors or cheap constructions but there is not sufficient in Central America to provide for other than occasional use.

Jacaranda mimosifolia D. Don, Edinb. Phil. Journ. 9: 264. 1823.

Jacarandá, gigante.

Native from Colombia to Argentina but widely planted in Central America as an ornamental. It is one of the more attractive trees to be found in our region when in flower. During most of the year, as with most ornamental trees, it is without flowers and not very impressive. The wood has no special use in Central America, except possibly as fuel.

Macfadyena unguis-cati (L.) Gentry, Brittonia 25: 236. 1973. Bignonia unguis-cati L. Sp. Pl. 623. 1753.

Uña de gato, bejuco azucena, pega palo.

Occasionally planted as an ornamental in Guatemala and perhaps elsewhere for its brightly colored yellow flowers. Native from Mexico and the West Indies to South America.

Parmentiera aculeata (HBK.) L. Wms. Fieldiana, Bot. 36: 27. 1973. Crescentia aculeata HBK. Nov. Gen. & Sp. Pl. 3: 158. 1819. Parmentiera edulis DC. Prodr. 9: 244. 1845.

Cuajilote, caiba, coxluto; cow okra.

Native of Mexico and of northern Central America, occasionally cultivated. The fruits, about as long and the same size as a thin cacao pod is edible either raw or cooked and is said to be quite sweet when mature. Indians use it to make a sweet. Pigs eat the fruits.

Pithecoctenium echinatum (Jacq.) Schum. in Engler & Prantl, Nat. Pflanzenf. 4, Abt. 3b: 218. 1894.

Cucharilla, cucharo, cucharillo, lengua de vaca, pico de pato, peine de mico, mariposas, palmitas, bateita, petaquilla.

A small or large vine native from Mexico to Brazil. The fruits are used as playthings by children, as graters or as rasps in cleaning and scouring. The light, winged seeds float through the air or are carried by the wind, hence the names mariposas and palomitas. The tough vines, like those of other Bignoniaceae are used for tying up bundles or in house construction. A decoction of the leaves is said to be used in Huehuetenango, Guatemala for treating diseases of the skin.

Podranea ricasoliana (Tanf.) Sprague in Dyer, Fl. Cap. 4, 2: 450. 1904. Tecoma ricasoliana Tanf. Bull. Soc. Tosc. Ort. 17, tt. 1-2. 1887.

An African shrub or vine commonly cultivated in Guatemala and doubtless elsewhere as an ornamental. It thrives at middle and low elevations.

Pyrostegia venusta (Ker) Miers, Proc. Roy. Hort. Soc. 3: 188. 1863. Bignonia venusta Ker, Bot. Reg. 3: t. 249. 1818. B. ignea Vell. Fl. Flum. 244. 1825 and 6: t. 15. 1827. Pyrostegia ignea Presl, Bot. Bemerk. 93. 1843.

Chiltote, chorro de oro, chorro, triquetraque, San Carlos; in Brazil cipó de São João.

Native of Brazil, commonly cultivated in Central America, especially in the highlands. It is especially effective when permitted to run over tile roofs. The flowers are borne in abundance and are usually bright orange-red and 5-8 cm. long. An excellent ornamental!

Roseodendron donnell-smithii (Rose) Miranda, Bol. Soc. Bot. Mex. 29: 43, fig. 1963. Tabebuia donnell-smithii Rose, Bot. Gaz. 17: 418, t. 26. 1892.

Primavera, copal, palo blanco, cortez blanco, San Juan, primavera in the lumber trade, white mahogany.

Primavera is one of the better cabinet woods and is (or was) often used to make veneers. The tree was once abundant in many places from southern Mexico to Honduras and as much as 300,000 board feet were exported annually but as of 1977 very little is exported for the tree has been nearly exterminated in accessible localities.

TABEBUIA. A fairly large genus of trees found most often in the highlands of tropical America and especially abundant in the Brazilian highlands. The trees are usually very showy and more often than not in flower before the leaves appear. The flowers of most Central American kinds are yellow or purple and in T. rosea from white to purple. The wood is often used in cabinet making.

Tabebuia chrysantha (Jacq.) Nicholson, Dict. Gard. 4: 1. 1889.

Cortez, guayacán, corteza, corteza amarilla, cortez amarilla, cortez negro, cortez prieto, cortez coyote.

The wood is of good quality and is used for cross-ties and for many other purposes. The tree is a beautiful one when in

flower in the spring. Like most species of Tabebuia the flowers appear before the leaves.

Tabebuia guayacan (Seem.) Hemsl. Biol. Cent.-Am. Bot. 2: 495. 1882. Tecoma guayacan Seem. Bot. Voy. Herald 180. 1854.

Cortez, corteza, guayacán, yellow mayflower.

The wood of this species is esteemed when available for construction purposes, especially where durability is important. The cathedral of Panamá Vieja contained beams of this guayacán which were reported to be sound after having been exposed to the weather since the destruction of the city, some 250 years ago. The species is closely related to T. chrysantha.

Tabebuia palmeri Rose, Contr. U. S. Nat. Herb. 1: 109, t. 11. 1891.

Cortez colorado.

The wood is dark reddish, hard and heavy. Durable in contact with the ground and used as railroad ties and in general construction. Native from Mexico to Panama but no longer abundant in Central America.

Tabebuia rosea (Bertol.) DC. Prodr. 9: 215. 1845. T. pentaphylla of authors in Central American literature, not (L.) Hemsl.

Macualizo, macualiza, maquiligua, maculigua, maculís, maqueliz, maquilisquat, matilisquate, roble, roble blanco, roble de sabana, mano de león, guayacán, hokab, mayflower, May bush.

The wood is rather attractive, fairly durable and holds fairly well in cabinetry. Trees with boles more than 70 cm. in diameter are rare now. The tree is native from Mexico to Venezuela but is now much less abundant in Central America than formerly.

Tecoma stans (L.) HBK. Nov. Gen. & Sp. Pl. ed. 2. 871. 1773. Bignonia stans L. Sp. Pl. ed. 2. 871. 1763.

Flor amarilla, barreto, San Andrés, marchuca, taqualaishte, tache, taco, sardinillo, sauco amarillo.

Often abundant and even semi-weedy in the drier hills of Central America, native from Mexico to South America usually below 1,000 meters. The shrubs or small trees are often in cultivation (and doubtless also escapes) for the brilliant yellow flowers that are to be seen much of the years.

BIXACEAE

Trees or shrubs with yellow or red sap; leaves simple, cordate, palmate-nerved; the capsules bivalvate, usually densely covered with rather long soft spines, or spineless; seeds numerous, with a fleshy covering which contains the red or, when diluted, yellow dye.

Bixa orellana L. Sp. Pl. 512. 1753. (Bixa orellana var. orellana).
Achiote, achote, achiotillo, cuaja chote, atta, chaya, ox, oox, xayau, annatto, arnatto.

Widely distributed from Mexico and the West Indies to South America as a native and as a cultigen. Cultivated and spontaneous in the Old World tropics.

In addition to the typical variety with ovoid capsules covered with soft flexible spines there are two other varieties in Central America, as follow:

Bixa orellana var. urucurana (Willd.) Kuntze ex Pilger, Pflanzenf. ed. 2. 21: 315. 1925. B. urucurana Willd. Enum. Hort. Berol. 565. 1809.

The usual "wild" form although seen in cultivation and widely distributed. The fruit is globose or depressed globose and densely covered with flexible spines.

Bixa orellana var. leiocarpa (Kuntze) Standl. & L. Wms. Fieldiana, Bot. 29: 358. 1961. Orellana americana var. leiocarpa Kuntze, Rev. Gen. Pl. 45. 1891.

Commonly in cultivation and widely distributed. The capsules are smooth and without bristles.

The shrubs or small trees of annatto, or achiote, are one of the best known and most useful plants of Central America

because of the orange-red to red to yellow dye obtained from the aril covering the seeds. The dye is found in most all Central American markets either as dried pods or as the dried and powdered pulp from the seeds, often in the form of small cakes. In our region the dye is used to tint rice, tortillas, other foods and even textiles. The color is said to be fugative when used on textiles, and probably is. The principal uses of the dye in the United States and Europe is to color butter, margarine, cheese, oils and varnishes. The dye has been used in lip sticks in recent years. American Indians, in the tropics, have used the dye as a face or body paint, and still do. The paint may lessen the attacks of mosquitos and other biting insects.

Being commonly grown or spontaneous around country dwellings the plant has found many uses in domestic medicine. It is a favorite in concoctions to control dysentery, for treating sores or burns to prevent the formation of scar tissue, as an antidote for poisoning from seeds of Jatropha curcas or of bitter Manihot roots. It is even said to promote the growth of hair and to control dandruff, to be an astringent, a diuretic and an aphrodisiac.

The generic name Bixa is thought to be a modification of "bija," the Antillean name of the plant. The specific name "orellana" was given to honor Francisco Orellana, companion of Pizarro in the conquest of Perú, and discoverer of the Amazon River.

BOMBACACEAE

Trees or shrubs, sometimes armed with prickles; the leaves alternate, simple or digitately compounded; stamens usually indefinite and united into one or more fascicles; fruit capsular, usually opening by five valves or sometimes indehiscent, often lanate within; the seeds often embedded in silky "cotton" or winged.

The genera Ceiba and Pseudobombax are outstanding trees in tropical America, while Adansonia, the baobab tree of Africa is one of the curious and outstanding trees of the world. The family consists of about 20 genera and perhaps 150 or more species distributed in the tropics of the world but most abundant in the American tropics. Eight genera are to be found

in Central America. Dr. André G. Robyns has been kind enough to provide his views on the taxonomy of certain of these Bombacaceae.

Bernoullia flammea Oliver in Hook. Ic. Pl. 12: 62, tt. 1169-70. 1873.

Ala de cucuracha, canté, uacut, mapola, red mapola.

The seeds are said to be edible. The wood has been used but like most wood in the family it is perishable. Becoming a tall and attractive tree when in flower. The species is now known from Mexico to Colombia but I have never seen it as an abundant tree in Central America.

Ceiba acutifolia (HBK.) Britt. & Baker, Journ. Bot. 34: 175. 1896.

Ceibillo, algodón de monte, pochote, palo lagarto, murul, cox, kinin.

The abundant silk filling the pods is said to be superior to that of kapok for certain purposes. The yield is reported to be 7-10 kilos per tree. While the tree has been reported to be widely planted in Guatemala I have never seen the tree in plantations in our region. The immature pods and seeds are said to be eaten after cooking or roasting.

Ceiba pentandra (L.) Gaertn. Fruct. & Sem. 2: 244. 1791. Ceiba occidentalis (Spr.) Burkill, Kew Bull. 317. 1935; Merrill, Chron. Bot. 14: 305. 1954.

Ceiba, ceibo, pochote, poxot, ceibón, ceiba de lana, inup, nup, ceiba, kapok tree, silk cotton tree, cotton tree, corkwood.

The ceibas are among the best known of the trees of Central America and are revered by the native peoples. Outdoor markets are often held in the shade of the spreading trees. Much sentimental and perhaps religious interest is associated with these trees. In Guatemala, from pre-conquest times until today the Indians of Alta Verapaz held and hold their councils under ceiba trees. Ceibas are left when clearings are made, perhaps because of the esteem in which the tree is held, or maybe among Europeanized people simply because the tree becomes very large, often as much as 50 meters tall with a trunk two meters or more in diameter above the buttresses, and therefor

difficult to cut down. Ceiba trees were common in the Central American lowlands and in interior valleys to about 1,000 meters where they may have been taken by man.

There has been considerable question about the specific identity of the ceibas in America, Asia and Africa. The plants represented by the names Ceiba pentandra and C. occidentalis are certainly very similar and Dr. André Robyns believes the names to represent a single species. Both Burkill and Merrill throught that the American tree was different from the old world plants. It is probable that the Indo-Malayan plants may have been a post-Columbian introduction from America. Robyns believed the tree to be native in both America and Africa in the tropics.

The principal economic product from ceiba is kapok, the floss which surrounds the seeds and fills the pods. The floss, or fiber, is extremely light and resilient and is used as insulation for both heat and sound. It is used in the filling of life jackets, cushions, upholstered furniture and for many other things.

The oil is said to be extracted from the seeds and used in soap making and for illumination. A dark astringent gum, not unlike tragacanth, is collected in India and used for medicinal purposes. The leaves are said to be edible when cooked but I never saw them used or heard of them being used for food in Central America. The wood is very light when dry and has been used for inexpensive boxing, plywood cores and for other purposes. Dug-out canoes are often made from the tree.

Durio zibethinus Murr. Syst. ed. XIII. 581. 1774.
Durio, durian, civet fruit.

The durian is perhaps native in Sumatra and Borneo. It is widely cultivated in the Indo-Malayan region and has been sparingly introduced into the American tropics. Good sized trees existed in the Lancetilla gardens in Honduras. The fruits are prized by the people of India. Alfred Russell Wallace is presumed to have said that the sensation of eating durians was worth a trip to the east. Others have praised the fruit highly but to me it has the flavor of custard seasoned with garlic. A taste for the fruit must be acquired and it seems that it is unlikely that the tree will become widely planted in our region.

The durian fruit is ovoid, covered with heavy spine-like processes, grows to about 30 cm. long and weighs as much as 2-3 kilograms. Both the cream colored arils and the seeds are eaten. The tree itself is a magnificent one. The fruit falls from the tree when ripe and usually breaks when it hits the ground. Fruits collected from the trees are said to have an insipid, watery taste. The civet-like odor increases with the ripening of the fruit.

OCHROMA. A genus of fast growing trees, probably only a single species, which produces the lightest of commercial timbers. The wood is known around the world as balsa. The Spanish conquistadores applied the world balsa to the rafts which they saw the Indians in northwestern South America using and subsequently the word was applied to the wood and to the trees. The name provided below is the one which Dr. André Robyns believes applicable to all trees of this genus. See Fletcher, Merna Irene: Balsa production and utilization, Econ. Bot. 5: 107-125. 1951.

Ochroma pyramidalis (Cav. ex Lam.) Urban, Rep. Sp. Nov. Beih. 5: 123. 1920.

Balsa, lana, algodón de balsa, lanillo, guano, pochote, polak, corcho, puj. jujul.

Distributed from Mexico and the West Indies to Panama and on southward into South America. Important as a source of very light wood used for insulating materials or in any application where lightness of wood is of importance. Wood from young trees is most desirable. The fiber obtained from the capsules is sometimes used like that of kapok. All scientific names in Ochroma are presumed to be referable to the one given above.

Pachira aquatica Aubl. Pl. Guian. 775, tt. 291-292. 1775.

Zapotón, sapote de agua, sapote bobo, Santo Domingo, cacao cimarrón, cacao de playa, jelinjoche, quirihuillo, quirigüillo, aucoot, pumpunjuche, saba nut, provision tree.

The fruits contain many seeds which are edible when boiled or roasted. The young leaves are said to be used as pot herbs in South America. Native from Mexico well into South America.

Pseudobombax ellipticum (HBK.) Dugand, Caldesia 2: 67. 1943. Bombax ellipticum HBK. Gen. & Sp. Nov. 5: 299. 1821. Arbol de señoritas, señoritas, doncellas, árbol de donecellas, muneco, chorrococo, acoque, pumpo, chulte, chulte colorado, amapola, mapola, ila, shilo, shilo blanco, shilo colorado, jilinsuche, pilinsuchil.

The fiber on the seed is used like that of kapok. The tree is a very attractive one when in flower. The many common names are due to this. The wood is very soft but when seasoned may be used for fuel or for carving kitchen utensils.

Pseudobombax septenatum (Jacq.) Dugand, Caldesia 2:65. 1943. Bombax barrigon (Seem.) Decne. Fl. Serres, ser. II, 13: 44.1880.
Ceibo, barrigón.

The fiber on the seeds is sometimes used like that of Ceiba. The trunk of the tree is often much swollen and from this the name barrigón is derived.

Quararibea funebris (Llave) Visher, Bull. Soc. Bot. Genève II, 11: 205. 1919.
Molenillo.

The flowers are added to pozonque, a cold beverage made from cacao, to flavor it. Native from Mexico to Costa Rica.

Quararibea guatemalteca (Donn.-Sm.) Standl. & Steyerm. Field Mus. Bot. 23: 62. 1944.
Moro.

The flowers are used to flavor a chocolate drink. Native from Mexico to Honduras.

BORRAGINACEAE

Annual or perennials herbs but in our region mostly shrubs trees or woody vines; the leaves mostly are alternate, entire or dentate and usually scabrous or hispidulous; the inflorescence is usually cymose; the flowers are small or large and the trees thus conspicuous; fruits drupaceous or of nutlets. The family consists of about 90 genera and perhaps as many as 2,000 species worldwide. Three plants not mentioned below are occa-

sionally cultivated as ornamentals in our region; Borago officinalis L., Myosotis scorpioides L. and Cyanoglossum amabile Stapf & Drumm.

Dorothy Nash Gibson's account of the family for the Flora of Guatemala (Fieldiana, Bot. 24, pt. 9: 111-167. 1970) is useful from southern Mexico to Panama and the best account of the family for the region.

Bourretia huanita (Llave & Lex.) Hemsl. Biol. Cent. Am. Bot. 2: 370. 1882. Morelosia huanita Llave & Lex. Nov. Veg. Descr. 1: 1. 1824.

Esquinsucha, esquinsuchil, oreja de león.

Native from Mexico to Costa Rica, often planted as an ornamental. The genus was originally named for the great Mexican patriot José María Morelos y Pavón.

CORDIA. There are a rather large number of species of Cordia in Mexico and Central America. Quite acceptable cabinet woods come from a few of them. The berries of several of the species may be eaten but most of them that I have tried are rather insipid.

Cordia alliodora (R. & P.) Oken, All. Naturgeschichte Bot. 2: 1098. 1841. Cerdana alliodora R. & P. Fl. Peruv. 2: 47, t. 184. 1799.

Laurel, laurel negro, laurel blanco, laurel macho, bojun, salaap, salmwood.

A useful timber tree which is distributed from Mexico and the West Indies south through Central America and the South American tropics. The wood has a slight alliaceous odor which it loses as it ages. The lumber is used for railroad ties, general construction and as a cabinet wood. The fruits are edible. The color of the wood, either light or dark may be due to the age of the trees. Depending on the color of the heart wood they are distinguished as either laurel negro or laurel blanco. The trees often harbor ants which hollow out and live in the twigs, which become swollen.

Cordia collococca L. Sp. Pl. ed. 2. 274. 1762. Cordia glabra of authors, not Linnaeus, which is Bourreria succulenta Jacq.

Nigüito buriogre, manune, manuno.

The plant or juices from it have been used in El Salvador to coagulate rubber and in the preparation of indigo. The plant ranges from Mexico, the West Indies and Central America to Venezuela.

Cordia dentata Poir. Encycl. 7: 48. 1806.

Chachalaco, tingüilote, jugüilote, jack wood.

The transluscent, white fruits are eaten by birds and small boys. The pulp is sticky and sweet. Common in many parts of Mexico, the West Indies and Central America.

Cordia dodecandra DC. Prodr. 9: 478. 1845.

Laurel, cocopera, palo de asta, ziricole, siricote.

The fruits may be eaten. This is the most important timber species of Cordia in Mexico, Belize and Guatemala, where it grows.

Cordia gerascanthus L. Syst. Nat. ed. 10. 936. 1759.

Laurel, laurel negro, palo de asta.

This is an important timber tree in Central America. It is distributed from Mexico and the West Indies through Central America to Colombia.

Cordia inermis (Mill.) I.M. Johnston, Journ. Arn. Arb. 30: 95. 1949. C. cana Mart. & Gal. Bull. Acad. Brux. 11 (2): 33d. 1884.

Cuajatinta, escoba negra, varilla negra, escobilla negra.

The juice from the plant was used in the preparation of indigo in colonial times and the name cuajatinta comes from this use. Mexico to Panama and Colombia.

Cordia sebestena L. Sp. Pl. 190. 1753.

Geiger tree.

An ornamental with orange or red flowers 3-5 cm. long and widely cultivated in the tropics. Perhaps native from Mexico, the West Indies and Honduras to Venezuela.

Ehretia austin-smithii Standl. Field Mus. Bot. 18: 984. 1938.
Laurel.

Native in Costa Rica where the wood is said to be used for tool handles, oxen yokes and the spokes for wheels.

Ehretia tinifolia L. Syst. Nat. ed. 10. 936. 1759.
Roble, bec.

The fruit is edible but rather insipid. The plant is occasionally cultivated. Mexico, the West Indies, Guatemala and Honduras.

Heliotropium curassavicum L. Sp. Pl. 130. 1753.
Berro de mar, berro de playa.

Said to be used in salads in El Salvador. Distributed along the sea shores of tropical and subtropical regions of the world.

Macromeria guatemalensis I. M. Johnston, Journ. Arn. Arb. 29: 232, 1948.
Itamo real, té de monte.

The nutlets are sometimes used for beads. The second common name would indicate that it may be used to make a herb tea. Known only from the Guatemalan highlands.

BROMELIACEAE

Herbs, mostly epiphytic but one subfamily usually terrestrial (or growing on rocks or on cliffs); leaves spirally arranged and usually basal, simple, entire or spinose-serrate, when immature (at least) with peltate scales; inflorescence often showy with colorful bracts and sometimes colorful corollas; fruit capsular or baccate; seeds naked, winged or plumose.

Dr. Lyman B. Smith is the authority on this family and has nearly complete (1979) a monographic account of the family.

The family consists of about 45 genera and 1,800 species, all American except one species in Africa.

Aechmea bracteata (Sw.) Griseb. Fl. Brit. W. Ind. 592. 1864.

Izchu, ixchu, chuek, tinajero, wild pine.

The berries are said to be edible. The plants are often inhabited by vocious ants. Native from Mexico to Colombia.

Aechmea magdalenae (André) André ex Baker, Handb. Bromel. 65. 1889.

Pita floja, pita, pinuela, mau, silk grass.

The fiber of pita has been used for a very long time by the Indians in Mexico, Central America and in South America. The uses of the fiber in Mexico are described by Richard Evans Schultes (Bot. Mus. Leafl. Harv. Univ. 9: 117-122. 1941.) Most of the fiber used in Central America comes from wild plants but so far as I know very little of it is now prepared, being replaced by plants easier to grow and to process. The fiber has been used in hammocks, bags and string. The fibers are long, to more than 2 meters, strong and fine. The fruits although acid are said to be eaten.

Aechmea mariae-reginae Wendl. Hamb. Gartenz. 9: 32. 1863.

Espírito Santo, Corpus, piña de palo.

The fruiting spike is said to weigh to 2 kilograms and the fruits to be edible.

Ananas comosus (L.) Merrill, Interpr. Rumph. Amb. 133. 1917. Ananas sativus (Lindl.) Schultes in Roem. & Schult. Syst. Nat. 7: 1283. 1830. A. bracteatus var. hondurensis Bertoni in An. Cient. Paraguay ser. 2, No. 4: 258. 1919.

Piña, piña blanca, piña de agua, piña de azúcar, piña azucarón, piña de Castilla, piña azucarona, hijos de piña, chop, pineapple, pine.

The pineapples are native to South America and had been distributed to all tropical regions of America where the climate is suitable, in pre-Columbian times. In Central America good

varieties are to be found up to elevations of 1,000 or even 1,500 meters although the best ones are found nearer sea level. Small plantations are to be found in all Central American countries usually to supply local markets but a limited quantity go to northern markets. Pineapples are among the few tropical fruits that have been exploited commercially. The largest plantations are in Hawaii where the fruits are processed for the world market.

Fruits grown in dry areas of the tropics are usually poor. Fruits for northern markets are usually picked too green to be really good.

Pineapples are pollinated by humming birds in Central America but viable seed rarely if ever results.

A strong fiber of good quality may be extracted from the leaves. It is durable and not effected by water. I do not know that it is used in Central America.

Pineapples have become naturalized in a few places, or at least are spontaneous for a few years. The fruits are poor. The tender leaf shoots, called hijo de piña, are sometimes cooked and eaten.

Bromelia karatas L. Sp. Pl. 285. 1753.

Piñuela, piña de cerca, piña cabezona, pollas, motate, chom, cham.

The fruits cooked, or sometimes raw, are used in making beverages called atol de piñuela or atol de piña. The tender and blanched leaf bases of young shoots (pollas) are cooked and eaten as a vegetable or used in stews and soups and sometimes in egg dishes. The young inflorescences (motate) are cooked and eaten or used with eggs. The leaves are sometimes used to tie bundles.

Bromelia pinguin L. Sp. Pl. 285. 1753.

Piñuela, piñuela casera, pellita, piña de garrobo, piña corredora, piro, motate, ixchuu.

The acid fruits are used to make a beverage and to make vinegar. The young shoots are used for food (pollitas) as are the

inflorescences (motate). The plant is often used as a living fence and is quite effective. The leaves are used in tying bundles.

Bromelia wercklei Mez, Fedde Repert. 16: 2. 1919.
Piñuela de garrobo, piñuela de mico.

The acid fruits are used to make beverages. Other uses may be about the same as those reported for the closely related B. karatas and actually some of the uses reported for that species may belong to this one.

Neoglaziovia variegata Mez in Mart. Fl. Bras. III. 3: 426. 1894.
Caroá.

I do not know that this Brazilian plant has been introduced into Central America but it does have a potential as a fiber crop in some of the drier valleys of our region. Caroá fiber is flexible, soft and white. It is said to be much stronger than jute and resistant to deterioration. It has been used in textiles, sacking, cordage and to make paper.

TILLANDSIA. There are several species of Tillandsia with very showy inflorescences. Most of these are in fine condition and in flower about Christmas time when they are commonly used as house decorations.

Tillandsia usneoides L. Sp. Pl. ed. 2. 411. 1762.
Barba de palo, barba de viejo, paste de cerro, pashte, musgo, barbasco, tzin-i, Spanish moss, old man's beard, grandfather's beard.

The plants are collected and used in filling pillows, mattresses and other things. Some dried material has been exported. When the plants are fermented and cleaned the brown or black interior fiber remains. It is strong and resilient and used in upholstery. In Central America the plants, after drying, are sometimes dyed before marketing.

BURSERACEAE

Shrubs or commonly trees often producing balsalm or an oily resin; leaves alternate, usually odd-pinnate or 1-3 foliolate;

fruits drupaceous or dry, dehiscent or not, containing 2-5 nutlets.

The family consists of about 17 genera and as many as 500 species, these often difficult to distinguish. Native of the tropics around the world, only three genera in continental North America. — To this family belong the myrrh and frankincense used as ingredients of incense since biblical times. Myrrh was considered to be as valuable as gold. The sap of many Central American Burseraceae is fragrant.

Bursera simaruba (L.) Sarg. Gard. & For. 3: 260. 1890.

Almácigo, palo mulato, palo chino, chino, indio desnudo, copón, jiñocuave, caraña, fiñote, juñote, jinicuite, jiote, palo jiote, chicchica, chicah, cacah, chacá, hukup, torchwood, birch, gumbolimbo.

This tree is used throughout Central America as a fence post where there is sufficient moisture and mostly below 1,000 meters. A branch or cutting is placed in the ground during the rainy season where it soon takes root and in a short time will be large enough to carry barbed wire. The gum resin is said to be used as a glue of many uses. It is probably an ingredient of the incense used by the Indians in Roman Catholic churches in Guatemala. It is reported to be used on canoes to protect them from insects.

The Guatemalan Indian name Xacago-que was reported for this tree by Dr. Standley. Paul C. Standley who knew more about Mexican and Central American plants than anyone before or since, always insisted that his local helpers supply common names. I suspect that someone "put up" an Indian to give Standley this name, which was possibly as close as the informant could come to "Chicago Kid!" Standley was a very small man and a very active one, from Chicago.

Canarium ovatum Engler, DC. Monog. Phan. 4: 110. 1883.

Nuez de Filipinas, Pili nut.

The pili nut has been established in a small plantation in Panama and there are still smaller plantings in other places. This nut is an excellent one and popular in good quality mixed nuts. The tree grows best in a relatively moist tropical climate al-

though trees did fairly well and fruited in the dry Río Yeguare valley in Honduras. Native of the Philippines.

Protium asperum Standl. Trop. Woods 8: 4. 1926. Trattinickia aspera Swart, Rec. Trav. Bot. Néerland. 39: 426. 1942.

Caraño.

A Panamanian species which is said to exude large quantities of a fragrant balsam or resin. It is reported to be collected and is possibly used locally in incense.

Protium copal (Schlecht. & Cham.) Engler in DC. Monogr. Phan. 4: 83. 1883.

Copal, fosforito, pom, pon-te, chom, caraña, tontol.

The copal or resin used by the Indians in the Guatemalan highlands in their religious ceremonies may come principally from this species. The resin is seen occasionally in the markets in the highlands and is presumed to have been brought from the lowlands. It is said to be suitable for making varnish. It is probably not collected in sufficient quantity for export.

CACTACEAE

Succulent perennial plants often of bizarre form, mostly armed with spines, terrestrial or epiphytic, small herbs or often shrub-like or tree-like; the flowers often large and showy, almost always attractive; the fruits baccate and often edible.

Mexico is the distributional center of the cacti of North America. There are relatively few kinds of cacti in Central America but some of these are attractive plants and often in cultivation. The family has few species that are of economic importance other than as horticultural subjects. There may be Mexican species in cultivation in our area that are not in the following list. The account of the cacti in the Flora of Guatemala (Fieldiana, Bot. 24, pt. 7: 187-234. 1962), prepared by this writer, is the most recent one available for any portion of our region.

Epiphyllum strictum (Lemaire) Britt. & Rose, Contr. U. S. Nat. Herb. 16: 259. 1913. Phyllocactus strictus Lemaire,

Ill. Hort. 1: Misc. 107. 1854. E. guatemalense Britt. & Rose, lc. 257, fig. 78. E. pumilum Britt. & Rose, l.c. 258.

The fruits of this species are edible. An epiphytic species of the wet forests from Mexico to Panama.

Hylocereus undatus (Haworth) Britt. & Rose in Britton, Fl. Bermuda 256. 1918. Cereus undatus Haworth, Phil. Mag. 7: 110. 1830. Cereus trigonus var. guatemalensis Eichlam, Monatsschr. Kakteenk. 21: 68. 1911. Hylocereus guatemalensis Britt. & Rose, Cactaceae 2: 184, f. 261. 1920.

Pitahaya, pitaya, pitahaya dulce.

Epiphytic or terrestrial plants in thickets, hedges, rock walls, and over rocks or trees. Sometimes common from Mexico and the West Indies to South America, doubtless spread by man in pre-historic time. Cultivated in other parts of the world. The most brightly colored of all fruits that I know. Often in markets in our region.

Lemaireocereus eichlamii Britt. & Rose, Cactaceae 2: 89, f. 132. 1920. Cereus eichlamii Standl. in Yuncker, Field Mus. Bot. 9: 316. 1940.

Tuna, orégano, guanocal.

An organ cactus found in the Motagua valley of Guatemala and perhaps also in dry valleys of Honduras and El Salvador. The branches are separated from wild plants and set side by side to make hedges, usually around dwellings. Their planting takes much labor but once set they persist for many years and are most effective.

Melocactus ruestii Schumann, Verzeichn. Kult. Kakt. 26. 1896. Cactus maxonii Rose, Smithson. Misc. Coll. 50: 63. 1907. Melocactus guatemalensis Gurke, Monatsschr. Kakteenk. 18: 93. 1908.

Barba de viejo, cabeza de viejo, chile.

An attractive "ball-cactus" native of the dry valleys of Guatemala and Honduras and sometimes in cultivation. The fruit is sweet and edible.

Nopalea cochenillifera (L.) Salm-Dyck, Cact. Hort. Dyck. 1849: 64. 1850. Cactus cochenillifera L. Sp. Pl. 468. 1753.

Tuna, tunal, nopal, tuno, tuno de Castilla, chuh.

Native in Mexico and possibly also in Guatemala, planted as an ornamental in many parts of tropical America. Spontaneous and perhaps naturalized in Guatemala and Honduras up to 1,500 meters, often planted as a hedge. The plant is spineless or nearly so but with many glochids and these deciduous.

The tuna, or nopal, was of considerable economic importance in the past as a host for the cochineal insects, and from the insects a handsome dye was obtained. Mexico and the Canary Islands were the main sources of cochineal a hundred and more years ago. Considerable area in the vicinity of Antigua and Amatitlán was devoted to their culture but by the 1880s the cultivation of the cactus and the production of cochineal had all but discontinued. The dye was used in the manufacture of textiles and small amounts of it may be used still although I do not remember seeing cochineal offered in the markets of Guatemala. Today cochineal is displaced by synthetic dyes.

The cochineal insects were placed on the cactus plants where they multiplied rapidly. When mature the insects were brushed off into bags and dried. The insects are very small and it is almost unbelievable that millions of pounds of dried insects were collected in the mid-1880s for the dye market.

OPUNTIA. There are several native species of Opuntia in Central America and the fruits from most of them are eaten. A gum called nopal gum or cactus gum may be derived from some of them and used locally. The gum is a white opalescent jelly of fair adhesive quality and is said to be used to size textiles in Mexico.

Opuntia ficus-indica (L.) Miller, Gard. Dict. ed. 8. 1768.
Tuna, Indian fig, spineless cactus.

The fruits are eaten in Central America where the plant is probably introduced. I have seen fairly large plantations in Mexico in recent years, planted for the fruits which are much appreciated there.

Pereskia autumnalis (Eichlam) Rose, Contr. U. S. Nat. Herb. 12: 399, tt. 52-54. 1909. Pereskiopsis autumnalis Eichlam, Monatsschr. Kakteenk. 19: 22. 1909.

Manzanote, matial, manteare.

Used in hedges in El Salvador and Honduras and perhaps elsewhere to obstruct the passage of large animals, but the hedges are dangerous to man and probably to domesticated animals. The minute glochids are produced in quantity and could damage eyes. The fruit of this least cactus-like of the cacti may be edible, in theory, but the glochids covering them keep away man and beast. The trees are conspicuous and somewhat attractive when covered by the orange or orange-red flowers.

CANNACEAE

Large, erect leafy herbs from rhizomes; the terminal inflorescences usually spicate and often of showy red or yellow flowers; the tepals 6 with one smaller than the others, more or less connate at the base. There is a single genus with about 50 species, mostly from tropical America.

Canna edulis Ker, Bot. Reg. 9: t. 775. 1823.
Platanillo, cucuyús, lirio, bijao.

Native and widely distributed in tropical America. The starchy rhizomes of this species are cooked and eaten although I have no record of them being used for food in Central America. Skins from the rhizomes of this species were found at the archeological cite at Hueca Preta in Peru. Probably widely distributed by pre-Columbian men and often more or less a weed.

Canna generalis L. H. Bailey, Hortus 118. 1930.
Bandera Española, bijagua, canna.

The common large-flowered cannas of gardens. There are now countless horticultural forms. These plants are all believed to be of hybrid origin, with several of the wild species involved. Commonly offered in the markets of Guatemala and Costa Rica.

Canna indica L. Sp. Pl. 1. 1753.
Platanillo, bijagua, bijao, cucuyís.

The large leaves are used as a wrapping material for food and other things and stacks of them are often offered in markets. Sometimes grown as a ornamental but rather poor. Native and widely distributed in the American tropics.

CAPPARIDACEAE

In Central America a small family of trees, vines or herbs; the leaves alternate, simple or palmately compounded; the sepals 4; the petals 4 to many, subequal or two often larger; stamens 4 to many; ovary superior, usually on a conspicuous gynophore. - The principal economic plant of the family is the caper, the dried flower buds of Capparis spinosa L. Capers have not been introduced into Central America as a crop. There are some 40-45 genera and perhaps 600-700 species world wide.

Capparis pseudocacao Shum. ex Wercklé, Subreg. Fitogeogr. Costarr. 19. 1909.
Granadilla de árbol, cacao de mico.

The fruit of this Costa Rican species has been reported to be the size of those of the granadilla (Passiflora) and edible.

CAPRIFOLIACEAE

Shrubs or small trees or scandent vines; leaves opposite, simple (Lonicera, Viburnum) or pinnately compounded (Sambucus); inflorescence usually cymose, 2-3-flowered and axillary (Lonicera) or terminal with many flowers; fruits baccate or drupaceous; the ovary inferior or nearly so. — A family of about 20 genera and some 400 species. Four genera and about 20 species in Central America.

Lonicera japonica Thunb. Fl. Jap. 89. 1784.
Madreselva, xián, raxcám, Japonese honeysuckle.

An ornamental vine introduced into Costa Rica and elsewhere in Central America. It may become adventive and a pernicious weed. It should be destroyed when recognized.

Sambucus mexicana Presl, DC. Prodr. 4: 322. 1830.
Sauco, sauco colorado, sauco extranjero, sacatsun, bahmán, txolokquen, tzoloj, tzolojche, tzolojque, elderberry.

Native and cultivated in Central America. The fruits of this shrub or small tree are eaten as are elderberries elsewhere. The flowers have been used in domestic medicine and the plants are grown as ornamentals.

Viburnum costaricanum (Oerst.) Hemsl. Biol. Cent. Am. Bot. 2: 2. 1881.

Conchudo.

The fruits are sweet and edible. Costa Rica and Panama.

Viburnum stellatotomentosum (Oerst.) Hemsl. l. c. 3.

Curá, surá, tirré.

The fruit is edible. Costa Rica and Panama.

CARICACEAE

Small, weak trees or tree-like plants with a terminal cluster of usually digitately lobed leaves and with milky juice; dioecious, monoecious or polygamodioceious; the fruit is a berry weighing from a few grams to 10 kilograms in the papaya. — A small family of 3 genera, two in America and one in Africa, and as many as 20 species. The papaya, Carica papaya, is cultivated in the tropics and subtropics of the world, and sometimes is an escape.

Carica mexicana (A. DC.) L. Wms. Fieldiana, Bot. 29: 368. 1961. Jacaratia mexicana A. DC. Prodr. 15, pt. 1: 420. 1864. Carica dolichaula Donn.-Sm. Bot. Gaz. 23: 247. 1897.

Papaya de monte, papaya, papaya mata buey, palo de barril, papayillo, cuayote.

The thick trunks are cut and left to dry. The interior shrinks and leaves a cylinder of bark which may be used like a barrel for the storage of maize or other articles. The fruit is said to be used in Mexico, either fresh or as a preserve. The fruits are used in El Salvador and the plant is said to be abundant near Ahuachapán. I have never seen it as a native plant or as fruit offered in markets.

Carica papaya L. Sp. Pl. 1036. 1753.

Papaya, papayo, papayo macho, papayo morado, lechosa, pawpaw, papaw, put.

The papaya is native of the American tropics where it was widely cultivated of distributed in pre-Columbian times. The plant requires little care in appropriate climates and may become adventive.

The fruit is often excellent but quality is difficult to maintain in cultivation since propagation is almost entirely by seed. Fruits are difficult to ship long distances and good fruits are all but unknown in northern markets. Fruit almost ripe before picking is best. Green fruits are excellent for making a pie which resembles apple pie. The dried and purified milky juice, obtained from the green fruits by scarifying them, is the source of papain which is used as digestant of protein in meat "tenderizers." Most of the world supply of papain is produced in Africa and in Sri Lanka. I do not know of papain being commercially produced in Central America. The seeds, air dried, contain about 25o/o of an oil with a low iodine value.

Carica peltata Hook. & Arn. Bot. Beech. Voy. 425, t. 98. 1841.
Papaya de mico, tapaculo, lerdo.

The fruit is said to be small with large seeds surrounded by an edible pulp. I have never seen it. Costa Rican.

CARYOPHYLLACEAE

Annual or perennial herbs with opposite, simple leaves, the leaf bases sheathing and connate. — A large family of some 75 genera and perhaps 2,000 species, mainly of north temperate regions. It is of interest for the large number of ornamentals which it contains. There are many species which are weedy.

Dianthus barbatus L. Sp. Pl. 409. 1753.
Clavel, clavel imperial, sweet William.

A common ornamental in highland gardens and occasionally in markets.

Dianthus caryophyllus L. Sp. Pl. 410. 1753.
Clavel, carnation, clove pink.

An ornamental grown in the mountains of most Central American countries for the local and now international flower markets. It is important as a cash crop for mountain people.

Dianthus chinensis L. Sp. Pl. 411. 1753.
Clavel, rainbow pink.

The species and perhaps some of its varieties are found as ornamentals in the high country, and in markets as a cash crop.

CASUARINACEAE

Trees or shrubs with jointed branches and the leaves reduced to scales surrounding the nodes of the branches, monoecious or dioecious. A single genus with perhaps 40-50 species native in Australia and New Zealand to Malaya.

Casuarina equisetifolia Forst. Char. Gen. Pl. 104. 1776.
Pino, pino de Australia, pinabete, Australian pine.

Commonly grown as an ornamental. It is useful as fire wood and as a windbreak. The bark is rich in tannin. There is at least one other species introduced in Central America but the species has not been determined.

CHENOPODIACEAE

Annual or perennial herbs, occasionally shrubs; leaves alternate, simple, often glaucous or mealy; flowers small, perfect or unisexual.

A difficult family of perhaps 100 genera and a thousand species or more mostly in temperate regions around the world. The plants are often halophytes. Several are important economic plants, a few are ornamentals and many are weeds.

Beta vulgaris var. cicla L. Sp. Pl. 222. 1753.
Acelga, swiss chard, chard.

A plant grown as a pot herb but not a favored vegetable in Central America. The midribs of the leaves are thick and succulent.

Beta vulgaris var. crassa Alef. Landw. Fl. 280. 1866.
Remolacha, acelga, beet, beet tops.

Beets are cultivated in many highland areas and occasionally in the lowlands. Both the roots and the tops are used. Beets grown at lower elevations are inclined to be woody.

Chenopodium ambrosioides L. Sp. Pl. 219. 1753. C. anthelminticum L. l. c. 220.

Apazote, apazote de caballo, apazote de zorro, epasote, epazote, sicaj, siquij, saqueen, uiquej, rescaj, sicajpar, riskiij, pazote.

A herb with rank and characteristic odor which has been long employed as a remedy for intestinal parasites. It is dangerous to use and is now used rarely in "official" medicine. An essential oil is the effective anthelmintic agent.

Regardless of the rank odor of the plant it is used to flavor soup and similar dishes to which it imparts an agreeable flavor. The tender shoots of the plant are sometimes used as a pot herb.

Chenopodium berlandieri Moq. Chenop. Enum. 23. 1840.
Bledo, bledo extranjero, lambs quarters.

The leaves and tender shoots are used as pot herbs, as they are in many other countries.

Chenopodium quinoa Willd. Sp. Pl. 1: 1301. 1797.

Quinoa.

Native of Chile and Peru and cultivated in all the Andean countries, a very important food plant there in pre-conquest times. Quinoa has been introduced and grown in Central America but may not be a part of the cultivated flora now. I grew the plants in my garden in Honduras at about 800 meters. It did very well and produced abundant seeds.

Spinacia oleracea L. Sp. Pl. 1027. 1753.
Espinaca, spinach, espinaca fina, espinaca de victoria.

Occasionally grown as a pot herb but the plant does not do well in the tropics. Most of the "spinach" grown in Central America is New Zealand ice plant (Tetragonia expansa) which does well, at least in the highlands.