

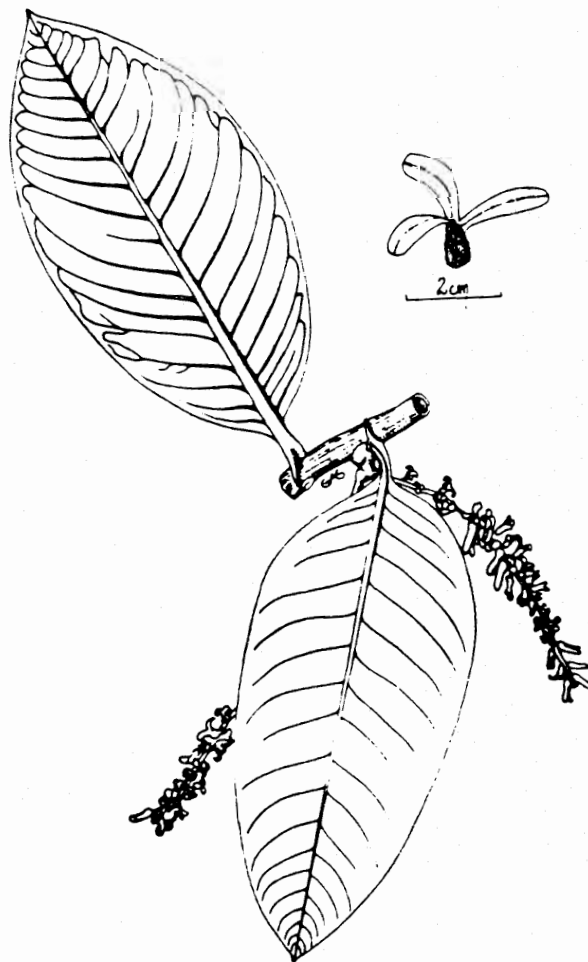
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USEFUL PLANTS OF AMAZONIAN ECUADOR

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Fourth Progress Report

15 October 1989 - 15 April 1990



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USEFUL PLANTS OF AMAZONIAN ECUADOR - 1

FOURTH PROJECT REPORT (15 OCTOBER 1989 - 15 APRIL 1990)

In this report we describe the fourth six month's progress of the "Useful plants of Amazonian Ecuador Project" directed by the New York Botanical Garden's Institute of Economic Botany. The primary objective of our research, which is supported by U.S. Agency for International Development Grant No. LAC-0605-G-SS-7037-00, is to prepare a manual on Amazonian Ecuador's useful plants. This reference will incorporate data from our fieldwork, herbarium studies, and ethnobotanical publications. This data is vital if Ecuador and other tropical countries are to develop sustainable agricultural programs and fully benefit from the tropical rain forest's diversity. A second objective, nearing completion, is a study of the useful plants of the Shuar. Other goals are to prepare a preliminary database, train Ecuadorian students, and to assist Ecuadorian research organizations.

FIELDWORK. Dr. Bradley C. Bennett (IEB and MECN), Srta. Patricia Gómez (CONACYT) and Sr. Efrain Freire (MECN) travelled to the Shuar Centro Yukutais in February 1990. They collected 130 species in primary, montane forest near Yukutais. Most of these were previously uncollected. This brings the total number of plants collected in Yukutais to more than 1000. Informants knew the names of about 80% of the recently collected plants and provided uses for more than half of these. We've not completely sampled the flora of Yukutais. Nonetheless, the February trip was our last major collecting trip for this project. We could

continue fieldwork for several years but we feel obligated to complete a preliminary report on the useful plants from this region. This precludes additional fieldwork in the immediate future.

SHUAR MANUSCRIPT. We've completed most of a manuscript on Shuar ethnobotany. Within the next year we will receive determinations of the plant voucher specimens and proceed with the publication of this document. Based on the determinations that we have received to date, we have information on the following number of taxa.

FAMILIES	118
TAXA IDENTIFIED TO DIVISION	34
FAMILY	223
GENUS	257
SPECIES	307

NUMBER OF TERMINAL TAXA	821

Some of the 821 taxa not yet identified to species will no doubt be duplicates of already-collected species. We estimate that the 821 terminal taxa represent about 725 species. The Shuar manuscript appears in Appendix A.

MANUAL PREPARATION. At present we have common names and usages for 1855 taxa representing 152 plant families. Of the 1855 taxa 450 have not yet been identified to species. We therefore estimate that the manual will include about 1750 good species. The number of taxa is shown below. A list of the taxa

to be treated in the manual appears in Appendix B.

FAMILIES	152
TAXA IDENTIFIED TO FAMILY	78
GENUS	372
SPECIES	1405

NUMBER OF TERMINAL TAXA	1855

Dioscorides has offered a contract to publish the manual (Appendix C). Bennett asked 10 ethnobotanical and taxonomical authorities for their comments on a sample description from the manual (Appendix D). None of the authorities felt that the descriptions were excessive. Nonetheless, we're looking for places to reduce the manuscript's length so that the published version will be more affordable. Dioscorides has requested an \$11,000 supplement to lower the final price of the book. We presently have only \$4000 allocated for publication costs.

The 69 illustrations prepared to date are included in Appendix E. Alejandro Suarez is preparing additional illustrations. About 200 of these will appear in the manual.

CLASSIFICATION. A classification of the useful plants is presented in Appendix F. There are 18 major categories; the more important ones are divided into one or two levels of subcategories. Indices based on these categories will help users of the manual quickly find information.

RELATED WORK. In February Bennett presented a paper entitled "Variation in plant names and uses among the Shuar" at

the First Ecuadorian Ethnobotany and Economic Botany Symposium in Ecuador. He also participated in a panel discussion on the future of ethnobotany and socioeconomic development in Ecuador. His paper on the Shuar research and contribution to the panel discussion, "Economic and Sociologic aspects of Ethnobotany" will be published in the proceedings from the conference. These papers appear in Appendices G and H. Bennett also presented a summary of the U.S. A.I.D. supported research at the United Nations Development Program meeting in Quito.

With the help of Douglas McMeekin, an environmental consultant working in Ecuador, Bennett arranged a collaborative project with Unocal. Unocal will provide the logistic support for botanists to work out of the company's Tiguiño base camp in the Pastaza Province. U.S. and Ecuadorian scientists will collect plant voucher specimens and plant material for chemical analyzes at oil well sites being cleared by Unocal.

RELATIONSHIP WITH MUSEO ECUATORIANO DE CIENCIAS NATURALES. We continue to build a cooperative relationship with the Ecuadorian Museum of Natural Sciences (MECN). We provided six months of the salary for a herbarium technician and money to buy supplies. The Museum recently named Dr. Bradley Bennett a honorary assistant curator of the National Herbarium. We are presently looking for additional cooperative projects with the Museum.

FINANCES. Through the careful use of research funds and supplements from other grants we have money remaining at the end

of the grant's original two year tenure. A one year no-cost extension was recently approved by Washington. The original grant allocated \$12,000 for training of Ecuadorian students. A previous U.S. A.I.D. grant to the New York and St. Louis Botanical Gardens also allocated money for student training. Two students were brought to the U.S., one studied at New York and the other at St. Louis. Both returned to Ecuador but are no longer working directly in botany. We therefore thought it more prudent to give broader training to more students. Dr. Bennett taught an ethnobotany course for the School for Field Studies last summer. U.S. students paid \$2000 each for tuition and room and board. Four Ecuadorian students attended the class at no cost. Bennett will teach the course again this summer and has invited 8 Ecuadorians to attend. Ecuadorian students will therefore receive \$24,000 of training at no cost. In addition, three students have received field and herbarium training for periods of at least six months.

FUTURE PROJECTS. Our immediate goal is to complete the Shuar study and the Manual on Ecuador's Useful Plants. Because of lowland Ecuador's incredible diversity this manual will be an incomplete one. We hope to continue documenting the uses of plants by Ecuador's native people and will seek funding to do this. In addition we have four other projects we 'd like to consider for Ecuador. Our data does little good unless we can find ways to implement its use. The four projects we would like to consider are:

USEFUL PLANTS OF AMAZONIAN ECUADOR - 6

1. DEVELOPING EXTRACTIVE RESERVES IN AMAZONIAN ECUADOR
2. RESOURCE MANAGEMENT AND NATIVE PLANT UTILIZATION AMONG QUICHUAS AND COLONISTS IN NAPO
3. PROMOTION OF NATIVE PLANT RESOURCES IN AMAZONIAN ECUADOR
4. MANAGING ECONOMIC PLANTS IN ECUADOR'S NATIONAL HERBARIUM

Summaries of these projects appear in Appendix I. Recently, we met with Ramiro Davila of the Ministry of Foreign Relations and Juan Poveda of the Ministry of Agriculture. The Ecuadorian government wants to promote the use of native plants in the Oriente. Davila and Poveda requested NYBG's help in identifying suitable plant resources and in finding financial support to carry out the project. Bennett is also working with 5 other Ecuadorian botanists to prepare a list of the 100 most promising tree species to be used in agroforestry and reforestation projects. A manuscript based on this list and pertinent references will be given to Ecuadorian researchers and government officials.

APPENDICES

ACANTHACEAE

Aphelandra sp. [cf.]

Centro Yukutais. Very common, montane forest shrub; to 2 m tall.

SUKANKA NUMI - Bennett 4083; Informants: AA.

NAME UNKNOWN - Bennett 4083; Informants: JA & JCA; MK & PK.

Personal. Women place flowers in their hair.

Fittonia albivenis (Lindl. ex Veitch) Brummitt

Centros Taisha and Pampants. Common, secondary-forest and montane forest herb; 10-20 cm tall.

JINTIM' - Warush 102; Informant: AW.

NAME UNKNOWN - Baker 6808; Informant: ?.

Poison, Veterinary. Achuar claim that this plant is poisonous. Masticated leaves, mixed with YUCA and meat, are given to dogs so that they can follow animal trails (AW).

Fittonia sp. [aff.]

Centro Yukutais. Prostrate herb, occasional in some chacras.

AKAPMAS - Bennett 3712; Informant: AA.

NAME UNKNOWN - Bennett 3712; Informant: MK.

NAME UNKNOWN - Bennett 3605; Informant: JA.

Medicinal. The plant is cooked in water and the liquid taken 3 times a day to treat liver pain.

Justicia pectoralis Jacq.

Rio Yuquipa; Centros Nayanmak, Pampant, Pimpints, Tiink, and Yantsas. Disturbed primary forest and common garden herb.

TAPIR - Kasent 12; Informant: PWK.

- Pujupet 1024; Informant: JOP.

- Warush 31; Informant: AW.

TSEMANTSMA - Baker 6775; Informants: JN & AN.

WIRINK - Utitiaj 43; Informant: MAU.

- Warush 36; Informant: AW.

YAWA KUNKUNARI - Pujupet 1009; Informant: JOP.

Food, Medicine, Veterinary. The leaves are edible (JN & AN).

USEFUL PLANTS OF THE SHUAR - 2

Crushed leaves are given to weak children. Dried leaves can be stored for 2-3 weeks (PWK). Crushed leaves are mixed with TSEKANCHUM PIRIPRI and placed on children's knees or bodies to treat an unmentioned ailment. The plant's juice also is used (MAU). Children consume the leaves after eating wild game to prevent sickness (AW). The leaves are mixed with food and given to dogs to make them better hunters.

Justicia polygonoides H.B.K.

Rio Yuquipa. Weak herb, 1 m tall.

TSEMANTSMA - Baker 6751; Informants: JN & AN.

Food. The leaves are eaten with fish.

Justicia sp.

Centro Yukutais. Erect herb in wet, disturbed sites; to 1 m.

SAMA - Bennett 3634; Informant: MK.

Forage. Frogs eat the leaves of this plant.

Pachystachys sp. [cf.]

Centro Yukutais. Small, montane forest, understory shrub.

KUISHMINIAMAR - Bennett 3604; Informant: RN.

Medicinal. A poultice of cooked floral bracts is placed on the ear to treat infections.

Pachystachys sp. [cf.]

Centro Yukutais. Common understory shrub to 1.5 m tall, bracts red, flowers orange.

NAME UNKNOWN - Bennett 4054; Informant: JCA.

No use reported.

Pseuderanthemum sp. [cf.]

Centro Yukutais. Small shrub to 1 m tall.

AMOR SECO [Spanish - dry love] - Bennett 3395; Informant: JA.

No use reported.

Teliostachya lanceolata Nees

Rio Yuquipa. Disturbed primary forest also found in house gardens.

TSEMANTSMA - Baker 6776; Informants: JN & AN.

Veterinary. A medicine for chickens is made from the plant.

genus indet.

Centro Yukutais. Climbing vine.

KAUKWISH - Bennett 3701; Informant: AA.

TUIN - Bennett 3701; Informant: MK.

No use reported.

genus indet.

Centro Yukutais. Collected by Domingo Antich.

KARIS KUKUJ' [karis flower] - Bennett 3813; Informant: DA.

No use reported.

genus indet.

Centro Pimpints.

SAMIRUK - Kasent 3; Informant: PWK.

Medicine. The crushed leaves are placed in a little water and sprinkled over the body to heal "brugeado" in two days. Washing in the plant's juice reduces fever.

genus indet.

Centro Kankaim. Creeping herb.

ATASHMATAI - Shiki 162; Informant: DS.

No use reported.

USEFUL PLANTS OF THE SHUAR - 4

genus indet.

Centro Kankaim.

YAPAKACH NUMI [yapakach wood] - Shiki 174; Informant: DS.

No use reported.

ADIANTACEAE

Adiantum sp.

Centro Yukutais.

NASHISHIP - Bennett 3524; Informant: Not recorded.

No use reported.

Pitryogramma sp.

Centro Yukutais. Epiphyte.

NAME UNKNOWN - Bennett 3472; Informant: MK.

No use reported.

AMARANTHACEAE

Achyranthes aspera L.

Centro Yukutais. Common, erect herb in chacras and along trails; 10 m.

PAKUSPAKUS - Bennett 3469; Informant: PK.

No use reported.

Aerva sanguinolenta Blume

Centro Yukutais. Garden herb 50 - 70 cm tall, introduced from Africa.

ESCANCEL [Spanish] - Gómez 537; Informant: ?

MORADILLA [Spanish] - Gómez 537; Informant: ?

HIERBA DE PURGAS [Spanish - purge herb] - Gómez 537;
Informant: ?

Medicine. An infusion (3-4 fresh leaves in 1 liter of water for 15 minutes) is used as a purgative and to wash or clean skin infections or inflammation caused by injuries, wounds,

USEFUL PLANTS OF THE SHUAR - 5

bruises, mosquito bites. Treatment may be repeated 2-3 times per day as long as necessary. A tea made in the same manner mixed with honey and a few drops of lime juice can cure head colds, influenza and circulatory, pulmonary, and respiratory disorders. The 250 ml of the tea should be taken twice a day; once in the morning and once before bed for 3-4 days.

Alternanthera pubiflora (Benth.) Kuntze

Centro Yukutais. Cultivated garden herb to 50 cm tall.

KANSEL - Bennett 3467; Informant: JA.

Medicine. Leaves are used to treat swellings or tumors.

USEFUL PLANTS OF THE SHUAR - 6

Amaranthus caudatus L. - LOVE-LIES-BLEEDING [English],
AMARANTO [Spanish]

Centro Yukutais. Cultivated garden herb.

ATACO [Spanish] - Gómez 424; Informant: ?
SANGORACHE [Quichua?] - Gómez 424; Informant: ?

Food, Medicine. Leaves are used as a potherb. White (1985) reports that the plant is an astringent used to treat diarrhea. An infusion (15 grams of leaves in one liter of water) is taken every two hours for two days to relieve diarrhea, dysentery, hemorrhages, and excessive menstrual bleeding. The infusion also is used to relieve sore throats by gargling twice a day for 5 days. "Colada morada," a typical drink consumed during the festival the deceased is made from the inflorescence, blackberries or blueberries, pineapple, cinnamon, cloves and sugar.

Amaranthus sp.

Centro Tiink. Herb.

KAUR KANTSE - Utitiaj 9; Informant: MAU.

Medicine. The Shuar heat leaves and stem mixed with KAUR AJEJ, TSUAK MEJECH, and other plants to treat stomach ache, diarrhea, or dysentery.

genus indet.

Centro Chiar Entsa. Garden herb 1 m tall.

NUMPAKU - Mashu 2; Informant: NJM.

Medicine. A decoction made from fresh leaves and roots is taken for an unmentioned illness.

genus indet.

Centro Nayanmak. Herb 20-30 cm tall.

YAWA KUNKUNA - Pujupet 1023; Informant: JOP.

Unknown. Leaves are used for an undisclosed purpose.

genus indet.

Misión Salesiano Bomboiza. Garden herb.

USEFUL PLANTS OF THE SHUAR - 7

YUKA - Pujupet 1074; Informant: JOP.

Veterinary. Leaves given to dogs for an undisclosed purpose.

genus indet.

Centro Tiink. Herb.

TAWARTIR KANTSE - Utitiaj 41; Informant: MAU.

Medicine. Leaves and stems are mixed with leaves of IKIAMANCH, KUMIANK, an egg and applied to tumors. The tumor is then covered with of NATSAMPAR leaves. The procedure is repeated several times.

genus indet.

Centro Pampants. Common garden herb.

KUAR KANTSE - Warush 26; Informant: AW.

Medicine. Leaves and stem mixed with other plants are used in a herb bath to treat colic.

genus indet.

Centro Pampants. Rare garden herb.

YAWA URINTS - Warush 44; Informant: AW.

Veterinary. Leaves are given to dogs so they will be hunters.

ANNONACEAE

Annona sp. - CHERIMOYA [English]

Centros Tiink and Yukutais. Small tree, protected in chacras and common in forest; to 12 m tall.

KEACH - Bennett 3595, 3770; Informants: AA & CCh.

- Jimpikit 2021; Informant: HJM

CHIRIMOYA - Bennett 3595, 3770; Informants: AA & CCh.

Food. The highly-prized fruits are edible (AA). The fruit pulp is edible but chewing the seeds is considered extremely dangerous (HJM).

Guatteria sp.

USEFUL PLANTS OF THE SHUAR - 8

Centro Nayanmak. Tree.

YAIS - Shakaim 13; Informant: SS.

Construction, Forage. Planks made from the stem are very hard and are used for house construction. Fruits are eaten by many bird species.

Rollinia sp.

Centro Yukutais. Medium tree to 20 m tall. Not cut when chacras are cleared.

SAPAN - Bennett 3590, 3769; Informants: MK & PK; DA & CCH.
YUNKUA or YUNGUA - Bennett 3590, 3769; Informants: MA & PK;
DA & CCH.

Construction, Fiber. The stem is used for wood and the bark is used for cord.

cf. Unonopsis sp.

Centro Pimpints. Primary-forest tree; 20 m tall.

MANTACH - Kasent 51; Informant: PWK.

Construction, Craft, Fuel. The wood is used in home construction and lasts several years. Bark from outer limbs is used as cord for lashing and other things.

genus indet.

Centro Tuutin Entsa. Primary-forest tree.

KAYA YAIS - Anananch 127; Informant: LA.

Construction, Fuel. Stem used for house construction and for firewood.

genus indet.

Centro Yukutais. Small tree.

YAIS - Bennett 3678; Informants: GS & DA & AA.

Forage. Birds eat the fruits.

genus indet.

USEFUL PLANTS OF THE SHUAR - 9

Centro Pampants. Common forest tree.

YAAIS - Juwa 14; Informant: RWJ.

Cord, Fuel. Cord is made from the bark. The stem is used for firewood.

genus indet.

Centro Chiar Entsa. Uncommon secondary and primary-forest tree, 20-25 m tall.

YUNKUA - Mashu 19; Informant: NJM.

Cord. Coradage made from bark is used to lash rafters and walls.

APIACEAE

Anethum graveolens L. - DILL [English]

Centro Yukutais. Cultivated garden herb to 1 m tall, introduced from Europe

ENELDO [Spanish] - Gómez 539; Informant: ?

Food, Medicine. The Shuar make an infusion from the seeds to treat digestive ailments. White (1985) reports carminative, antispasmodic, calmative, diuretic, galactagogue and stomachic properties and its use to control flatulence, insomnia, and halitosis and as an appetite stimulant.

Arracacia xanthorrhiza Bancroft

Centro Tiink. Garden herb.

IKIANCHIM MAYA - Utitiaj 18; Informant: MAAU.

No use reported.

Daucus carota L. - CARROT [English], ZANAHORIA [Spanish]

Centros Tiink, Pampants and Pimpints. Cultivated garden herb.

MAYA - Kasent 48; Informant: PWK.

- Utitiaj 1; Informant: MAU.

- Warush 59; Informant: AW.

Food, Medicine, Veterinary. The root is used to make chicha. Scrapings of the root are applied to tumors or swellings.

USEFUL PLANTS OF THE SHUAR - 10

Chicha made from the warmed roots and leaves is given to children to cure liver ailments. Women drink the chicha to induce labor (PWK). Given to live stock (in an unmentioned form) to expel the placenta.

Eryngium foetidum L.

Centro Yukutais; Centro Pampants. Cultivated garden herb to 40 cm tall.

SAMPAK - Warush 40; Informant: AW.

SAMPAP - Gómez 525; Informant: ?

- Shiki 144; Informant: DS.

CULANTRILLO [Spanish - Gómez 525; Informant: ?

CULANTRO [Spanish] - Gómez 525; Informant: ?

Food, Medicine. Leaves are used as a condiment (?). A poultice of 8-10 macerated leaves are placed on bones twice a day for one month to relieve pain. Boiled leaves are taken to relieve stomach aches (AW). One half liter of a solution made by boiling 12 leaves, sugar cane juice, and AJEJ for 5 minutes is taken to relieve stomach ache (DS).

Spananthe paniculata Jacq.

Centro Yukutais. Occasional chacra wee; to 60 cm tall.

NUPA [weed] - Bennett 3356; Informant: MK.

NAME UNKNOWN - Bennett 3338; Informant: JA.

Medicine. An enema to treat diarrhea is made by boiling macerated leaves for 10 minutes. The solution is administered rectally through a grass tube (MW).

APOCYNACEAE

Tabernaemontana sananho Ruiz & Pavón.

Misión Salesiano Bomboiza.

KUNAPIK - Pujupet 1020; Informant: JOP.

Medicine. Stem scrapings are used in a medicine to cure diarrhea.

Tabernaemontana sp.

Centro Tuutin Entsa. Primary-forest shrub 4 m tall.

KAAPIPI - Anananch 137; Informants: LA.

USEFUL PLANTS OF THE SHUAR - 11

Medicine. Bark used in medicine for stomach aches.

genus indet.

Macas. Disturbed primary-forest tree, 5 m tall.

KUNAPIP - Baker 6701; Informant: ?

PEPA DE LECHE [Spanish] - Baker 6701; Informant:?

Food, Medicine. Mature fruits are edible. A decoction made from the bark is used to treat stomach aches.

genus indet.

Rio Yuquipa. Small tree 4 m tall in disturbed primary forest.

KUNAPIP' - Baker 6748; Informants: JN & AN

Food, Medicine. The fruit pulp surrounding is edible. Ground bark mixed with water alleviates stomach aches.

genus indet.

Centro Yukutais. Montane forest tree; 10 m tall.

UUNKUNAPIP - Bennett 4073; Informants: JA & JCA.

NAME UNKNOWN - Bennett 4073; Informants: MK & PK.

No use reported fruits not considered edible.

genus indet.

Centro Yukutais. Montane forest tree.

KUNAPIP - Bennett 4081; Informants: JA & JCA; MK & PK; AA.

Food, Forage, Medicine. Birds and people eat the fruit pulp. An enema is made from the inner bark. The bark is also used as an emetic to treat diarrhea and amoebas.

genus indet.

Centro Yukutais. Montane forest tree.

KUNAPIP - Bennett 4086; Informants: MK & PK.

Forage. Birds eat the fruits.

USEFUL PLANTS OF THE SHUAR - 12

genus indet.

Centro Chiar Entsa. Small, primary-forest tree; 3 m tall.

KUNAPIP - Mashu 44; Informant: NJM.

Medicine, Veterinary. Bark is for "dolor de warrigas vertibras." The plant is also given to dogs that don't hunt.

AQUIFOLIACEAE

Ilex guayusa Loes.

Centro Yukutais, Centro Pimpints. Medium tree, protected in chacras.

WAIS - Bennett 3659; Informants: GS & DA & AA, MK & RN.

- Kasent 4; Informant: PWK.

GUAYUSA - Bennett 3659; Informants: GS & DA & AA, MK & RN.

- Kasent 4; Informant: PWK.

Drug, Medicine. A tea made from leaves is used to treat headaches, stomach aches, dizzy spells and pain (MK & RN). Previously used like coffee (GS & DA & AA). Two hundred and fifty ml of a decoction made by boiling a few leaves until the water becomes dark acts as an emetic to cure stomach discomfort (PWK).

ARACEAE

Anthurium eminens Schott.

Centro Chiar Entsa. Climbing, primary forest herb.

WANKAT - Mashu 23; Informant: NJM.

Medicine, Veterinary. Young leaves are given to animals to cure undisclosed ailments. The crushed fruits are applied carefully to body parts affected by burrowing insect larvae.

Anthurium ernestii Engl.

Centro Chiar Entsa. Primary-forest epiphyte.

KAANUI - Mashu 52; Informant: JM.

Cord. Roots used to lash houses (?).

Anthurium harlingianum Croat.

USEFUL PLANTS OF THE SHUAR - 13

Centro Yukutais. Large, climbing vine.

UUNTIPU - Bennett 3703; Informant: DA.

KAASUA - Bennett 3703; Informant: MK.

Food Processing. Leaves are used to cover pots.

Anthurium sp.

Centro Yukutais. Montane forest epiphyte

KUKUJ' - Bennett 4059; Informants: JA & JCA; PK & MK.

No use reported.

Anthurium sp.

Centro Yukutais. Common, terrestrial, montane forest herb; to 1 m tall.

KATIRPAS - Bennett 4068; Informant: AA.

WANKAT - Bennett 4068; Informants: JA & JCA.

NAME UNKNOWN - Bennett 4068; Informants: MK & PK.

Personal. Inflorescence used as personal ornamentation.

Caladium bicolor (Ait.) Vent.

Centro Pampants. Common garden or forest herb.

TUKA - Warush 50; Informant: AW.

USHU - Warush 92; Informant: AW.

Food. Tubers are edible.

Colocasia esculenta (L.) Schott.

Centro Yukutais, Centro Tiink, Centro Pampants. Commonly cultivated in chacras.

TUKA - Utitiaj 14; Informant: MAU.

UTAMCHAP - Warush 51; Informant: AW.

PAPA CHINA [Chinese potato] - Bennett 3482; Informant: JA.

Food. Tubers are edible. To avoid itching they are collected by the roots cooked well (AW).

Monstera spruceana (Schott) Engl.

USEFUL PLANTS OF THE SHUAR - 14

Centro Pampants. Garden vine.

AKAPMAS - Warush 11; Informant: AW.

Unknown. Leaves used for an undisclosed purpose.

Philodendron sp.

Centro Yukutais. Climbing vine.

KANGUAR - Bennett 3704; Informant: AA.

UNDUCH - Bennett 3704; Informant: MK.

Veterinary. Used like Cresa, a commercial disinfectant. The macerated leaves are applied to larval infections in cattle.

Philodendron sp. [cf.]

Centro Yukutais. Terrestrial, montane forest, understory herb; to 1 m tall.

KATIRPIS - Bennett 4051; Informant: AA.

NAME UNKNOWN - Bennett 4051; Informants: JA & JCA; PK & MK.

Food Processing. Leaf used to wrap ayampacos.

Philodendron sp. [cf.]

Centro Yukutais. Montane forest herb.

EEP - Bennett 3820; Informant: DA.

- Bennett 4125; Informants: MK & PK; AA.

- Bennett 4172; Informant: PK.

Food. Leaves are eaten like cabbage and used as a condiment in ayampacos.

Spathiphyllum [cf.]

Centro Yukutais. Collected by Domingo Antich.

ISHITIAPACHPUMPUCH - Bennett 3817; Informant: DA.

No use reported.

Syngonium podophyllum Schott.

USEFUL PLANTS OF THE SHUAR - 15

Centro Pimpints, Centro Pampants. Vine with white latex.

SUNKINIA - Kasent 16; Informant: PWK.

SUNKIP - Warush 91; Informant: AW.

Medicine. Fresh latex is placed on wounds to heal them. Pulverized ash from burned leaves also is applied to wounds (PWK).

Xanthosoma violaceum

Centro Pampants. Garden herb.

URIANCHUM SANKE - Warush 49; Informant: AW.

PENKE SANKE - Warush 48; Informant: AW.

Food. Tubers edible.

genus indet.

Centro Yukutais. Terrestrial; montane forest herb; to 1 m high in .

ATANK PAEN - Bennett 4076; Informants: JA & JCA.

CHINCHIP' - Bennett 4076; PK & MK.

KANKUR - Bennett 4076; Informant: AA.

Fiber, Ornamental. Roots are used for cord. Plant is used as an ornamental.

genus indet.

Misión Salesiano Bomboiza. Common, climbing primary-forest vine.

AKAPNAS - Pujupet 1016; Informant: JOP.

Medicine: Hot leaves are used in an undisclosed manner to treat swelling of the liver.

genus indet.

Centro Kankaim. Epiphytic herb.

WIRIKIAM - Shiki 181; Informant: DS.

Cord, Medicine. Roots are used as cord or rope. Liquid from petiole eliminates dandruff.

USEFUL PLANTS OF THE SHUAR - 16

genus indet.

Centro Kankaim. Herb of humid locations to 50 cm.

SUNKIP - Shiki 188; Informant: DS.

No use reported.

genus indet.

Centro Kankaim. Climbing epiphytic herb.

WAANKAT - Shiki 195; Informant: DS.

Food, Food Processing, Medicine. Young leaves are edible. Ayampaco is made from older leaves. External part of the sheath (may be leaf or spathe) applied to parts affected by burrowing insect larvae.

genus indet.

Centro Kankaim. Epiphytic herb.

KUNKUIN SUNKIP - Shiki 207; Informant: DS.

Personal. Young leaves used as perfume.

genus indet.

Centro Tiink.

NAPINIU WANCHUP - Utitiaj 16; Informant: MAU.

Food. Rhizome is edible.

ARALIACEAE

genus indet.

Centro Pampants. Common forest tree.

SUNTUNCH - Juwa 70; Informant: RWJ.

Forage. Birds and other small animals eat the fruits.

ARECACEAE

Aiphanes schultzeana Burret

Centro Tuutin Entsa. Primary forest palm 5 m tall.

AMPAKAI KAMANCHA - Anananch 223; Informant: LA.

Hunting. Used to make projectiles for shotguns.

Astrocaryum sp.

Centro Pampants. Common palm in cultivated gardens.

KUMRI or KUMAI [family = AWAN] - Juwa 143; Informant: RWJ.

Fiber, Food, Hunting. Leaves are a source of fiber, used to make traps for birds. Fruits are edible.

Astrocaryum or Bactris sp.

Centro Tuutin Entsa. Primary-forest palm; 20-25m tall.

KUMATA - Anananch 184; Informant: LA.

MAIA - Anananch 184; Informant: LA.

Cord, Hunting. Leaves used as cord. Stem used to make arrows for "uum."

Astrocaryum or Bactris sp.

Centro Tuutin Entsa. Primary-forest palm; 7 m tall.

AWAU - Anananch 221; Informant: LA.

Food, Hunting. "Heart is edible. Arrows are made from epidermis for "uum."

Bactris gasipaes Kunth

Centros Tiink, Tuutin Entsa, and Centro Yukutais. Commonly cultivated palm.

MAYA UWI [spineless variety] - no collection; Informant: DA.

UWI - Bennett 3368; Informant: DA.

- Jimpikit 2037; Informant: HJM.

- Kunkumas 242; Informant: PK.

Construction, Food. Trunk used in house construction. Heart and fruits are eaten.

Bactris sp.

Centro Chiar Entsa, Centro Tuutin Entsa. Primary forest palm.

KAMANCHA - Mashu 17; Informant: NJM.
- Anananch 172; Informant: LA.

Construction, Food, Hunting. Stems are used in house construction. Fruits are edible. Lances are made from the stem.

Denocarpus sp.

Centro Chiar Entsa. Palm; 20-30 m tall.

KUNKUNK - Mashu 3; Informant: NJM.

Hunting. To make darts the petiole is divided continually until the correct size is reached then filed sharp.

Euterpe sp.

Centro Chiar Entsa. Primary forest palm.

CHAPI - Mashu 20; Informant: NJM.

Construction. Leaves make a durable thatching material for houses.

Euterpe sp.

Centro Chiar Entsa. Palm found in small ponds in primary forests.

SAKE - Mashu 25; Informant: NJM.

Construction, Food. Stem used for house construction. Heart is edible.

Euterpe sp.

Centro Tuutin Entsa. Primary-forest palm; 38 m tall.

TINKIMI - Anananch 220; Informant: LA.

Food. Heart is edible.

Euterpe sp. [cf.]

USEFUL PLANTS OF THE SHUAR - 19

Centro Tuutin Entsa. Primary-forest palm; 10 m tall.

SHUMPU - Anananch 200; Informant: LA.

Construction, Food. Stem used to make house posts. Cooked fruit is edible.

Geonoma sp.

Centro Pampants, Centro Tuutin Entsa. Common, small primary forest palm.

TURUJI - Warush 97; Informant: AW.

- Anananch 183; Informant: LA.

- Kunkumas 105; Informant: PK.

Construction, Craft. The durable leaves are used to thatch houses (AW; LA). Leaves are woven together for an undisclosed purpose (PK).

Iriartea deltoidea R. & P.

Centros Chiar Entsa and Tuutin Entsa. Primary forest palm.

AMBAKAI - Anananch 171; Informant: LA.

- Mashu 21; Informant: NJM.

Construction, Hunting. The stem is split to make walls and also used to make posts and lances.

Iriartea deltoidea R. & P. [cf.]

Centros Chiar Entsa, Tuutin Entsa, and Yukutais. Common, montane forest palm; to 15 m tall.

TEREN - Anananch 173; Informant: LA.

- Bennett 4115; Informant: JA.

- Kunkumas 167; Informant: PK.

- Mashu 24; Informant: NJM.

PAMBIL [Spanish] - Bennett 4115; Informant: JA.

Construction, Food. The trunk is dried in the sun after felling then used to construct houses, especially for posts. The leaves are used for thatch. The fruit and heart are edible.

Mauritia flexuosa L.f.

Centro Yukutais. Large palm in wet places; to 20 m.

USEFUL PLANTS OF THE SHUAR - 20

ACHU - Bennett 3408; Informant: JA.

Food, Forage. The fruits and hearts are eaten. Fruits also are given to pigs.

Phytelephas sp. [cf.]

Sucua - Central market.

TAGUA [Spanish] - Bennett 4035; Informant: JA.

TINTUK - Bennett 4035; Informant: JA.

Food. Fruits are edible. Sold for 50 sucres each.

genus indet. Attaleinae

Centro Chiar Entsa. Palm found in swampy regions.

KUWACASH - Mashu 30; Informant: NJM.

Construction, Food. Leaves make good roofing material. Tree is felled then leaves are collected and dried before using. Heart is edible.

genus indet.

Centro Tuutin Entsa. Primary forest palm, 15 m high.

MAKAYA - Anananch 112; Informant: LA.

Construction. Stem used for undisclosed purpose.

genus indet.

Centro Tuutin Entsa. Small, primary-forest palm; 4 m tall.

CHAKI - Anananch 175; Informant: LA.

Construction, Food, Hunting. Leaves used for thatch. Fresh fruits are edible. Epidermis used to make arrows for "uum."

genus indet.

Centro Tuutin Entsa. Small, primary-forest palm; 2 m tall.

SAPAP - Anananch 197; Informant: LA.

Construction. Leaves used for thatch.

genus indet.

Centro Tuutin Entsa. Primary-forest palm; 6 m tall.

JANKI CHAPI - Anananch 222; Informant: LA.

Hunting. Spear or arrow made from stem is used to kill "birds, gringos, or whatever."

genus indet.

Rio Yuquipa. Palm in disturbed, primary forest; 5-10 m tall.

?MIS - Baker 6767; Informants: JN & AN.

?NENTAI - Baker 6767; Informants: JN & AN.

Food. Heart is edible.

genus indet.

Centro Yukutais. Montane forest, subcanopy palm.

KUMBANBAK - Bennett 3683; Informants: MK & RN

KAMPANAK - Bennett 3683; Informants: GS & DA & AA.

- Bennett 4120; Informants: AA & JA & JCA; MK & PK.

Construction, Food, Food Processing, Forage. The leaves are used for thatch. The hearts are eaten and the leaves are used for ayampacos. Birds, especially pавos, eat the fruits.

genus indet.

Centro Yukutais. Understory palm, leaves 1 m long.

YAUNT - Bennett 4116; Informants: AA; JAC & JA.

NAME UNKNOWN - Bennett 4116; Informants: MK & PK.

Personal. Flowers used like perfume.

genus indet.

Centro Yukutais. Understory palm; 1 m tall.

SAPAP - Bennett 4117; Informants: MK & PK.

TURUJI - Bennett 4117; Informants: AA & JCA & JA.

Construction. Leaves are used for thatch.

genus indet.

USEFUL PLANTS OF THE SHUAR - 22

Centro Yukutais. Montane forest, understory palm; leaves to 80 cm.

SAPAP - Bennett 4118; Informants: AA & JA & JCA; MK & PK.

Fishing, Hunting. Stem is used to make lances and fishing rods.

genus indet.

Centro Pampants. Rare palm growing along river; 50 m tall.

SADKE - Juwa 52; Informant: RWJ.

Construction, Food, Forage. Stem used to make small huts. Fruit and heart are edible. Small parrots eat the seeds.

genus indet.

Centro Pampants. Rare palm.

INIAYU [Family = KUYUWA] - Juwa 134; Informant: RWJ.

Food, Hunting. Edible larvae (MUKINT) live in the stem. Darts are made from the epidermis. After filing sharp seed hairs from CEIBO are added.

genus indet.

Centro Tiink. Common, forest palm 10 m high.

TINKNIMI - Jimpikit 2036; Informant: HJM.

Construction, Food. An undisclosed part is used in house construction. Fruit is edible.

genus indet.

Centro Tiink. Uncommon, forest palm to 10 m tall.

WINCHIK - Jimpikit 2040; Informant: HJM.

Unknown. Used to make "tozo" and "yampaco."

genus indet.

Centro Tiink. Uncommon palm to 20 m tall.

USEFUL PLANTS OF THE SHUAR - 23

KUNKUK' - Jimpikit 2041; Informant: HJM.

Food, Food processing, Hunting. Fruits and heart are edible. "Yampacos" are made with the fruit and heart and a little water. The stem provides good material to make arrows.

genus indet.

Centro Tuutin Entsa. Common, primary-forest palm.

SEPAO - Kunkumas 168; Informant: PK.

Tool. Palm leaf used to fan fire while hollowing out canoes.

ASCLEPIADACEAE

Asclepias curassavica L.

Centro Kankaim. Secondary-forest herb; 1 m tall.

UCHICH WAMPUIS - Shiki 220; Informant: DS.

NAME UNKNOWN - Bennett 3427; Informant: MK.

Craft, Hunting, Medicine. Seed hairs are used like CEIBO (DS).

Matelea rivularis Woodson

Centro Yukutais. Herb growing on rocks in small stream.

TSIMTSIM - Bennett 3389; Informant: JA.

TSIME - Bennett 3389; Informant: MK.

Food. Leaves are edible.

ASPIDIACEAE

Tectaria sp. [cf]

Centro Yukutais. Terrestrial; fronds to 50 cm.

NAME UNKNOWN - Bennett 3382; Informant: DA.

No use reported.

ASTERACEAE

Acmella ciliata (HBK) Cass.

USEFUL PLANTS OF THE SHUAR - 24

Centro Pampants. Common, garden herb.

SESA - Warush 9; Informant: AW.

Medicine. A herb bath made from the leaves is used to treat children with diarrhea.

Adenostemma fosbergii K. & R.

Centro Pampants. Common, garden herb; 20-25 cm tall.

ARARATS - Warush 18; Informant: AW.

Medicine. For snake bites, the bite is washed with a solution made from leaves. The solution also is used to treat liver inflammation.

Ageratum sp. [cf.]

Centro Yukutais. Occasional chacra weed in disturbed sites; to 1 m tall.

NAME UNKNOWN - Bennett 3308; Informant: MK.

Medicine. Flowers and leaves are boiled in water and taken to treat diarrhea.

Bidens bipinnata L. var. cynapiifolia (HBK) Maza

Centro Yukutais. Common pasture weed.

VICHIVICHINK - Bennett 3763; Informants: DA & CCH.

VICHI - Bennett 3763; Informant: MK.

No use given.

Centratherum punctatum Cass.

Centro Yukutais.

? - Gómez 426; Informant: ?

Clibadium sylvestre (Aubl.) Baill.

Centro Chiar Entsa. Small shrub with disagreeable odor.

MUSU - Mashu 43; Informant: NJM.

Poison. Leaves and mature fruits are poisonous.

Clibadium sp. - BARBASCO [Spanish]

Centro Yukutais. Shrub, cultivated in house gardens; to 2 m tall.

MASSU - Bennett 3720; Informant: MK.

Fishing. Stem, leaves and inflorescences used as fish poison.

Clibadium [cf.]

Centro Yukutais. Collected by RN.

MANCHAMANCHA - Bennett 3686; Informant: RN.

Medicine. Leaves applied to snake bite wounds.

Elephantopsis mollis HBK

Centro Yukutais.

? - Gómez 430; Informant: ?

Emelia sp.

Centro Yukutais. Occasional weed in chacras.

NAME UNKNOWN - Bennett 3479; Informant: MK.

No use reported.

Heliopsis buphthalmoides (Jacq.) Dunal

Centro Yukutais.

BOTONCILLO GRANDE [Spanish] - Gómez 469; Informant: ?

Food, Medicine. Dried, ground leaves are used as a condiment and fresh leaves are eaten in salads with salt and lime or lemon. Resin from flowers is rubbed on teeth to strengthen them and prevent carries. A small spoonful of tea made from leaves or flowers cures diarrhea.

Mikania cordifolia (L.f.) Willd.

Centro Yukutais. Common weed in disturbed sites.

USEFUL PLANTS OF THE SHUAR - 26

INCHI-INCHI - Bennett 3333; Informant: DA.

No use reported.

Mikania sp.

Centro Pampants. Forest vine.

MANCHAMCHA - Warush 83; Informant: AW.

Medicine. Leaves heated in water are applied to snake bites.

Pollalesta harstenii (Sch. Bip.) Aris

Centro Yukutais. Forest tree.

WINCHIP - Gómez 573; Informant: ?

PIGUE [Quichua] - Gómez 573; Informant: ?

LOLOJA [Quichua] - Gómez 573; Informant: ?

TUGNASHI [Quichua] - Gómez 573; Informant: ?

Construction. The very hard wood is used for beams and rafters in house construction also sold to make furniture and flooring material.

Pollinia sp. no specimen in NY

Centro Yukutais.

MASSU - Gómez 408; Informant: ?

BARBASCO - Gómez 408; Informant: ?

Fishing. The entire plant with its leaves is macerated and placed in a small stream. The water is stirred with the hands until a pungent odor develops. Afterwards, it is easy to capture fish. This old method, once common, is now proscribed by law.

Pseudelephantopus spiralis (Less.) Cronq.

Centro Yukutais. Occasional chacra weed.

JIMPIKIT NUPA [jimpikit weed] - Bennett 3340; Informant: MK.

No use reported.

Schistocarpa eupatorioides (Fenzl) Kuntze

Centro Yukutais. Occasional weed around homesites; to 2 m

tall.

NAME UNKNOWN - Bennett 3306; Informant: JA.

? - Gómez 409; Informant: ?

No use reported.

Spilanthes [cf.] americana

Centro Yukutais. Common weed in wet disturbed sites.

SESA - Gómez 393; Informant: ?

BOTONCILLO - Gómez 393; Informant: ?

Medicine. Two hundred and fifty ml of a tea (flowers and leaves in 1 liter of water for 10 minutes) is taken once a day for three days to treat diarrhea. Leaves and flowers masticated in the mouth twice a day prevents pyorrhea and caries. To treat skin problems leaves are mixed with llanten, manzanilla, rosas and stirred until thick. The ointment is applied to the affected area for 30 minutes then washed with water and repeated for one week (ref?).

Vernonia arborescens (L.) Sw.

Centro Yukutais. Common pioneer in abandoned chacras.

NAME UNKNOWN - Bennett 3384; Informant: JCA.

No use reported.

Vernonia patens HBK

Near Bomboiza.

SIMBO - Baker 6306; Informant: ?

Construction. Woods used to make planks.

Wulffia [cf.]

Centro Yukutais. Erect herb to 2 m in disturbed sites.

CHINIAP - Bennett 3802; Informant: MK.

CHINIAPCHINIAPI - Bennett 3802; Informant: DA.

Forage. Birds eat the fruits. The entire plant is collected and fed to guinea pigs.

genus indet.

Centro Yukutais. Erect herb, growing around homesites; to 1.2 m.

NAME UNKNOWN - Bennett 3603; Informant: MK.

No use reported.

genus indet.

Centro Yukutais. Common chacra weed.

NUPA or NUPI [weed] - Bennett 3635; Informant: MK.

No use known.

genus indet.

Centro Yukutais. Shrub, growing in marshy area; 1.5 m tall.

MASSU MASSU - Bennett 3739; Informants: MK, DA & CCH

USEFUL PLANTS OF THE SHUAR - 29

No use reported.

genus indet.

Centro Yukutais.

TAPIRI - Gómez 524; Informant: ?

PIRIPRI DE POLLO [Spanish] - Gómez 524; Informant: ?

HIERBA DE INFANTE [Spanish] - Gómez 524; Informant: ?

Medicine, Veterinary. For stomach ache and infant diarrhea a handful of fresh or dried leaves is boiled in one liter of water for 10 minutes. A spoonful of the decoction is given to infants. The same solution is given to new-born chicks for one or two weeks each morning. This helps them grow and prevents their dying from cold.

genus indet.

Misión Salesiano Bomboiza. Common, pasture herb; 10 cm tall.

ARARATS - Pujupet 1037; Informant: JOP.

No use reported.

genus indet.

Centro Nayanmak. Pasture tree; 18 m tall.

SHINKIP - Shakaim 18; Informant: SS.

Construction. Stem used for beams and rafters.

genus indet.

Centro Kankaim. Plant; 3 m tall.

MASU MAS - Shiki 132; Informant: DS.

No use reported.

genus indet.

Centro Kankaim. Plant; 2 m tall.

SHINIASHINIAP - Shiki 138; Informant: DS.

Poison. Unripe fruits are poisonous. If ingested they cause vomiting in children and adults.

genus indet.

Centro Kankaim. Herb; 25 cm tall.

SESA - Shiki 167; Informant: DS.

Medicine. For stomach aches and diarrhea the plant is boiled for 5 minutes, the liquid is allowed to cool and then taken with salt.

genus indet.

Centro Kankaim. Primary-forest tree.

YAPA-YAP - Shiki 226; Informant: DS.

Medicine. Used as an antifungal agent. Two kilos of leaves are ground then boiled. Afflicted area is bathed in the steam. Afterwards, the liquid is applied for 6 hours.

genus indet.

Centro Kankaim. Primary-forest vine.

NAITIAK - Shiki 251; Informant: DS.

No use reported.

genus indet.

Centro Kankaim. Primary- and secondary-forest herb; 8 cm tall.

ARARATS - Shiki 308; Informant: DS.

Medicine. For snake bites juice from the roots is taken every 6 hours for 24 hours and no more.

genus indet.

Centro Kankaim. Shrub; 1 m tall.

PAKUPAKUS - Shiki 330; Informant: DA.

No use reported.

genus indet.

USEFUL PLANTS OF THE SHUAR - 31

Centro Pampants. Common, garden shrub; 2-3 tall.

MASU - Warush 6; Informant: AW.

Fishing, Poison. Leaves used as a fish poison.

BALSAMINACEAE

Impatiens balsamina L.

Centro Yukutais. Cultivated herb around homesites.

KUKUJ' [flower] - Bennett 3424; Informant: MK.

Ornamental. Planted around houses.

Impatiens cf. balsamina L.

Centro Yukutais. Herb, cultivated around homes.

MIRAMELINDA [Spanish] - Gómez 445; Informant: ?

PRIMAVERA [Spanish] - Gómez 445; Informant: ?

Ornamental. Cultivated for flowers.

BEGONIACEAE

Begonia fischeri Schrank

Centro Yukutais. Weak herb; to 40 cm.

NAME UNKNOWN - Bennett 3394; Informant: MK.

No use reported.

Begonia maynensis A.DC.

Centro Pampants. Common, forest herb.

SARMANCH - Warush 100; Informant: AW.

Medicine. The stem, flowers and leaves are used to treat tumors and mumps.

Begonia parviflora Poeppig & Endl.

Centro Yukutais.

USEFUL PLANTS OF THE SHUAR - 32

NAME UNKNOWN - Bennett 3390; Informant: JA.

No use reported.

Begonia sp.

Centro Yukutais. Collected by Domingo Antich.

MURAYA MUJINK - Bennett 3818; Informant: DA.

No use reported.

Begonia sp.

Misión Salesiano Bomboiza. Primary-forest vine.

SHANRUR - Pujupet 1058; Informant: JOP.

No use reported.

Begonia sp.

Centro Kankaim. Herb; 50 cm tall.

JIMIA NUMI - Shiki 171; Informant: DS.

No use reported.

Begonia sp.

Centro Kankaim. Herb; 80 cm tall.

JIMIA NUPA - Shiki 186; Informant: DS.

No use reported.

BIGNONIACEAE

Arrabidaea chica (H. & B.) Verl.

Centro Pampants. Forest vine.

TAI - Warush 62; Informant: AW.

Unknown. Leaves used for an undisclosed purpose.

Arrabidaea sp.

USEFUL PLANTS OF THE SHUAR - 33

Centro Kankaim. Vine.

TAWAIP - Shiki 216; Informant: DS.

Medicine. Bark boiled in one liter of water for 20 minutes then mixed with sugar cane juice is taken to relieve heart pain. Note "dolor de corazon" often refers to unhappiness.

Crescentia cujete L.

Centro Yukutais. Small tree, cultivated in chacras and house gardens.

TSAPA - Bennett 3614; Informant: PK.
Bennett 3625; Informant: PK.

Food Processing, Hunting. Used to make bowls and kapok holders. The oblong fruits of Bennett 3625 are used to make spoons.

Jacaranda Copaia ssp. spectabilis (Mart. ex DC.) A.G.

Centro Nayanmak. Primary-forest tree.

KUISHIP - Shakaim 15; Informant: SS.

Construction. Wood used to build houses.

Macfadyeana unguis-cati (L.) Gentry

Centro Yukutais.

NAME UNKNOWN - Bennett 4372; Informant: RK & MK; GS & DA & AA.

No use reported.

Mansoa verrucifera (Schlect.) A.G.

Centro Pampants. Common, montane-forest vine.

JATUMPIK - Warush 76; Informant: AW.

Craft. Stem used to make baskets.

Mansoa sp.

Centro Kankaim. Plant 1 m tall with the odor of garlic.

USEFUL PLANTS OF THE SHUAR - 34

KAAIP - Shiki 160; Informant: DS.

Medicine. Used to treat bronchitis and cough. Crushed leaves are placed in water with SETUR and KUNAPIP. The solution is taken every six hours.

Tabebuia cf. chyrsantha or T. serratifolia (Vahl) Nichols
(mixed collection)

Centro Nayanmak. Pasture tree.

YAWNIA - Shakaim 22; Informant: SS.

Construction. Wood used for beams, posts, and rafters.

Tynanthus polyanthus (Bur.) Sandw.

Centro Pampants. Common, forest vine.

NAWAITS - Warush 99; Informant: AW.

Medicine, Ritual. The stem used by some women when they have only male or only female children to change sex of the next child.

genus indet.

Centro Yukutais. Small tree.

NAME UNKNOWN - Bennett 3663; Informant: JA.

No use reported.

genus indet.

Misión Salesiano Bomboiza. Small tree found in garden; 2-4 m tall; leaves with the odor of garlic.

KAIP - Pujupet 1056; Informant: JOP.

No use reported.

BIXACEAE

Bixa orellana L. - ACHIOTE [Spanish]

Misión Salesiano Bomboiza; Centros Pampants, Pimpints, and Yukutais. Commonly cultivated in chacras and house gardens.

- IPIAK - Bennett 3466; Informant: JA.
- Kasent 14; Informant: PWK.
- Pujupet 1003; Informant: JOP.
- Warush 1; Informant: AW.
ACHIOTE - Bennett 3466; Informant: JA.

Dye-Paint, Food, Medicine, Personal. Seeds are used to color face and spears and to flavor soups. Color from seeds rubbed on skin to treat "mancha de piel." Leaves and roots are mixed in water and given to children for undisclosed ailment. Also used to treat "jiipiar." Sold in the market. Leaves, roots and fruits are used for personal adornments.

BLECHNACEAE

Blechnum sp.

Centro Yukutais. Terrestrial; leaves to 1.5 m long.

NASHISHIP - Bennett 3522; Informant: JCA.

No use reported.

BOMBACACEAE

Ceiba sp.

Centro Tuutin Entsa. Secondary-forest tree.

MINTE - Anananch 109; Informant: LA.

Craft. Bark and seed fibers are used for undisclosed purposes.

Ceiba sp.

Centros Pampants and Yukutais. Tree protected in pasture and growing along river; to 20 m tall.

WAMPUISH - Bennett 4132; Informants: AA & JA & JCA; MK & PK.
- Juwa 98; Informant: RWJ.

CIEBO - Bennett 4132; Informants: AA & JA & JCA; MK & PK.

Craft, Fuel, Hunting. Seed hairs used to make darts for hunting birds and to stuff mattresses. Seed hairs are removed from unripe fruits and dried will last for 5 years or more. Stem used for firewood.

Quararibea cordata (H. & B.) Vischer see Matisia cordata H.&B.

Quararibea sp. see Matisia sp.

Matisia cordata H. & B.

Sucua; Centro Yukutais. Medium tree cultivated in chacras.

SAPOTE [Spanish] - Bennett 3580; Informant: DA.
- Bennett 4036; Informant: AA.

Food. Fruits are edible. Sold in market for 50 sucres each.

Ochroma pyramidale (Cav. ex Lam.) Urb.

Centro Tuutin Entsa. Primary-forest tree; 15-20 m tall.

WAWA - Anananch 120; Informant: LA.

Craft. Stem and bark fibers are used for undisclosed purposes.

genus indet.

Centro Chiar Entsa. Primary-forest tree growing in swamps and ponds.

WAPUISH - Mashu 32; Informant: NJM.

Hunting. Cotton used on darts like CEIBO.

genus indet.

Centro Chiar Entsa. Swamp-forest tree.

MENTE - Mashu 33; Informant: NJM.

Craft, Hunting. Seed hairs used to make mattresses and to make darts for hunting birds.

BORAGINACEAE

Borago officinalis L.

Centro Yukutais. Cultivated herb; 90 cm tall.

BORRAGO [Spanish] - Gómez 543; Informant: RN.

Medicine. An infusion made from the plant is used to treat fever, cough, and influenza.

Cordia alliodora (R. & P.) Cham. ex DC.

Centros Nayanmak and Pimpints. Common montane forest tree to 40 m tall.

MURUSHI - Kasent 56; Informant: PWK.

MURUSHINIM - Shakaim 10; Informant: SS.

Construction, Fuel. The wood is used to build houses and to make planks and beams. The stems, branches and bark are used as firewood.

Cordia nodosa Lam.

Centro Pimpints. Common, montane-forest shrub; 1.5 m tall.

CHINKIAS - Kasent 57; Informant: PWK.

Food, Fuel. Seed pulp is edible. Stem is used for firewood.

Cordia sp.

Centro Yukutais. Tree protected in chacras.

NAME UNKNOWN - Bennett 3612; Informant: MK.

Construction. The wood is used for planks.

BROMELIACEAE

Ananas comosus L.) Merr. - PINEAPPLE [English], PINA [Spanish]

Misión Salesiano Bomboiza; Centro Yukutais. Herb, cultivated in chacras and house gardens.

CHEU - Bennett 3470; Informant: JA.

CHIU - Pujupet 1007; Informant: JOP.

Food. Infructescence is edible, sold in the market.

Catopsis sessiflora (R. & P.) Mez

Centro Yukutais. Epiphyte.

KUISH - Bennett 3586; Informant: DA.

No use reported.

Guzmania roezlii (E.Morr) Mez

Centro Yukutais.

NAME UNKNOWN - Bennett 3330; Informant: DA.

No use reported.

Guzmania sp.

Centro Yukutais. Terrestrial and epiphytic herb.

KUISHI - Bennett 3538, 3541; Informant: PK.

No use reported.

Guzmania sp.

Centro Yukutais. Common epiphyte in montane forest growing at an average height of 1.5 m.

KUISH - Bennett 414152; Informants: AA & JCA & JA.

Forage. Monkeys drink water from the tank. Birds eat the fruits.

Guzmania sp.

Centro Yukutais. Montane forest epiphyte.

KARIS - Bennett 4154; Informant: PK.

KUISH - Bennett 4154; Informant: JCA.

No use reported.

Guzmania sp.

Centro Yukutais. Montane forest epiphyte.

KARIS - Bennett 4155; Informant: PK.

KUISH - Bennett 4155; Informant: JCA.

Forage, Ornamental. Monkeys drink water from the tank and eat the young shoots.

Tillandsia complanata Benth.

Centro Yukutais. Epiphyte.

USEFUL PLANTS OF THE SHUAR - 39

KUISHI - Bennett 3542; Informant: PK.

No use reported.

Tillandsia [cf.] multiflora Benth.

Centro Yukutais. Epiphyte.

KUISHI- Bennett 3540; Informant: PK.

No use reported.

Tillandsia [cf.] pyramidata Andre

Centro Yukutais. Epiphyte.

KUISHI - Bennett 3539; Informant: PK.
- Bennett 4156; Informant: JCA.

No use reported.

genus indet.

Centro Yukutais. Epiphyte.

KUISH - Bennett 3546; Informant: PK.

No use reported.

genus indet.

Centro Yukutais. Montane forest epiphyte.

KARIS - Bennett 3797; Informants: MK & RN.
KUISH - Bennett 3797; Informant: DA.

No use reported.

genus indet.

Centro Yukutais. Plant found by JA in montane forest.

KUISH - Bennett 4122; Informant: JCA.

No use reported.

genus indet.

USEFUL PLANTS OF THE SHUAR - 40

Centro Yukutais. Epiphyte.

KARIS - Bennett 4159; Informants: MK & RN.

KUISH - Bennett 4159; Informant: DA.

No use reported.

genus indet.

Centro Kankaim. Herb.

KUISH - Shiki 183; Informant: DS.

No use reported.

genus indet.

Centro Kankaim. Herb.

KUISH - Shiki 193; Informant: DS.

No use reported.

BRUNELLIACEAE

Brunellia comocladifolia H. & B.

Centro Yukutais. Small tree protected in chacra.

CHURUMI - Bennett 3650; Informants: MK & RN.

SUNTUCH - Bennett 3650; Informants: GS & DA & AA.

Construction, Forage. Source of wood (MK & RN). Armadillos eat fruits (GS & DA & AA).

BURSERACEAE

Dacryodes cupularis Cuatrec. vel aff.

Centro Pampants. Common tree along shore of river.

KUNCHAI - Juwa 99; Informant: RWJ.

Food, Fuel. Fruit is edible. Stem is used for firewood.

Dacryodes peruviana (Loes.) Lam.

Rio Yuquipa; Centros Tiink and Yukutais. Primary-forest tree, protected in chacras and pastures; 15 m tall.

USEFUL PLANTS OF THE SHUAR - 41

- KUNCHAI - Bennett 3652; Informants: MK & RN; GS & DA
& AA.
- Bennett 4131; Informants: AA & JA & JCA; MK & PK.
- Jimpikit 2007; Informant: HJM.
SHIRIKIP - Baker 6764; Informants: JN & AN.
COPAL [Spanish] - Baker 6764; Informants: JN & AN.
- Bennett 3652; Informants: GS & DA & AA.
- Bennett 4131; Informants: AA & JA & JCA; MK
& PK.

Construction, Food, Fuel, Forage. Wood used for planks. Fruits are cooked in warm water to remove the fruit husk then the seeds eaten. The resin is used as a candle for fishing at night. Birds and mammals also eat the fruits.

Protium sp.

Centro Nayanmak. Common, pasture tree.

KUNCHAI - Shakaim 31; Informant: SS.

Craft, Medicine. Sap used to polish violins. A cloth wetted with the sap is placed on the affected part to treat "ermas."

genus indet.

Centro Yukutais. Medium tree growing in abandoned chacra.

MAKERA - Bennett 3714; Informants: AA; MK.

Construction, Forage. Good wood. Birds eat fruits.

CACTACEAE

Epiphyllum phyllanthus (L.) Haw var. phyllanthus

Macas. Epiphytic, secondary-forest herb.

SUELDA [Unknown] - Baker 6644; Informant: ?

Food. Fruits are edible.

Hylocereus polyrhizus (Web.) Br.H.

Centro Tuutin Entsa. Secondary-forest herb; 1 m tall.

IKIAMANCH - Anananch 114; Informant: LA.

Food, Medicine. Fruit is edible. Leaves placed on burns.

Hylocereus sp.

Macas. Hemiepiphyte growing in garden.

PITAHAJA [Spanish] - Baker 6657; Informant: ?

Food. Fruit is edible.

Mediocactus megalanthus (Schum.) Britt. & Rose

Centro Pampants. Common herb.

IKIAMANCH - Warush 88; Informant: AW.

Unknown. Leaves used for an undisclosed purpose.

CAMPANULACEAE

Hippobroma longiflora (L.) G. Don.

Centro Yukutais. Occasional weed in chacras.

JASMINCILLO [Spanish] - Gómez 401; Informant: ?

NAME UNKNOWN - Bennett 3416; Informant: DA.

Medicine. A tea made by steeping a handful of flowers in one liter of water for 10 minutes is used to treat influenza. Two hundred and fifty ml is taken before breakfast or at night for 2-3 days. A plaster of macerated leaves and used to relieve eye inflammation. A remedy for snake bites is made by mixing JASMINCILLO with Duroia hirsuta.

Centropogon lorentensis Wimmer

Centro Yukutais. Common understory herb in disturbed sites; to 1.5 m tall.

NAME UNKNOWN - Bennett 3332; Informant: JA.

No use reported.

CANNACEAE

Canna sp.

Centro Yukutais. Common herb in wet places; 2.5 m tall.

KARIKRIA - Bennett 3337, 3367; Informant: MK; DA.

USEFUL PLANTS OF THE SHUAR - 43

- Gómez 402, 433A; Informant: ?

Craft, Food processing, Myth/Ritual. The dried seeds are used to make necklaces, bracelets, and rosary beads. The leaves used make ayampacos and to cover pots of yuca. Children wear necklaces made from the seeds to improve their vision and to help their teeth grow properly. The seeds also are used to decorate houses to keep them free from bad spirits.

CAPPARACEAE

genus indet.

Centro Kankaim. Shrub; 3 m tall.

KAWAINUNI - Shiki 133; Informant: DS.

Medicine. Used to "sucar" muscles. Plant taken by children from the age of 3-5 on.

CARICACEAE

Carica microcarpa Jacq. ssp. microcarpa

Centro Pampants. Common forest shrub.

IKIAM TSAMPU - Warush 77; Informant: AW.

Food. Fruit chewed to relieve thirst.

Carica monoica Desf.

Misión Salesiano Bomboiza, Centros Pampants and Pimpints. Common small, montane-forest tree also found in gardens.

TSAMPU - Kasent 49; Informant: PWK.
- Pujupet 1006; Informant: JOP.
- Warush 21; Informant: AW.

Food, Medicine. Fresh leaves mixed with with fish are eaten. Seeds taken to relieve liver pains.

Carica papaya L.

Misión Salesiano Bomboiza; Centros Tuutin Entsa and Yukutais. Commonly cultivated plant.

WAPAI - Bennett 3495; Informant: JA.
Kunkumas 241; Informant: PK.
Pujupet 1055; Informant: JOP.

USEFUL PLANTS OF THE SHUAR - 44

Food, Medicine. The edible fruits are an important cash crop. The root and plant juice are mixed with other medicines, cooked well, then used in a herb bath to treat diarrhea.

Jacaratia digitata (Poeppig & Endlich.) Solms-Laub.

Centro Pampants. Common, forest shrub.

NUMPI - Juwa 115; Informant: RWJ.

Forage. Stem used for "MUKIN" and animals eat fruits.

CARYOCARYACEAE

Caryocar sp.

Centro Yukutais. Small tree, protected in pasture; 7 m tall.

PAMA SUKI - Bennett 3640, 3675; Informant: MK.

HUEVOS DE BURRO - Bennett 3640; Informant: MK.

Construction. The wood is used for construction.

Caryocar sp.

Centro Yukutais. Common tree. Flowers found on ground in montane forest.

PEUNKE - Bennett 4103; Informants: JA & JCA; AA.

Forage. Birds eat the fruits.

Caryocar sp.

Centro Yukutais. Medium tree, protected in pasture.

UNYAAS - Bennett 4136; Informants: AA & JCA & JA.

NAME UNKNOWN - Bennett 4136; Informants: MK & PK.

Forage. Monkeys eat the fruits. Choronga = chu.

CARYOPHYLLACEAE

Drymaria sp.

Centro Yukutais. Common chacra weed.

NAME UNKNOWN - Bennett 3646; Informant: Not recorded.

USEFUL PLANTS OF THE SHUAR - 45

Medicine. Liquid from the macerated leaves is applied to cuts, infections, and pimples.

CECROPIACEAE

Cecropia sp.

Centro Yukutais. Secondary forest tree; to 12 m tall.

KASUA - Bennett 3801; Informants: MK & RN, DA.

Forage. Birds eat fruits.

Cecropia sp.

Centro Pampants. Common tree.

TSEKE' - JUWA 84; Informant: RWJ.

Cordage. Cord is made from the bark.

Coussapoa sp.

Centro Yukutais. Secondary forest tree, protected in pasture; 12 m tall.

KATSUA - Bennett 3744; Informant: DA & CCH; MK.

Food, Forage. Edible butterfly larvae are found in the trunk. Birds eat the fruits.

Pourouma guianensis Aubl.

Centros Pimpints and Yukutais. Common, montane-forest tree; 25-30 m tall.

SHUINA - Gómez 562; Informant: ?

- KASENT 58; Centro Pimpints. PWK.

UVA DE MONTE [Spanish] - Gómez 562; Informant: ?

Food, Forage, Fuel. People and animals eat the fruits. Stem used for firewood and to make charcoal.

Pourouma minor Benoist

Centro Pampants. Common, forest tree.

USEFUL PLANTS OF THE SHUAR - 46

TUNKAPNIA - Juwa 25; Informant: RWK.

Forage. Parrots and peccarries eat the fruits.

CELASTRACEAE

Salacia uleii Loess. [cf.]

Centro Pampants. Common tree; 30 m tall.

UWINIM - Juwa 80; Informant: RWJ.

Fuel. Considered the best tree for firewood.

CHYRSOBALANACEAE

Hirtella triandra Sw. ssp. triandra

Centro Chumpias. Pasture tree.

SAKA - Shakaim 30; Informant: SS.

Construction. Used to make house posts.

CLUSIACEAE

Chyrsochlamys bracteolata Cuatr.

Centro Yukutais. Small tree, protected in pasture; to 7 m tall.

YAI YAI - Bennett 3655; Informants: MK & RN, GS & DA & AA.

YAI YAI - Bennett 4048; Informants: MK & PK.

SUNKACH - Bennett 4048; Informants: JA & JCA.

UWE - Bennett 4048; Informant: AA.

Forage. Monkeys, parrots, pitza (pavo de monte) and other birds eat the fruits.

Chyrsochlamys sp.

Centro Yukutais. Common, montane forest, understory tree; to 10 m.

UWIK - Bennett 4088; Informants: JA & JCA.

NAME UNKNOWN - Bennett 4088; Informants: MK & PK.

No use reported.

Clusia sp.

Centro Taisha. Secondary-forest tree; 5 m tall.

IPIAK NUMI - Baker 6817; Informant: ?

Dye/Paint. Latex used to paint skin, lasts for a few hours.

Clusia sp.

Centro Yukutais. Hemi-epiphyte.

UWE - Bennett 3607; Informant: PK.

Craft. Stem used as rope or cord.

Clusia sp.

Centro Yukutais. Tree, protected in old chacra; 12 m tall.

UWE - Bennett 3716; Informant: AA.

TERES - Bennett 3716; Informant: MK.

Forage. Birds eat the fruit.

Hypericum cf. mutilum L.

Centro Yukutais.

? - Gómez 478; Informant: ?

Marila [cf.] pluricostata Standl. & L. Williams

Centro Yukutais. Medium tree, protected in old chacra; 15 m tall.

TSIMBU - Bennett 3723; Informant: AA.

UNKNOWN - Bennett 3723; Informant: MK.

Construction, Forage. Good wood, mammals and birds eat fruit.

Vismia sp.

Centro Yukutais. Shrub, growing in wet sandy soil; 1 m tall.

IPIAK NUMI - Bennett 3773; Informants: MK, DA & CCH.

Dye/Paint. Latex used as a substitute for IPIAK.

USEFUL PLANTS OF THE SHUAR - 48

Vismia sp.

Centro Yukutais. Shrub, growing in wet, sandy soils; 2 m tall.

IPIAK NUMI - Bennett 3772; Informants: MK, DA & CCH.

Dype/Paint. Old Shuars painted with latex from the seeds.

genus indet.

Centro Yukutais. Montane forest, understory tree; 5 m tall.

NAME UNKNOWN - Bennett 4096; Informants: JA & JCA; MK & PK; AA.

No use reported.

genus indet.

Centro Yukutais. Medium tree, protected in pastures.

YANTSE YANTSE - Bennett 4105; Informants: MK & PK.

UCHICH UWE - Bennett 4105; Informants: AA & JA & JCA.

Forage, Fuel. Birds eat the fruits. The stem is used for firewood.

genus indet.

Centro Yukutais. Montane forest, understory shrub.

UWE de ARBOL - Bennett 4130; Informants: AA & JCA & JA.

NAME UNKNOWN - Bennett 4130; Informants: MK & PK.

Forage. Birds eat the fruits.

genus indet.

Centro Yukutais. Medium tree, protected in pasture; 10 m tall.

PEUNKE - Bennett 4133; Informants: AA & JCA & JA.

PENKA - Bennett 4133; Informants: MK & PK.

Forage. Birds eat the fruits.

genus indet.

USEFUL PLANTS OF THE SHUAR - 49

Centro Yukutais. Two individuals found in cleared area in montane forest.

YUKAIP - Bennett 4147; Informants: JCA & JA; PK.

Dye/Paint. The plant's latex is used to paint bowls made from TSAPA. The boiled fruits are used to paint clay pots.

genus indet.

Centro Yukutais.

UWICH - Bennett 4153; Informants: AA & JCA & JA.

NAME UNKNOWN - Bennett 4153; Informant: PK.

Forage. Birds eat the fruits.

genus indet.

Centro Pampants. Common tree.

IPIAKNUM - Juwa 59; Informant: RWJ.

Food, Fuel. Mestizos eat the leaves. The stem is used for firewood.

genus indet.

Centro Pampants. Rare, primary-forest tree growing in ponds.

WOSHIA PENKA - Juwa 76; Informant: RWJ.

Food. Fruits are edible in small quantities. Excessive amounts are dangerous.

genus indet.

Centro Pimpints. Common, forest shrub; 3 m tall.

SHARIMIAT - Kasent 60; Informant: PWK.

Food, Fuel. The fruit is edible and the stem is used for firewood.

genus indet.

Centro Kankaim.

USEFUL PLANTS OF THE SHUAR - 50

? - Shiki 123; Informant: DS.

COMMELINACEAE

Campelia zanonía (L.) HBK

Centro Yukutais. Understory herb to 60 cm in very damp places in montane forest.

SANCHU - Bennett 4061; Informant: AA.

SANCHUN - Bennett 3688; Informant: RN.

UUNT SANCHU [false sanchu] - Bennett 4061; Informant: JA & JCA.

KUPINMAR - Bennett 4061; Informants: MK & PK.

Forage, Medicinal. Birds eat the fruits. Juice from stem is used to treat fungal infections of the skin. Mucilage used in bath to treat diarrhea. Mixed with water and taken by mouth (without cooking) to kill amoebas (AA). Liquid from macerated plant applied to feet to reduce swelling.

Commelina sp.

Centro Yukutais. Rapid-growing herb.

SANCHU - Gómez 396; Informant: ?

SUELDA CON SUELDA [Spanish] - Gómez 396; Informant: ?

FALSO MIOSOTIS [Spanish] - Gómez 396; Informant: ?

Forage, Medicine. Fast-growing plant used to control soil erosion. An infusion (1 handful of flowers in 1 liter of water for 10 minutes) is a good emollient and is used to treat pectoral problems and headaches. Two hundred and fifty ml are taken before breakfast or before going to sleep.

Dichorisandra sp.

Centro Yukutais. Herb growing in damp places.

SANCHU - Bennett 3599; Informant: JA.

No use reported.

Geogenanthus ciliatus Brückn.

Centro Pampants. Common forest herb of very humid places; to 10 cm tall.

UUNTAKAPMAS - Warush 72; Informant: AW.

Medicine. Soft leaves mixed with other plants are used to treat liver pains.

genus indet.

Centro Yukutais. Prostrate, montane forest, understory herb.

NAME UNKNOWN - Bennett 4064; Informants: JA & JCA; MK & PK; AA.

Ornamental.

CONVOLVULACEAE

Ipomoea batatas (L.) Lam.

Misión Salesiano Bomboiza; Centros Tiink, Pampants, and Yukutais. Very abundant cultivar in some chacras.

CHINKIAMAI INCHI - Warush 57; Informant: AW.

INCHI - Bennett 3319, 3478; Informant: JA.

JUNIUR INCHI - Utitiaj 32; Informant: MAU.

KAYUK INCHI - Utitiaj 8; Informant: MAU.

NANTAR INCHI - Utitiaj 33; Informant: MAU.

SAAR INCHI - Utitiaj 2; Informant: MAU.

TSUNKI INCHI - Utitiaj 26; Informant: MAU.

UNKUSHIP INCHI - Utitiaj 20; Informant: MAU.

YAYA INCHI - Warush 58; Informant: AW.

CAMOTE [Spanish] - Bennett 3319, 3478; Informant: JA.

- Utitiaj 2; Informant: MAU.

Food. The root is eaten and used in chicha. Warush 57 is used only for food. Utitiaj 32 is eaten with YUCA, TARO, and PLATANOS. Utitiaj 33 is cooked in "plenty of water so that it won't burn." Because it often has a foetid odor, a measured quantity of Utitiaj 26 is ground before using.

Ipomoea sp.

Centro Yukutais. Scandent vine of disturbed sites.

INCHI CHINAIK - Bennett 3783; Informants: MK & RN, DA

No use reported.

Merremia macrocalyx (R. & P.) O'Donnell

Centro Yukutais. Herbaceous vine.

USEFUL PLANTS OF THE SHUAR - 52

INCHI INCHI - Bennett 3755; Informants: MK; DA & CCH.

No use reported. Flowers like camote (MK).

COSTACEAE

Costus asplundii (Maas) Maas

Centros Chiar Entsa and Pimpints. Primary-forest herb; 2 m tall.

KAURUNTUNTUP - Mashu 13; Informant: NJM.

UNTUNTU - Kasent 10; Informant: PWK.

Medicine. The stems are used in a remedy to treat stomach aches and dysentery (NJM). A warm mixture of UNTUNTU, a measured amount of water, sugar cane, HIERBA LUISA and chicha is taken for diarrhea (PWK).

Costus laevis R. & P.

Centro Yukutais. Common herb; to 2 m.

UNTUNTUP - Bennett 3458; Informant: MK & PK.

Medicine. Liquid from the macerated stem is taken to treat diarrhea and colic.

Costus sp.

Misión Salesiano Bomboiza; Centros Kankaim and Pampants. Common herb; 2 m tall.

UNTUTU - Warush 20; Informant: AW.

UNTUNTU - Shiki 173; Informant: DS.

UTUNTUP - Pujupet 1038; Informant: JOP.

Medicine. The peeled stem is crushed, boiled for 5 minutes, then allowed to cool. The liquid is taken with salt and the plant's juice to treat stomach ache and depression.

Dimerocostus strobilaceus O.Kuntze ssp. strobilaceus

Centro Chiar Entsa. Swamp herb.

UNTUNTU - Mashu 34; Informant: NJM.

Medicine. Juice from stem is dried, placed in a leaf then applied to tumors to reduce swelling.

CUCURBITACEAE

Citrullus lanatus (Thunb.) Matsum. & Nakai

Centro Yukutais. Occasionally cultivated vine in chacras and house gardens.

SANDIA [Spanish] - Bennett 3721; Informants: JA.

Food. Fruits are eaten.

Cyclanthera pedata (L.) Schrader

Centro Yukutais. Cultivated vine in house garden.

ACOCHA - Bennett 4158; Informant: JCA.

Food. Cultivated for edible fruit.

Fevillea cordifolia L.f.

Centro Pampants. Common, climbing, forest vine.

TSAPATAR - Warush 85; Informant: AW.

Fuel, Forage. Fruits are burned as substitutes for candles and also fed to animals.

Gurania aff. spinulosa (P. & E.) Cogn.

Centro Yukutais. Occasional vine in disturbed sites.

YAPAIPA - Bennett 3746; Informant: MK.

YUWICH - Bennett 3746; Informants: DA & CCH.

Forage. Parrots eat the fruits.

Gurania sp.

Centro Yukutais. Vine in disturbed sites.

ARARATZ - Bennett 3762; Informant: MK.

UWICH - Bennett 3762; Informants: DA & CCH.

Medicine. The macerated leaves are applied to snake bites (MK).

Gurania sp.

Centro Yukutais. Herbaceous vine.

NAMUKAM - Bennett 3782; Informants: MK & RN.

KUYUJIMIASNUKA - Bennett 3782; Informants: MK & RN.

Forage. Birds eat the fruits (MK & RN).

Melothria pendula L.

Centro Yukutais. Occasional vine in disturbed sites.

CHINCHINCAS - Bennett 3777; Informant: MK.

NAME UNKNOWN - Bennett 3777; Informants: DA & CCH.

Food. Fruits are edible (MK).

genus indet.

Centro Yukutais. Vine cultivated in house gardens.

NAMUK - Bennett 3602; Informant: MK.

Food. Fruits are edible.

genus indet.

Centro Yukutais. Scandent vine.

CHIYUMICH - Bennett 3824; Informant: MK.

Craft, Food Processing. Fruits used to make bowls and rattles.

genus indet.

Centro Yukutais. Vine growing on trees in edge of ,montane forest and pasture.

NAEK - Bennett 4148; Informants: AA & JCA & JA.

YAPAIYAP - Bennett 4148; Informant: PK.

Forage, Cordage. Birds and mammals (guatusa and quanta limuchau) eat fruits. Stem used to tie.

genus indet.

Centro Yukutais. Vine cultivated in chacra.

USEFUL PLANTS OF THE SHUAR - 55

UWICH - Bennett 4157; Informant: AA.

Food. Cultivated for food.

genus indet.

Misión Salesiano Bomboiza. Climbing garden vine.

YUWI - Pujupet 1004; Informant: JOP.

Food. Fruit edible and used to make chicha.

genus indet.

Centro Pampants. Common garden vine.

YUMI - Warush 45; Informant: AW.

Food Preparation, Medicine. Fruits used as bowls or cups. Leaves used in with other plants in an undisclosed medicine.

CYATHEACEAE

Cyathea sp.

Centro Yukutais. Common tree fern; 4 m tall.

NASHISHIP - Bennett 3528; Informant: DA.

No use reported.

CYCLANTHACEAE

Asplundia sp.

Centro Yukutais. Herb growing on moist rocks.

SAUNKA - Bennett 3682; Informants: MK & RN.

SAU - Bennett 3682; Informants: GS & DA & AA.

Food Processing, Forage, Personal. Leaves used for tops to pots. Fish and birrds eat leaves (MK & RN). Flowers used for perfume (GS & DA & AA).

Carludovica palmata R. & P.

Centro Yukutais. Common shrub, in open sites; to 3 m tall.

USEFUL PLANTS OF THE SHUAR - 56

PUMPUNA - Bennett 3383, 3475, 3623; Informant: JA; DA.

Craft, Construction, Fishing, Food. The leaf petiole is used to make baskets and fish traps. The leaves are used for thatch. Fruits and "heart" are edible.

Thorocarpus bissectus specimen destroyed

Centro Tuutin Entsa. Primary-forest vine.

SAUKAP - Anananch 138; Informant: LA.

Craft. Stem used to make baskets.

genus indet.

Centro Yukutais. Terrestrial, montane forest herb; 60 cm tall.

SAUNAK - Bennett 4052; Informants: JA & JCA.

SAU "lejiitimo" - Bennett 4052; Informants: PK & MK.

Construction, Food Processing, Misc. Leaves used to make roofs (PK) and ayampacos (JA) and to wrap copal (PK).

genus indet.

Centro Kankaim. Epiphyte.

SAU - Shiki 212; Informant: DS.

No use reported.

genus indet.

Centro Pampants. Common forest vine.

SAUKAP' - Warush 81; Informant: AW.

Craft. Stem used to make baskets.

CYPERACEAE

Cyperus [cf.] articulatus L.

Centro Tiink. Garden herb.

JUKECHTAI PIRIPRI - Utitiaj 22; Informant: MU.

NAPI PIRIPRI - Utitiaj 23; Informant: MAU.

Medicine. Stem ground and mixed with a little water or chicha. The strained mixture is taken as a tranquilizer and "para no cosiguir rapidamente la criatura" (Utitiaj 22). Juice from the rhizome is taken to cure snake bites (Utitiaj 23).

Cyperus [cf.] diffusus Vahl

Centro Yukutais. Common, chacra weed.

CHIRICHRI - Bennett 3305; Informant: PK.

No use reported.

Cyperus [cf.] prolixus Humb. & Kunth

Misión Salesiano Bomboiza and Centro Tiink. Uncommon herb found in gardens.

UCHI ACHITIAI MAIKUA - Pujupet 1013; Informant: JOP.
UCHI MANKATAI PIRIPRI - Pujupet 1014; Informant: JOP.
MUNTSU PIIPRI ; Informant: MAU.

Drug, Medicine. Stems and leaves used to "communicate rapidly" (Pujupet 1013). Rhizome used to fatten children (Pujupet 1014). A solution made from the ground rhizome water or chicha helps develop the chest and increases milk production (Utitiaj 21).

Cyperus sp.

Centro Yukutais. Erect herb in wet, sandy soils; to 40 cm.

TSIRURUK - Bennett 3760; Informant: MK.
CHIRICHIRI - Bennett 3760; Informants: DA & CCH.

No use reported. According to informants, cooked leaves of some types of CHIRICHIRI are applied to mosquito bites, cuts and swellings.

Cyperus sp.

Centro Yukutais. Common weed along roads and trails.

CHIRICHIRI - Bennett 3444; Informants: JA.

No use reported.

Cyperus sp.

Centro Yukutais. Growing in sandy soil along river.

CHIRICHIRI - Bennett 3760; Informants: DA & JA.

No use reported.

Cyperus sp.

Centro Yukutais.

? - Gómez 453; Informant: ?

Cyperus sp.

Centro Yukutais.

PIRIPRI DE BRUJO - Gómez 526; Informant: ?

CHUCCHU - Gómez 526; Informant: ?

Drug. Plant is used only by shamans that have knowledge of its power. An infusion of the roots in one liter of water is consumed by shaman during curing ceremony. Shaman goes into a trance and is able to communicate with the deceased and ask them questions. In this manner he can diagnose illness.

Eleocharis elegans (H. & K.) R. & S.

Centro Yukutais. Common herb in wet, sandy soils.

INSANA PIRIPRI - Bennett 3756, 3757; Informant: MK.

NANKUCHIP - Bennett 3756, 3757; Informants: DA & CCH.

Medicine, Myth/Ritual. A tea made from the plant is used to treat cystitis (DA & CCH). Boas bathe in the plant (MK).

Rhynchospora sp.

Centro Yukutais. Very common in wet areas.

SERRERUK - Bennett 3741; Informant: MK.

CHIRICHIRI - Bennett 3741; Informants: DA & CCH.

No use reported.

Scleria sp. [cf.]

USEFUL PLANTS OF THE SHUAR - 59

Centro Yukutais. Erect herb in wet soils; to 2.5 m.

KURICHIP - Bennett 3465; Informants: DA & CCH.

CORTADELA [Spanish] - Bennett 3465; Informant: MK.

Craft. Fruits used for beads.

genus indet.

Misión Salesiano Bomboiza; Centros Kankaim, Pampants, Pimpints, and Tiink. Garden herb.

APUMATAI PIRIPRI - Warush 38; Informant: AW.

INTIASH PIRIPRI - ; Informant: DS.

RAPI PIRIPRI - Pujupet 1010; Informant: JOP.

TSEKEANCHAM PIRIPRI - Utitiaj 38; Informant: MAU.

TSURAMAT PIRIPRI - Shiki 169; Informant: DS.

UCHI PIRIPRI - Kasent 5; Informant: PWK.

UCHI PIRIPRI - Shiki 178; Informant: DS.

UCHI PIRIPRI - Warush 34; Informant: AW.

YAWA PIRIPRI - Warush 23; Informant: AW.

Medicine, Myth/Ritual, Veterinary. Liquid from the crushed rhizome is applied to the head every six hours for as long as the preparation lasts to treat an undisclosed illness (Shiki 170). The root and stem are used to cure snake bites (Pujupet 1010). To relieve cramps juice from the masticated tuber is applied to afflicted areas (shiki 169). The "fruit" is placed in water. Four drops of the solution are given to newborn children that are weak (Kasent 5). Five roots are washed well, ground, and placed in 1 liter of water for 20 minutes. Five hundred ml of the liquid are taken every 6 hours for dysentery, stomach ache and vomiting (Shiki 178). Juice from the masticated rhizome is given to babies when they begin to walk and blown at the knees or applied as poultices to increase their agility (Utitiaj 38). Tubers given to newborn children so that they won't be sickly (Warush 34) and so that they will be healthy (literally -little fat ones; Warush 38) . The tuber given to dogs or mixed with saliva and placed in dog's eyes to make them become hunters (Warush 23).

genus indet.

Centro Chiar Entsa. "Bad herb" found in standing pools in primary and secondary-forests.

KURICHIP - Mashu 53; Informant: NJM.

Drug, Ritual. This plant is mentioned in the culture's mythology. Also used by IWIA (witch?) to gain power to murder people.

DAVALLIACEAE

Nephrolepis sp.

Centro Yukutais. Epiphyte.

NAME UNKNOWN - Bennett 3372; Informant: Not recorded.

No use reported.

DENNSTAEDTIACEAE

Lindsaea sp.

Centro Yukutais. Terrestrial herb; 60 cm tall.

NAME UNKNOWN - Bennett 3494; Informant: MK.

No use reported.

DIOSCOREACEAE

Dioscorea trifida L.

Centro Yukutais. Occasional chacra cultivar.

KENKE - Bennett 3787; Informant: DA; MK & RN.

Food. The tuber is eaten.

Dioscorea sp.

Centro Tiink. Common, climbing garden vine.

ANTUMU KENKE - Utitiaj 53; Informant: MAU. [not yuca?]

KAE KENKE - Utitiaj 24; Informant: MAU.

TSENKUP KENKE - Utitiaj 40; Informant: MAU.

UCHI KENKE - Utitiaj 15; Informant: MAU.

Food. Tuber is edible (Utitiaj 40). No use reported for (Utitiaj 15, 24, and 50). Utitiaj 24 grows "where there is fertilizer."

ELAEOCARPACEAE

Sloanea sp.

Centro Yukutais. Medium tree, growing on edge of montane forest; 10 m tall.

USEFUL PLANTS OF THE SHUAR - 61

ETSA - Bennett 3671; Informant: MK & RN.
NAME UNKNOWN - Bennett 4106; Informant: JCA.

Craft. The seeds are used to make necklaces.

Sloanea sp.

Centro Pampants. Common forest tree.

TEMASHNUM - Juwa 113; Informant: RWJ.

Fuel. Stem and branches used for firewood.

EQUISETACEAE

Equisetum giganteum L.

Centro Yukutais. Herb growing in wet places; 1 m tall.

CABALLO CHUPA [Spanish] - Gómez 534; Informant: ?

Medicine. An infusion is used to treat kidney ailments.

ERICACEAE

Cavendishia sp.

Centro Yukutais. Montane forest vine.

CHAKAN - Bennett 3666; Informant: MK & RN.

Forage, Poison. Considered to be poisonous but birds eat the fruits.

Satyria panurensis (Benth.) Benth. & Hook.

Centro Yukutais. Vine on edge of montane forest.

CHAKAN - Bennett 3666; Informants: MK & RN.

Forage. Birds eat the fruits.

Sphyrospermum buxifolium Poepp. & Endl.

Centro Yukutais. Epiphytic shrub.

TSIMI - Bennett 3669; Informants: MK & RN.

USEFUL PLANTS OF THE SHUAR - 62

Medicine. A tea made from the macerated leaves, ginger, and one egg is used to treat stomach aches.

Themistoclesia sp.

Centro Yukutais. Epiphytic shrub.

MURANTMAYA TSIMI - Bennett 3670; Informants: MK & RN.

Medicine. A tea made from leaves is given to babies three times per day to treat liver problems.

genus indet.

Centro Yukutais. Vine extending into the montane forest canopy.

IJIATCH JANKI - Bennett 4100; Informants: AA & JCA & JA.
NAME UNKNOWN - Bennett 4100; Informants: MK & PK.

Personal. Flowers are used for personal ornamentation.

genus indet.

Centro Yukutais. Vine extending into the montane forest canopy.

IJIATCH JANKI - Bennett 4101; Informants: AA & JCA & JA.
NAME UNKNOWN - Bennett 4101; Informants: MK & PK.

Forage, Personal. Humming birds drink the nectar. The flowers are used for personal ornamentation.

genus indet.

Centro Yukutais. Climbing woody vine growing into canopy.

UWE TREPADOR - Bennett 4139; Informants: AA & JCA & JA.
SACHA CHINCHAK - Bennett 4139; Informant: PK.

Forage. Birds, especially SHAICH (a parrot) eat the fruits.

EUPHORBIACEAE

Acalypha sp.

Centro Yukutais. Herb; 1.2 m tall.

JININI - Gómez 561; Informant: ?

No use reported.

Alchornea sp.

Centro Yukutais. Common, young secondary-forest tree; to 7 m.

KANSA - Bennett 3747; MK, DA & CCH.

MURANT MAYA KANTSE - Bennett 3665; Informants: MK & PK.

UJUMCHA - Bennett 3665; Informant: GS & DA & AA.

MURAYA KANTSE - Bennett 4129; Informants: MK & PK.

UCHICH KANTSE - Bennett 4129; Informants: AA & JA & JCA.

PAU KANTSE - Bennett 4137; Informants: AA & JCA & JA.

MURANYA KANTSE - Bennett 4137; Informants: MK & PK.

Forage. Birds (including turkeys, wuupi=mirlo, yukupu=ave chasem and yukumchikit=pajaro queso) monkeys and eat mammals (perdis & pangolin) eat the fruits.

Caryodendron orinicense Karsten

Centro Yukutais. Medium tree, cultivated in some chacras.

MANI DE ARBOL - Bennett 3430; Informant: PK.

NAMBI - Bennett 3430; Informant: PK.

Food. Seeds edible.

Chamaesyce hirta (L.) Millsp.

Centro Yukutais. Common chacra weed.

NAME UNKNOWN - Bennett 3304; Informant: JA.

Medicine. Latex used to kill burrowing organisms in the skin.

Chamaesyce hyssopifolia (L.) Small

Centro Yukutais.

? - Gómez 464; Informant: ?

Croton cf. lechleri Muell. Arg.

Centro Yukutais. Tree; 12 m tall.

SANGRE DE DRAGO - Gómez 564; Informant: ?

SANGRE DE GRADO - Gómez 564; Informant: ?

Construction, Fuel, Medicine. Moderately-hard wood is used for fuel and for "contrachapados" and "acabados." Five drops of latex dissolved in 100 ml of water or milk helps to cure ulcers caused by tension, stress, alcoholism, and malaise caused by hepatitis. This treatment continues for 15 days. Latex also applied to pimples, cuts and other skin irritations helps wounds to close and heal rapidly and prevents infection. Applied once a day for one week (ref).

cf. Croton sp.

Centro Pampants. Common primary-forest tree in ponds.

URUCHNUM - Juwa 85; Informant: RWJ.

Veterinary. Liquid from bark given to animals with diarrhea.

Euphorbia cf. heterophylla L.

Centro Yukutais. Common chacra weed.

PAKUM - Gómez 392; Informant: ?

PAUN NUPA [paun weed] - No collection; Informant: MK.

GOTA DE SANGRE [Spanish - drop of blood]- Gómez 392;
Informant: ?

Medicine. Latex used as an emetic and purgative. Two to three drops dissolved in 250 ml of water are taken before breakfast for 1-2 days. Two drops of latex are placed on warts for 30 minutes then washed thoroughly. This treatment is repeated for 2 days to remove warts.

Manihot esculenta Crantz

Centros Pampants and Tiink. Common garden shrub.

APACH MAMA - Utitiaj 27; Informant: MAU.

CHAMIR MAMA - Utitiaj 52; Informant: MAU.

ETSAINIU MAMA - Utitiaj 31; Informant: MAU.

JIRNAN MAMA - Utitiaj 29; Informant: MAU.

IKIANCHIM MAMA - Utitiaj 34; Informant: MAU.

KAAK MAMA - Utitiaj 11; Informant: MAU.

KANKUSAR MAMA - Utitiaj 44; Informant: MAU.

KASHAI MAMA - Warush 54; Informant: AW.

MAMA - Bennett 3320; Informant: JA.

NANANKI MAMA - Utitiaj 46; Informant: MAU.

NATSA MAMA - Utitiaj 49; Informant: MAU.

NUNKAMIR MAMA - Utitiaj 51; Informant: MAU.

PATUKMAI MAMA - Utitiaj 54; Informant: MAU.

SHIMPIS MAMA - Utitiaj 50; Informant: MAU.

SHIRAM MAMA - Utitiaj 45; Informant: MAU.

USEFUL PLANTS OF THE SHUAR - 65

SUPICH MAMA - Utitiaj 30; Informant: MAU.
TSAMA MAMA - Warush 55; Informant: AW.
TSAPATAR MAMA - Warush 52; Informant: AW.
TSATSUR MAMA - Utitiaj 47; Informant: MAU.
USHPAR MAMA - Warush 56; Informant: AW.
WANKA MAMA - Warush RRAE0053; Informant: AW.
WAPAIMIAS MAMA - Utitiaj 48; Informant: MAU.
YAMPITSHAR MAMA - Utitiaj 12; Informant: MAU.
YAPA MAMA - Utitiaj 28; Informant: MAU.
YUCA - Bennett 3320; Informant: JA.

Food, Medicine. Roots are edible and used to make chicha. 52, 53 and 56 are eaten and used in chicha. 54 is only eaten and 55 is used only in chicha. Food. No use is reported for numbers 46, 47, 50, 51, and. These are presumably eaten. All others are eaten and numbers 11, 12, 29, 44, 45, 48 also used to make chicha. Number 31 very appreciated, 34 is very large. To treat "mal aire" children are bathed in solution of 3 YUCA and 3 YAAS leaves.

Manihot sp.

Centro Taisha. Shrub; 4 m tall.

TUKUS NUMI - Baker 6815; Informant: ?
IVIANSHI MAMARI [Achuar] - Baker 6815; Informant: ?
YUCA SILVESTRE [Spanish] - Baker 6815; Informant: ?

No use reported.

Manihot sp.

Centro Tiink. Garden shrub.

APACH PEMPENTRUNCH - Utitiaj 13; Informant: MAU.

Food. Rhizome edible and used in ayampacos.

Margaritaria nobilis (L.f.) Muell. Arg.

Centro Yukutais. Occasional tree, protected in pasture; to 10 m.

YANTSA-YANTSA - Bennett 3591; Informant: RN.
YANTSA - Bennett 3743; Informant: MK.
YANTSA - Bennett 3743; Informants: DA & CCH.

Construction, Forage, Fuel. Source of wood for construction and firewood. Birds eat the fruits.

Phyllanthus sp.

Centro Yukutais. Common shrub in wet areas to 2.5 m.

BARBASCO [Spanish] - Bennett 3335; Informant: PK.

Fishing. Leaves and stem used as a fish poison.

Phyllanthus sp.

Centro Yukutais. Occasional chacra weed to 25 cm.

NAME UNKNOWN - Bennett 3348; Informant: JA.

Medicine. A few leaves placed in water are taken to treat diarrhea.

Phyllanthus sp.

Centro Yukutais.

? -Gómez 465; Informant: ?

Tetrochidium sp.

Centro Yukutais. Small tree to 4m on edge on montane forest and old pasture.

NAME UNKNOWN - Bennett 4070; Informants: JA & JCA; MK & PK.
MUJENUMI - Bennett 4070; Informant: AA.

No use reported.

genus indet.

Centro Tuutin Entsa. Secondary-forest tree.

URICHIMUM - Anananch 108; Informant: LA.

Medicine. Used to kill grubs and cure all stomach ailments. Children take 3 drops and adults 6 drops of sap in 400 ml of water.

genus indet.

Centro Pampants. Common playa tree.

KAIPNA' - Juwa 95; Informant: RWJ.

USEFUL PLANTS OF THE SHUAR - 67

Forage. Parrots and other birds eat fruits.

genus indet.

Centro Pampants. Common tree, 20 m tall.

YUMPINK - Juwa 96; Informant: RWJ.

Fuel, Medicine. Stem used for firewood. Leaves are placed on wounds.

FABACEAE (CAESALPINOIDEAE)

Bauhinia tarapotensis Benth.

Centro Yukutais. Small tree in open areas.

ITSANAİK - Bennett 3795; Informants: MK & RN, DA

Myth/Ritual. Iwia (bird) flies and tells people that Iwi wants to eat squirrel. Itsa (the sun) uses the tree as a ladder to climb to earth and resolve the conflict.

Bauhinia sp.

Centro Kankaim. Small, playa tree; 4 m tall.

SHINKIAT - Shiki 279; Informant: DS.

No use reported.

Cassia reticulata (Willd.) Irwin & Barneby

Centro Yukutais. Shrub; 2.5 m tall.

ACACIA - Bennett 3311; Informant: DA.

Ornamental. Cultivated around homesites.

Senna hirsuta (L.) var. hirta Irwin & Barneby

Centro Yukutais. Occasional shrub along trails and road; 1 m tall.

JERESUK - Bennett 3366; Informant: DA.

JURISKU - Bennett 3366; Informant: PK.

? - Gómez 491; Informant: ?

USEFUL PLANTS OF THE SHUAR - 68

Medicine. A medication to treat rheumatism is made from the leaves.

FABACEAE (MIMOSOIDEAE)

Acacia sp.

Centro Tuutin Entsa. Common pasture shrub.

KESAM - Kunkumas 143; Informant: PK.

No use reported.

Entada polymorpha specimen destroyed

Centro Tuutin Entsa. Secondary-forest tree; 10-15 m tall.

SEKAMUR - Anananch 116; Informant: LA.

Personal. Bark used to wash clothes and to bathe.

Entada [cf.] polyphylla Benth.

Centros Kankaim and Pampants. Forest and garden vine.

SEKEMUR - Shiki 217; Informant: DS.
- Warush 14; Informant: AW.

Medicine, Personal. An enema made from roots used to treat ameobas. The root is also used like soap to wash clothes.

Inga edulis Mart.

Centro Yukutais; Sucua. Medium tree, in chacras; to 12 m.

WAMPA - Bennett 3658; Informants: MK & RN; GS & DA & AA
GUABA BEJUCO - Bennett 4038; Informant: AA.

Food. Cultivated for edible seed pulp. The fruits are sold in the market for 10 sucres each.

Inga spectabilis (Vahl) Willd.

Centro Yukutais; Sucua. Medium trees growing in old chacras; to 7 m.

MACHITNIUS [Quichua] - Bennett 3796, 3805;
Informants: MK & RN; DA.

MACHETONA - Gómez 544; Informant: ?

USEFUL PLANTS OF THE SHUAR - 69

GUABA - Bennett 4037; Informant: AA.

Fuel, Fruit. The stem is used for firewood. The plant is cultivated primarily for its edible fruits which are sold in the market for 20 sucres each.

Inga sp.

Centro Yukutais. Medium, montane forest tree, protected in pasture; 12 m tall.

KUNKUIN SAMPI - Bennett 3657; Informants: MK & RN; GS & DA & AA.

- Bennett 4140; Informants: AA & JCA & JA; PK.

- Bennett 4161; Informants: MK & PK.

GUABA DE MONTE [Spanish] - Bennett 4140; Informant: PK.

- Bennett 4161; Informants: MK & PK.

Food, Fuel. The seed pulp is edible. Stem used for firewood.

Inga sp.

Centro Yukutais. Medium tree, growing in chacra; to 20 m.

GUABA [Spanish] - Bennett 4032; Informants: JCA & JA.

WAMPA - Bennett 4032; Informants: JCA & JA.

SAMPI - Bennett 4032; Informants: MK & RN.

Food, Forage, Medicine. The seed pulp is eaten by humans and guatusa. A small amount of the dried root is boiled in water and the liquid is taken 3 times a day to treat diarrhea.

Inga sp.

Centro Yukutais. Small tree, growing in chacras and along streams; to 7 m tall.

MUWAMUWA SAMPI [Spanish] - Bennett 4033; Informants: JCA & JA.

WAMPUKASH - Bennett 3594, 4033; Informants: MK & PK.

FOTOMO DEL RIO [Spanish] - Bennett 3594, 4033; Informants: MK & RN.

Food. Fruits edible in small amounts. Excessive quantities cause vomiting (AA).

Inga sp.

Centro Yukutais. Small, understory tree in montane forest; 5 m tall.

USEFUL PLANTS OF THE SHUAR - 70

MURANYA SAMPI - Bennett 4143; Informants: AA & JCA & JA.
IMIK SAMPI - Bennett 4143; Informant: PK.

Forage, Medicine. Animals especially monkeys eat the seed pulp. Juice from boiled leaves is used as an emetic.

Inga sp.

Centro Pampants. Common, montane-forest tree.

MEE SAMPI - Juwa 36; Informant: RWJ.
MIK SAMPI - Juwa 105; Informant: RWJ.

Food, Forage, Fuel. The seed pulp is eaten by humans, monkeys and other animals. The stem is used for firewood.

Inga sp.

Centro Pampants. Common pasture tree.

KASHUAPAI - Juwa 139; Informant: RWJ.

Food, Fuel. The seed pulp is edible. The stem is used for firewood.

Mimosa rutescens Benth.

Centro Yukutais. Scandent shrub.

TSERUKU - Bennett 3668; Informants: MK & RN.
TSERERUN - Bennett 3668; Informants: GS & DA & AA.
KASAM - Bennett 3668; Informants: GS & DA & AA.

No use reported.

Mimosa sp.

Bomboiza. Roadside herb.

KANUMAR - Baker 6995; Informant: ?

Medicine. Given to babies that cry too much so they'll sleep through the night.

Parkia multijuga Benth.

Centro Nayanmak. Common tree in pastures.

TANKAM - Shakaim 19; Informant: SS.

Construction, Food. Stem used to make planks. Fruits are edible.

Parkia sp. [cf.]

Centro Yukutais. Secondary-forest tree.

YURUNTS - Bennett 3781; Informant: DA.

Fuel. Stem used for firewood.

Pithecellobium pedicillare (DC.) Benth.

Centro Nayanmak. Pasture tree.

SAMIKNUM - Shakaim 23; Informant: SS.

Construction. Stem used to make planks.

Pithecellobium sp.

Centro Yukutais. Small tree 1.5 m tall growing in wet sandy soil.

KUNCHANMAYA WANPUKASH - Bennett 3750; Informant: MK.

WAMPUKASH - Bennett 3750; Informant: MK.

FOTO DE CIENIGA [Spanish] - Bennett 3750; Informant: MK.

Food. Seed pulp edible.

genus indet.

Centro Nayanmak. Pasture tree.

TAPIRUNA - Shakaim 9; Informant: SS.

Construction. Used to make posts, beams and planks.

genus indet.

Centro Kankaim. Vine with spines.

KASAAM - Shiki 268; Informant: DS.

No use reported.

genus indet.

Centro Pampants. Rare forest tree.

KAPIRUNA - Juwa 103; Informant: RWJ.

Construction. Wood used to construct houses.

FABACEAE (PAPILIONOIDEAE)

Cajanus cajan L.

Centro Yukutais. Cultivated in gardens.

POROTO DE PALO [Spanish] - Gómez 443; Informant: ?

FREJOL DE ARBOL [Spanish] - Gómez 443; Informant: ?

CHICHARO [Spanish] - Gómez 443; Informant: ?

QUINCHONCHO [Spanish] - Gómez 443; Informant: ?

GUANDU [Quichua?] - Gómez 443; Informant: ?

Food, Medicine. Cultivated for edible fruits which also are consumed by animals. The young fruits used to treat kidney and liver ailments. Two hundred and fifty ml of water from cooked beans is taken 3 times a day for 1 week.

Crotalaria nitens H.B.K.

Centro Yukutais. Weed of disturbed chacras.

PAKEPKE - Bennett 3676; Informants: MK & RN.

TUIK - Bennett 3676; Informants: GS & DA & AA.

Craft, Personal, Ritual. Used as a musical instrument and baby rattle. Old Shuar used in ceremony to produce rain.

Crotalaria cf. nitens HBK

Centro Yukutais.

MARACAS - Gómez 466; Informant: ?

Craft, Forage, Miscellaneous. The plant is good cattle forage and also protects soils. The dried fruit is used as a rattle in fiestas and ceremonies.

Dalbergia sp.

Centro Nayanmak. Pasture tree 15 m tall.

TIMIUNA - Shakaim 17; Informant: SS.

Construction. Wood used for undisclosed purposes..

Desmodium axillare (Sw.) DC var. axillare

Centro Yukutais. Very common chaca weed.

MIIKMAS - Bennett 3310; Informant: PK.
PEGA-PEGA - Bennett 3310; Informant: JA.

Medicine. The fruits are applied to scalp irritations (JA).
An antiseptic is made by boiling the leaves in 1/2 L of water.

Desmodium sp.

Centro Kankaim. Vine growing in humid places.

TSEREP - Shiki 153; Informant: DS.

No use reported.

Desmodium sp. no collection in NY

Centro Yukutais.

MIKMAS - Gómez 395; Informant: ?
AMOR SECO [Spanish] - Gómez 395; Informant: ?

Medicine. A decoction (1 handful of leaves in 1 liter of water) is used as a disinfectant to treat wounds, pimples, cuts and skin infections. Two hundred and fifty ml of the same decoction is taken before breakfast to treat liver and kidney problems.

Desmodium sp.

Centro Tuutin Entsa. Common, garden herb.

NUSE NUSE - Kunkumas 233; Informant: PK.

Veterinary. Leaves used to bathe dogs.

Erythrina krukovii

Centro Yukutais. Shrub in open areas.

SHUKE - Bennett 3823; Informant: DA.

Craft. The seeds are used to make necklaces.

Erythrina sp.

Centros Pampants, Tuutin Entsa, and Yukutais. Common, secondary-forest shrub.

SHUKE - Anananch 105; LA.

SHUKE - Bennett 3615; Informant: PK.

SHUKE' - Juwa 68; Informant: RWJ.

Crafts, Forage, Fuel, Medicine, Misc. The seeds are used for necklaces. Parrots and parakeets eat the flowers [sic]. The stem is used for firewood. A medicine for an undisclosed ailment is made from the bark. The shrub is planted as a living fence.

Erythrina sp.

Centro Yukutais. Tree left in hedge-row between chacras; 10 m tall.

SHUKE - Bennett 3794; Informants: MK & RN; DA.

ITSEA - Bennett 3794; Informant: DA.

MELISHU - Bennett 3794; Informant: DA.

AJULEMU [Spanish] - Bennett 3794; Informants: MK & RN.

Fuel, Miscellaneous. The stem is used for firewood and the tree is planted as a living fences.

Erythrina sp.

Centro Yukutais. Small tree; 3-4 m tall.

NACEDERO - Gómez 563; Informant: ?

No use reported.

cf. Machaerium sp.

Centro Pampants. Common playa tree.

YAMAJICH' - Juwa 71; Informant: RWJ.

Fuel. Stem used for firewood.

Phaseolus sp.

Centro Yukutais. Cultivated vine in some chacras.

USEFUL PLANTS OF THE SHUAR - 75

MIIK - Bennett 3799; Informants: MK & RN.
YAKIM MIIK - Bennett 3799; Informants: MK & RN.

Food. Cultivated for edible fruit.

Phaseolus sp.

Centro Yukutais. Cultivated vine in some chacras.

MIIK - Bennett 3800; Informants: MK & RN.
aff. TSUAP - Bennett 3800; Informant: DA.

Food. Cultivated for edible fruit.

Pueraria [cf.] phaseoloides Benth.

Centro Yukutais. Occasional vine found along road and trails.

MIIK NUPA - Bennett 3709; Informant: MK.
NAME UNKNOWN - Bennett 3357; Informant: MK.
- Bennett 3709; Informant: AA.

Forage, Poison. Hummingbirds visit the flowers. Plant considered poisonous.

Tephrosia toxicaria (Sw.) Pers.

Centro Yukutais.

PAYASH - Gómez 487; Informant: ?
BARBASCO - Gómez 487; Informant: ?

Fishing, Medicine. Leaves and roots are crushed in a banana leaf then carried to a stream to poison fish. When placed in water they produce a foam and after 10-15 minutes fish float to the top of the water. This method is prohibited as it kills all the fauna in one place. An infusion made from a very small amount of the root is used to treat mange. Warm clothes soaked in the liquid are applied or the affected area is washed with the solution 3 times a day until cured.

FABACEAE (SUBFAMILY INDET.)

genus indet.

Centro Yukutais. Scandent shrub in secondary vegetation.

TSERUKU - Bennett 3667; Informant: MK & RN.
TSERURUN - Bennett 3667; Informant: GS & DA & AA.

No use reported.

genus indet.

Centro Kankaim. Vine.

KUUMIANK - Shiki 197; Informant: DS.

No use reported.

genus indet.

Centro Pampants. Garden shrub; 2-4 m tall.

TIMIU - Warush 13; Informant: AW.

Fishing, Poison, Veterinary. The roots are used as a fish poison. The stem is toxic. Chickens are washed in a solution made from the roots to remove fleas.

genus indet.

Centro Tiink. Garden vine.

NAMU - Utitiaj 19; Informant: MAU.

Food. The tuberous root is edible, similar to yuca but jucier and sweeter. It's also eaten raw. The dry seeds are used for an undisclosed purpose.

FLACOURTIACEAE

Banara guianensis Aubl.

Centro Yukutais. Common, small secondary forest pioneer tree.

NAME UNKNOWN - Bennett 3498; Informant: DA.

No use reported.

Tetrathylacium macrophyllum Poeppig.

Centro Pampants. Common tree.

YUREP NAINZIA - Juwa 75; Informant: RWJ.

NAME UNKNOWN - Bennett 3497; Informant: DA.

No use reported.

Xylosma benthamii (Tul.) Tr. & Pl.

Centro Pampants. Rare, forest shrub.

ETSA JANKI - Warush 78; Informant: AW.

Unknown? - spines used when one has "Punsasa."

GESNERIACEAE

cf. Dalbergaria sp.

Centro Yukutais.

NAME UNKNOWN - Bennett 4082; Informant: AA.

MACHANCHA - Bennett 4082; Informants: JA & JCA.

KUISHMINIAR - Bennett 4082; Informants: PK & MK.

Medicinal. Macerated leaves are placed on pimples and papules in babies (JA). One cup (ca. 240 ml) of the juice is taken as a permanent contraceptive.

Drymonia sp.

Centro Yukutais. Climbing vine in montane forest.

NAME UNKNOWN - Bennett 4060; Informants: MK & PK.

No use reported.

Kohleria spicata (H.B.K.) Oerst.

Centro Yukutais. Erect herb in open, disturbed sites; to 50 cm.

NAME UNKNOWN - Bennett 3355; Informant: Not recorded.

No use reported.

genus indet.

Centro Yukutais. Rare vine found along river.

MAMKUAKUA - Bennett 3597; Informant: PK.

No use reported.

genus indet.

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Centro Yukutais. Epiphyte.

NAME UNKNOWN - Bennett 3624; Informant: PK.

No use reported.

genus indet.

Centro Yukutais. Vine along trails and in other disturbed sites.

NUWA - Bennett 3681; Informants: MK & RN.

No use reported.

genus indet.

Centro Yukutais. Collected by DA.

TSAMBUCH - Bennett 3815; Informant: DA.

No use reported.

genus indet.

Centro Yukutais.

NAME UNKNOWN - Bennett 4049; Informants: JA & JCA; MK & PK.

No use reported.

genus indet.

Centro Yukutais. Understory shrub in montane forest.

NAME UNKNOWN - Bennett 4063; Informants: JA & JCA; MK & PK.

No use reported.

genus indet.

Centro Yukutais.

SUUIR CHINCHAK - Bennett 4072; Informants: JA & JCA.

NAME UNKNOWN - Bennett 4072; Informants: MK & PK; AA.

Forage. Humming birds eat the fruits [sic].

USEFUL PLANTS OF THE SHUAR - 79

genus indet.

Centro Yukutais.

NAME UNKNOWN - Bennett 4110; Informants: JA & JCA.

No use reported.

genus indet.

Centro Yukutais. Climbing vine with red bracts.

KAUKUISH - Bennett 4149; Informant: AA.

NAME UNKNOWN - Bennett 4149; Informants: MK & PK; JCA & JA.

Medicine, Myth. Juice from macerated leaves and stems placed on pimples and papules. If you touch the glowers your ears will off.

genus indet.

Misión Salesiano Bomboiza.

CHICHIAMIAS - Pujupet 1018; Informant: JOP.

No use reported.

genus indet.

Centro Kankaim. Herb; 1 m tall.

TUYUK - Shiki 147; Informant: DS.

Medicine. Leaves are mixed with juice of sugar cane and lemon or lime. Four hundred ml of the liquid is taken after each meal as a sedative.

genus indet.

Centro Kankaim.

SANTUSH - Shiki 172; Informant: DS.

No use reported.

genus indet.

Centro Pampants. Common forest herb.

USEFUL PLANTS OF THE SHUAR - 80

NEAJIK JAPITIAI - Warush 87; Informant: AW.

Ritual. Leaves are used to clean the eyes after one dreams of the death of someone familiar.

GLEICHENIACEAE

Dicranopteris sp.

Centro Yukutais.

NASHISHIP - Bennett 3568; Informant: DA.

No use reported.

HAEMODORACEAE

Xiphidium caeruleum Aubl.

Centro Yukutais. Erect herb; to 40 cm.

NAME UNKNOWN - Bennett 3707; Informant: MK.

No use reported.

HELICONIACEAE

Heliconia schumanniana Loes.

Centro Yukutais. Primary forest herb.

WINCHU - Bennett 3753; Informant: PK.

No use reported.

Heliconia stricta Huber aff.

Centro Yukutais. Common herb to 2.5 m in open areas.

WINCHU - Bennett 3578; Informant: AA.

Food Processing. Leaves used to cook foods, as plate substitutes and as tops for pots. NAIK is used to hold the leave together in an ayampaco.

LAMIACEAE

Coleus sp.

USEFUL PLANTS OF THE SHUAR - 81

Centro Yukutais. Herb; 20 cm tall.

MAKANKUA - Gómez 557; Informant: ?
TERCIOPELINA - Gómez 557; Informant: ?

Medicine, Ornamental. An infusion (3-4 fresh leaves in 1 liter of water for 10-20 minutes) alleviates headaches produced by overexposure. Two hundred fifty ml is taken twice a day for two days.

Hyptis capitata Jacq.

Centro Pampants.

TIKIATIN - Warush 90; Informant: AW.

No use reported.

Hyptis obtusifolia Presl. ex Benth.

Centro Yukutais. Common weed along paths.

HUAKA MUKE - Bennett 3309; Informant: MK
NAME UNKNOWN - Bennett 3309; Informant: JA.

Medicine. The leaves are cooked in water and the decoction is taken 3 times a day to treat colds.

Hyptis [cf.] pectinata Poit.

Centro Yukutais. Common weed along paths.

NAME UNKNOWN - Bennett 3343; Informant: JA.

No use reported.

Hyptis sp.

Centro Yukutais. Weakly erect herb found along paths.

NAME UNKNOWN - Bennett 3307; Informant: Not recorded.

Medicine. A decoction made from the leaves is used to treat an unmentioned ailment.

Melissa officinalis

Centro Yukutais. Herb; 70 cm tall.

USEFUL PLANTS OF THE SHUAR - 82

TORONJIL - Gómez 535; Informant: ?

Medicine. Used as a sedative and to cure irregular menstruation. A poultice, made from 5-6 crushed leaves and applied to wounds, tumors, insect and animal bites, prevents itching, stops inflammation and helps wounds heal more rapidly. A tea (5-8 fresh or dry leaves in 1 liter of water for 10 minutes) is used to treat fever, cough or influenza. The same tea mixed with honey is used to treat feminine problems. Two hundred fifty ml is taken before breakfast as long as needed. The same tea taken three times per day calms the nerves (ref?).

Mentha sp.

Centro Yukutais. Cultivated herb.

MENTA [Spanish] - Gómez 416; Informant: ?

Medicine. A tea made by steeping the plant in 2 liters of water for 8 minutes is used to treat nervous problems, insomnia, and headaches. Two hundred and fifty ml is taken before breakfast or before going to sleep for one week. The same tea taken for 2 weeks cures stomach aches. A tea made by steeping leaves and inflorescences in 500 ml of water for 10-12 minutes is an antispasmodic. One hundred and twenty ml are taken every 12 hours for 1-2 days. The tea also is used as an antiseptic. Macerated leaves placed in a bath alleviate skin irritation caused by allergies or mosquito bites. (ref?)

Micromeria brownei (Sw.) Benth.

Centro Yukutais. Weak herb.

NAME UNKNOWN - Bennett 3423; Informant: MK.

No use reported.

Ocimum basilicum L.

Centro Yukutais. Cultivated herb.

APAAR - Gómez 489; Informant: ?

ALBAHACA - Gómez 447, 489; Informant: ?

Food, Medicine. The leaves are used as a condiment. For earaches the juice from a few macerated leaves is heated then placed in the ear (1-2 drops). Four hundred ml of an infusion (1 handful of fresh or dry leaves and flowers for 10-15 minute) is taken after each meal for 2-3 days to alleviate nervous

disorders, rheumatism and stomach aches.

Ocimum campechianum Mill.

Misión Salesiano Bomboiza, Centros Pimpints and Pampants.
Common garden herb; 40 cm tall.

AJPAR - Warush 39; Informant: AW.
ARPAK - Pujupet 1044; Informant: JOP.
AAPAR - Kasent 31; Informant: PWK.

Medicine. Leaves and stem are taken as a sedative and also to treat rheumatism (AW). A medicine for an undisclosed ailment is made by cooking the stem, leaves and flowers with sugar cane juice, chicha, HIERBA LUISA, cinnamon, and orange and lime leaves (PWK).

Ocimum micranthum Willd. see O. campechianum Mill.

Origanum vulgare L.

Centro Yukutais. Herb; 70 cm tall.

OREGANO GRANDE - Gómez 540; Informant: ?

Food, Medicine. Ground leaves are used as a condiment. The tea is a calmative and disinflamant. A decoction (1 handful of the plant in 1 liter of water) sweetened with honey is an appetite stimulant and tonic. Two hundred and fifty ml are taken after each meal for 1-2 weeks. An infusion (1 handful of fresh or dried flowers in 1 liter of water for 20 minutes) is used to treat bad nerves, head aches, motion sickness, colic, stomach aches.

Salvia sp.

Centro Yukutais.

FALSA MENTA - Gómez 397; Informant: ?
PURGA PERRO [Spanish] - Gómez 397; Informant: ?

Medicine. A decoction (1 handful of flowers and fruits in 1 liter of water for 20 minutes) is used to treat nervous, stomach, liver, and kidney disorders. Two hundred and fifty ml is taken before breakfast or before going to sleep for 2-3 days. The decoction mixed with honey is a tonic, taken 3 times per day for 10 days to recover strength (ref.)?

Satureja brownei (Sw.) Briq. see Micromeria brownei (Sw.) Benth.

Scutellaria cf. agrestis St.Hil. ex Benth.

Centro Pampants. Rare garden herb; 20 cm tall.

AKAP NUPA - Warush 47; Informant: AW.

Medicine. Cooked leaves are taken to alleviate kidney pain.

genus indet.

Centro Yukutais. Prostrate herb in chacra garden. May be cultivated.

SUUNJO or SUUKU - Bennett 3713; Informant: MK.

NAME UNKNOWN - Bennett 3713; Informant: DA.

Food, Medicine. A tea is made from the leaves (AA). The same tea is used to treat labor pain and induce birth (MK).

genus indet.

Misión Salesiano Bomboiza.

WISHU - Pujupet 1022; Informant: JOP.

No use reported.

LAURACEAE

Aniba sp.

Centro Yukutais. Tree protected in chacras.

YANTANIM - Bennett 3728; Informant: MK; DA & CCH.

Construction, Forage. The stem is used for wood. Birds eat the fruits.

Aniba sp.

Centro Nayanmak. Pasture tree

KAYANT - Shakaim 29; Informant: SS.

Construction. Wood used for Shuar house construction.

Nectandra cf. cinnamomoides Nees.

Centro Yukutais. Tree.

CANELA [Spanish] - Gómez 495; Informant: ?

Construction, Medicine. The wood is used to make canoes, houses furniture and charcoal. Four to six fresh or dry leaves are cooked for 5-10 minutes in 1 liter of water to treat gastric ulcers. Two hundred and forty ml is taken before breakfast and before going to bed for one week. The same tea, sweetened with honey, is a tonic for small children and persons recuperating from infirmities. One hundred and twenty ml is taken 3 times per day for 1 week.

cf. Ocotea costulata (Nees) Mez

Centros Pimpints and Tuutin Entsa. Common, montane forest tree; 30 m tall.

EAYU - Anananch 142; Informant: LA.

- Kasent 35; Informant: PWK.

Construction, Forage, Fuel. The wood is used in construction and lasts 4-5 years and also used for firewood. Birds eat the fruits.

Ocotea sp.

Centro Yukutais. Tree protected in chacras; 12 m tall.

TICHINCHI - Bennett 3328; Informant: GA.

TINCHI - Bennett 3593; Informant: PK.

Construction, Forage. Stem used for wood. Birds eat fruits.

Persea americana Mill.

Centros and Pimpints Yukutais. Medium-sized tree cultivated around homesites.

AGUACATE - Bennett 3708; Informants: AA; MK.

KAI - Bennett 3708, 3793; Informant: MK.

- Kasent 15; Informant: PWK.

Food, Medicine. Fruits are edible. One half seed soaked in 500 ml of water is taken to induce abortion and to treat snake bites.

genus indet.

Centro Yukutais. Common, medium tree protected in chacras.

TINCHI - Bennett 3735; Informants: MK; DA & CCH.
- Bennett 3821; Informants: DA & CCH; MK.

Construction, Food. Stem used for construction. Butterfly larvae (wampishuk) found in trunk are edible.

genus indet.

Centro Pampants. Rare, forest tree.

ARASH' - Juwa 20; Informant: RWJ.

Construction, Fuel, Forage. The stem is a source of wood. The bark used for fuel. Parrots and other birds eat the fruits.

genus indet.

Centro Pampants. Common, forest tree.

YAWISH TINCHI - Juwa 33; Informant: RWJ.

Fuel, Forage. Stem is used for firewood. Birds and other animals eat the fruits.

genus indet.

Centro Pampants. Rare, playa tree.

WASHIKNUM - Juwa 45; Informant: RWJ.

Fuel. Stem used for firewood.

genus indet.

Centro Pampants. Rare tree.

TINCHI - Juwa 122; Informant: RWJ.

Fuel, Forage. Stem used for firewood. Birds eat the fruits.

genus indet.

Centro Pimpints. Common, cultivated tree.

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ISHPINK - Kasent 20; Informant: PWK.

Food, Medicine. Fruit is edible; dried it will last 6 months. A medicine is made by mixing the plant with water, chicha, HIERBA LUISA, and sugar cane then boiling well.

genus indet.

Centro Chiar Entsa. Primary-forest tree.

AYUA - Mashu 37; Informant: NJM.

Construction. Stem used in general.

genus indet.

Misión Salesiano Bomboiza. Primary-forest tree; 20 m tall.

MATUT - Pujupet 1011; Informant: JOP.

Medicine. Seeds used to cure heart pains.

LECYTHIDACEAE

Eschweilera sp.

Centro Pampants. Common, forest tree.

SHUWAT - Juwa 6; Informant: RWJ.

Craft, Forage. Bark used as rope to carry material in the field. Animals eat the fruits.

Grias peruviana Miers

Centros Chiar Entsa, Pampants, Pimpints and Yukutais. Common, cauliferous, montane forest tree also protected in chacras; 15 m tall.

APAI - Bennett 3455, 4066; Informants: DA; JA & JCA; MK & PK.

- Gómez 482; Informant: ?
- Juwa 141; Informant: RWJ.
- Kasent 41; Informant: PWK.
- Mashu 41; Informant: NJM.

AGUACATILLO - Bennett 4066; Informant: AA.

Food, Medicine. Fruits are edible. The seed or the bark is used as a medicine for diarrhea in children and adults (NJM). An enema made from the seed and water is administered to treat

intestinal problems. A contraceptive is made by cooking 1 seed in water and then adding sugar cane juice. This is considered dangerous as sterility results from excessive doses (Gómez 482).

Gustavia longifolia Poeppig ex Berg

Centros Pampants and Pimpints. Common shrub.

KUAP' - Juwa 23; Informant: RWJ.

KUAP - Kasent 24; Informant: PWK.

Food, Fuel. The fruit and fresh sap are edible. The stem is used for firewood.

Gustavia macarenensis Philipson ssp. macarenensis

Centro Yukutais. Medium, montane forest tree protected in pastures and chacras; to 12 m.

INIAK' - Bennett 3585; Informant: DA

- Bennett 3600; Informant: PK.

- Bennett 3745; Informants: MK; DA & CCH.

- Bennett 3803; Informants: MK & RN; DA.

- Bennett 4057; Informant: DA.

SACHIS [Quichua] - Bennett 4057; JA & JCA.

Food. Fruits are edible.

LILIACEAE

Allium cepa L.

Centro Yukutais. Occasional cultivar in house gardens.

CEPUI [onion] - No collection; Informant: DA.

CEBOLLA [Spanish - onion] - No collection; Informant: DA.

Food. Cultivated for edible bulb.

Hippeastrum sp.

Centro Yukutais. Cultivated in garden.

NAME UNKNOWN - Bennett 3577; Informant: DA.

Ornamental. Planted around houses.

Urceolina grandiflora (Planch. & Linden) Traub.

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Centro Yukutais. Understory herb.

NAME UNKNOWN - Bennett 3453; Informant: DA.

No use reported.

Cordyline sp.

Centro Yukutais. Commonly cultivated herb; to 2.5 m tall.

PINTIU - Bennett 3490; Informant: PK

NAME UNKNOWN - Bennett 3490; Informant: JA.

Ornamental, Personal. Cultivated as an ornamental around homes, usually in a hedge row. Sap from the macerated leaves is used to clean clothes.

LOASACEAE

Sclerothrix fasciculata Presl.

Centro Yukutais. Common chacra weed.

NUPA [weed] - Bennett 3316; Informant: JCA.

No use reported.

LOGANIACEAE

Strychnos tomentosa Benth.

Centro Tuutin Entsa. Primary-forest shrub; 3 m tall.

FUIRTSEAS - Anananch 144; Informant: LA.

Hunting. Roots of plant used as arrow poison.

LORANTHACEAE

Phoradendron piperoides (H.B.K.) Trel.

Centro Yukutais. Parasitic shrub.

IWIANCHMER - Bennett 3611; Informant: PK.

No use reported.

Phthirusa pyrifolia (H.B.K.) Eichl.

USEFUL PLANTS OF THE SHUAR - 90

Centro Yukutais. Common parasite.

IMISHMIR - Bennett 3637; Informant: MK.

IWIANCHMER - Bennett 3637; Informant: AA.

ESCOPA BRUJA [Spanish] - Bennett 3637; Informant: JA.

No use reported.

Phthirusa or Struthanthus sp.

Centro Tuutin Entsa. Primary-forest herb.

IWIANCHUIR - Anananch 149; Informant: LA.

Forage, Unknown. Birds eat the fruits. Leaves are used for an undisclosed purpose.

Struthanthus orbicularis (HBK) Blume

Centro Yukutais. Parasitic vine.

IWIANCHMER- Bennett 3786; Informants: MK & RN.

UNTIWIANCHMER - Bennett 3786; Informant: DA.

Forage. Birds eat the fruits (MK & RN).

Struthanthus sp.

Centro Yukutais. Parasitic vine.

IWIANCHMER- Bennett 4034; Informants: MK & RN; JCA & AA.

Forage, Medicine. Birds eat the fruits. The macerated fruits are used to prepare an enema to treat diarrhea.

genus indet.

Centro Yukutais. Parasitic shrub.

MURANA IWIANCHMER - Bennett 3732; Informants: DA & CCH.

TERES - Bennett 3732; Informant: MK.

No use reported.

LYTHRACEAE

Cuphea racemosa (L.f.) Spreng. var. tropica Cham. & Schldl.

Centro Yukutais. Common weed in open disturbed sites; to 25

cm tall.

NAME UNKNOWN - Bennett 3353; Informant: JCA.

No use reported.

MALPIGHIACEAE

Banisteriopsis caapi (Spruce ex Griseb.) Morton -

Misión Salesiano Bomboiza; Centros Chiar Entsa, Pimpints.
Garden and primary-forest vine.

NATEM - Kasent 2; Informant: PWK.
- Mashu 54; Informant: NJM.
- Pujupet 1030; Informants: JOP.

Hallucinogen. The stem is mixed with YAJI, KUSHIPIAK fruit husk and then placed in a receptacle where it is allowed to ferment and turn red. The mixture is taken by brujos and may be stored only 2-3 weeks (PWK). A measured amount is placed in a pot after grinding into fine pieces. Mixed with YAJI and other plants then boiled until thick (NJM).

Banisteriopsis cabrerana Cuatr.

Centro Nayanmak.

YAJI - Shakaim s.n.; Informant: SS.

Hallucinogen. Leaves are added to NATEM.

Diploterys cabrerana (Cuatr.) Gates

Misión Salesiano Bomboiza. Woody, primary-forest vine.

YAJI - Pujupet 1048; Informant: NOP.

Hallucinogen. Leaves are mixed with NATEM.

MALVACEAE

Althaea officinalis

Centro Yukutais.

MALVA BLANCA - Gómez 538; Informant: ?

Medicine. One spoonful of the root cooked in 2 cups of water for 20-30 minutes. Decction used as an eyewash to alleviate

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irritation of the eyes. One - two drops applied to each eye or applied in form of wet clothes. warm. Treatment as long as necessary. Decoction also used to treat lung problems. Two cups taken per day one in the morning and the other in that night for 2-3 days.

An infusion made from 1-2 handful of fresh or dry flowers and leaves in one liter of water for 5-10 minutes. The tea is used to treat liver problems. One cup taken before breakfast for 5 days.

The same teas used to treat menstrual problems 2 cups taken per day for one week. Also used as a vaginal douche to relieve irritation. Should not be used during pregnancies.

Gossypium barbadense L.

Centros Pampants, Tuutin Entsa, Chiar Entsa, Yukutais. Shrub to 3 m cultivated around homestites.

URUCH - Anananch 157; Informant: LA.
- Bennett 3415; Informant: JA.
- Gómez 490; Informant: JA.
- Mashu 10; Informant: NJM.
- Warush 46; Informant: AW.
ALGODON - Bennett 3415; Informant: JA.

Fiber, Medicine. Cultivated for seed fibers. Cotton placed on the finger is wetted and mixed with achiote and hot pepper. This is applied in the mouth to relieve cough and sore throat (NJM).

Gossypium hirsutum L.

Centro Pimpints. Cultivated, garden shrub.

URUCH - Kasent 19; Informant: PWK.

Fiber, Medicine. Used to make ITIP. Some chopped root and ground shell of the fruit is placed in a little water then heated. The warm liquid is placed in the mouth of babies to cure pus in the mouth and itching.

Malachra ruderalis Gürke

Centro Yukutais. Weak shrub growing along trails; to 2 m tall.

MAAPAS - Bennett 3358; Informants: CCH; PK.
MALVA [Spanish] - Bennett 3358; Informants: CCH; PK.

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Medicine. A tea prepared from flowers is used to treat stomach aches.

Malvaviscus penduliflorus DC.

Centro Yukutais. Cultivated shrub; to 3 m tall.

PEREGRINO [Spanish] - Bennett 3300; Informant: DA.

Medicine, Ornamental. Three leaves, three flowers, and young shoots, and WINCHU are cooked then mixed with sugar and alcohol. Women drink this tonic to regain strength after giving birth. Cultivated around homesites as an ornamental.

Pavonia sp.

Centro Yukutais. Suffrutescent herb in disturbed sites to 1 m tall.

WEAWEA - Bennett 3616; Informant: PK.

Medicine. Leaves cooked in water with Sida used to treat dandruff.

Sida acuta Burm.

Centro Yukutais.

JAPIMIUK - Gómez 406; Informant: ?

ESCOBILLA [Spanish] - Gómez 406; Informant: ?

Tools. The plant is used as a broom.

Sida poeppigiana (Schumann) Fyrox. [inedit]

Centro Yukutais. Shrub found in disturbed sites; to 1 m tall.

JAPIMYUK - Bennett 3487; Informant: PK.

Medicine. A decoction made from the leaves is used to treat dandruff.

MARANTACEAE

Calathea altissima (P.&E.) Koenicke

Centro Yukutais. Common, montane forest, understory herb.

PUMPU - Bennett 4126; Informants: MK & PK; AA & JCA & JA.

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Food processing. The leaves used to wrap ayampacos and to make "pitaks" - vessels used to carry liquids.

Calathea sp.

Centro Yukutais. Common herb in wet depressions; to 2.5 m tall.

ISAPUMPU - Bennett 3771; Informants: MK; DA & CCH.

Fishing, Food Preparation. The leaves are used to preapre ayampacos and to make fish traps.

Monotagma cf. vaginatam Hagberg

Centro Chiar Entsa. Swamp herb.

EHIKIEHKI - Mashu 38; Informant: NJM.

Craft. Used to make "pitiak" by older people.

genus indet.

Rio Yuqupa. Herb; 60 cm tall.

PUMPU' - Baker 6759; Informants: JN & AN.

Food Processing. Leaves used to make ayampacos.

genus indet.

Centro Yukutais.

CHIANK - Bennett 4112; Informants: JA & JCA; MK & PK.

CHINIAK - Bennett 4109; Informant: DA.

Food, Medicine. The edible fruits taste like KUMBIAK (JA). Vapors produced by boiling the roots in water are inhaled to clear sinuses. The young leaves are eaten in ayampacos (MK).

genus indet.

Centro Pimpints. Herb.

MUKUNANCH - Kasent 27; Informant: PWK.

Food. Young leaves are mixed with equal amounts of fish to add sweetness and flavor.

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genus indet.

Centro Kankaim. Secondary-forest herb; 30 cm tall.

PINIA - Shiki 338; Informant: DS.

Food. Rhizome is edible.

MARCGRAVIACEAE

Marcgravia sp.

Centro Yukutais. Epiphytic shrub.

UWE - Bennett 3722; Informant: AA.

TSEEM - Bennett 3722; Informant: MK.

Craft, Forage. Stem used to make baskets. Birds eat fruits.

genus indet.

Centro Kankaim. Parasite.

IWIANCHMIR NUMI - Shiki 161; Informant: DS.

No use reported.

MELASTOMATACEAE

Bellucia pentamera Naud.

Centros Pimpints, Tuutin Entsa, and Yukutais. Small, montane forest tree.

TUNJIA - Bennett 3653; Informants: MK & RN.

TUNKIA - Anananch 102; Informant: LA.

- Bennett 3653; Informants: GS & DA & CCH.

TUUNKIA - Kasent 30; Informant: PWK.

Fiber, Food, Forage. Cord is amde from the bark (PWK). The fruits eaten by humans (GS & DA & CCH) and tapirs (MK & RN). According to PWK they are edible only in small amounts.

Bellucia weberbauerii Cogn. see Bellucia pentamera Naud.

Blakea sp.

Centro Yukutais. Shrub; 1.5 tall.

NAME UNKNOWN - Bennett 3530; Informant: Not recorded.

No use reported.

Clidemia sp.

Centro Pampants. Rare, forest shrub.

JEMPER - Warush 71; Informant: AW.

Medicine. Leaves are used to treat salivary infections.

Miconia bubalina (Don) Naud.

Centro Chiar Entsa. Shrub; 3 m tall.

CHINCHAK - Mashu 4; Informant: NJM.

Forage. The Shuar consider this a very important plant as it attracts birds that the Shuar hunt.

Miconia grandifolia Ule

Centro Pampants. Common forest shrub.

CHINCHAK' - Juwa 77; Informant: RWJ.

Fuel, Forage. The stem is used for firewood. Birds and other animals eat the fruits.

Miconia pilgeriana Ule

Centro Yukutais. Small tree.

CHICHAK - Bennett 3438; Informant: MK.

Forage. Birds eat the fruits.

Miconia procumbens (Gleason) Wurdack

Centro Pampants. Common forest shrub. Two classes of this plant one grows to 40 cm the other grows to 1 m.

SHISHAK' - Warush 84; Informant: AW.

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Medicine. Leaves used to treat children with salivary infections.

Miconia sp.

Centro Yukutais. Medium shrub to 5 m.

CINCHAK - Bennett 3398; Informant: MK.

CINCHAK - Bennett 3662; Informants: GS & DA & AA.

UUNT CHINCHAK - Bennett 3662; Informants: MK & RN.

Forage. Birds eat the fruits.

Miconia sp.

Centro Yukutais. Small tree, protected in chacra; 12 m tall.

KPATIN CINCHAK - Bennett 3738; Informant: MK.

CHINCHAK - Bennett 3738; Informants: DA & CCH.

Forage. Birds eat the fruits.

Miconia sp.

Centro Yukutais. Small tree; 5 m tall.

CHINCHAK - Bennett 3785; Informants: MK & RN.

TSERE CHINCHAK - Bennett 3785; Informant: DA.

Forage. Birds eat the fruits.

Maieta guianensis Aublet

Centro Yukutais.

NAME UNKNOWN - Bennett 3534; Informant: Not recorded.

Miscellaneous. Ants found in the domatia are eaten to relieve thirst.

Monolena primulaeiflora Hook.f.

Centro Chiar Entsa. Primary-forest herb.

CHURUMANCH - Mashu 12; Informant: NJM.

NAME UNKNOWN - Bennett 4041; Informants: JA & JCA; MK & PK;

AA.

Medicine. Bitter liquid of stem and leaves is used to treat

vision problems.

Tibouchina longifolia (Vahl) Baillon

Centro Yukutais. Occasional shrub in disturbed sites to 1 m tall.

NAME UNKNOWN - Bennett 3337; Informant: PK.

No use reported.

genus indet.

Centro Yukutais. Shrub growing in wet places; 1 m tall.

ANTUMU CHINCHAK - Bennett 3736; Informants: MK.

ISHITIAPAK CHINCHAK - Bennett 3736; Informants: DA & CCH.

Forage. Birds eat the fruits.

genus indet.

Centro Yukutais. Shrub growing in wet, sandy soil; to 2.5 m tall.

UNCHINCHAK - Bennett 3749; Informant: MK.

CHINCHAK - Bennett 3749; Informants: DA & CCH.

Forage. Birds eat the fruits.

genus indet.

Centro Yukutais. Shrub growing in wet soils; to 2m tall.

CHINCHAK - Bennett 3774; Informants: MK; DA & CCH.

Forage. Birds eat the fruits.

genus indet.

Centro Yukutais. Montane forest, understory shrub.

CHINCHAK - Bennett 4046; Informants: JA & JCA; MK & PK.

MURANA CHINCHAK - Bennett 4046; Informant: AA.

Forage. Birds eat the fruits.

genus indet.

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Centro Yukutais. Montane forest, understory shrub; 1.5 m tall.

CHINCHAK - Bennett 4074; Informant: AA.

UUNT CHINCHAK - Bennett 4074; Informants: JA & JCA.

ANTUMU CHINCHAK - Bennett 4074; Informants: PK & MK.

Forage. Birds eat the fruits.

genus indet.

Centro Yukutais. Montane forest, understory shrub; 1.5 m tall.

CHINCHAK - Bennett 4078; Informants: AA; JA & JCA.

YUCA DE QUINDE - Bennett 4078; Informants: AA; JA & JCA.

CHINCHAK - Bennett 4078; Informants: MK & PK.

Forage, Myth/Ritual. Birds eat the fruits. According to a Shuar legend ITSA (the sun) had 2 sons, one a humming bird and the other was another type of bird. ITSA gave the other bird the best food. The humming bird was given only water but to appease it, ITSA gave the hummingbird this plant.

genus indet.

Centro Yukutais. Large shrub on edge of montane forest; to 4 m tall.

UUNTCHINCHAK - Bennett 4085; Informant: AA.

CHINCHAK - Bennett 4085; Informants: JA & JCA; MK & PK.

Forage. Birds eat the fruits.

genus indet.

Centro Yukutais.

HUARMÍ CUNAM [Quichua] - Gómez 422; Informant: ?

No use reported.

genus indet.

Centro Kankaim. Shrub; 1.5 m tall.

SHIAK - Shiki 102; Informant: DS.

No use reported.

genus indet.

Centro Kankaim. Herb; 15 cm tall.

TSEEP NUPA - Shiki 158; Informant: DS.

No use reported.

genus indet.

Centro Kankaim. Secondary-forest shrub; 1 m tall.

ANTUMU CHINCHAK - Shiki 206; Informant: DS.

MELIACEAE

Cedrela odorata L.

Centro Pampants. Common tree; 25 m tall.

SETUR - Juwa 101; Informant: RWJ.

Construction. The wood is used to make posts, planks and to construct houses.

Cedrela sp.

Centro Yukutais. Medium tree, protected in chacras; 20 m tall.

UUNSITUR - Bennett 3648; Informants: MK & RN.

SETUR - Bennett 3648; Informants: GS & DA & AA.

Construction, Medicine. This is considered one of the best woods. A tea from the pericarp is used to treat stomach aches.

Cedrela sp.

Centro Yukutais. Medium tree, protected in chacras; 20 m tall.

MASHUWA - Bennett 3660; Informants: MK & RN; GS & DA & AA.

CEDRO MACHO [Spanish] - Bennett 3660; Informants: GS & DA & AA.

Construction, Forage. Excellent wood. Birds eat the fruits.

Guarea pubescens (Rich.) A.Juss. ssp. pubescens

Centro Pampants. Rare, forest tree.

SANCHINIAKASH - Juwa 112; Informant: RWJ.

Fuel. The stem is used for firewood.

Guarea sp.

Centro Nayanmak. Forest tree; 20 m tall.

YANTSAN - Shakaim 16; Informant: SS.

Forage, Medicine. Birds eat the fruits. An undisclosed part is used medicinally.

Guarea sp.

Centro Nayanmak. Secondary-forest tree.

MASHUWA - Shakaim 24; Informant: SS.

No use reported. Fruit has a bitter taste as does the bark.

Guarea sp.

Centro Nayanmak. Secondary-forest tree; 15 m tall.

MASHUA - Shakaim 34; Informant: SS.

Construction. Planks are made from wood. Fruit and bark are bitter.

cf. Guarea sp.

Centro Pampants. Rare tree.

MAKAIR - Juwa 121; Informant: RWJ.

Construction. The stem is used in house construction.

Trichilia pallida Sw.

Centro Yukutais. Tree 15 m tall, protected in chacra.

MICHER - Bennett 3702; Informants: AA; MK.

Forage. Birds eat the fruits.

Trichilia septentrionalis C.DC.

Centro Pampants. Common, forest tree.

MASHUWA' - Juwa 42; Informant: RWJ.

Construction, Fuel. The stem is used to make planks and for firewood.

Trichilia sp.

Rio Yuquipa. Tree 5 m tall in disturbed primary-forest.

CHIANKRAP - Baker 6771; Informants: JN & AN.

Paint/Dye. Bark used to dye cloth (itip').

genus indet.

Rio Bomboiza. Secondary-forest tree; 5 m tall.

YAMAKAI - Baker 6975; Informant: ?

Medicine. No data given.

genus indet.

Centros Chiar Entsa and Pimpints. Common tree; 30 m tall.

SETUR - Kasent 22; Informant: PWK.

- Mashu 8; Informant: NJM.

CEDRO - Kasent 22; Informant: PWK.

Construction, Miscellaneous. The stem makes good planks. The wood also is used as an insecticide - insects that breathe the smell of setur leave.

MENISPERMACEAE

Abuta grandifolia (Mart.) Sand.

Centro Pampants.

TSEASNUM - Warush 94; Informant: AW.

No use reported.

Cissampelos sp.

Centro Yukutais. Vine.

NAME UNKNOWN - Bennett 3621; Informant: PK.

Poison. Plant considered to be poisonous.

MONIMIACEAE

Siparuna sp.

Centro Yukutais. Small tree protected in chacras; 5 m tall.

NAME UNKNOWN - Bennett 3501; Informant: DA.

No use reported.

Siparuna sp.

Centro Yukutais. Pasture tree; 10 m tall.

SUPINIM - Bennett 3768; Informants: DA & CCH.

Name unknown - Bennett 3768; Informants: DA & CCH.

Forage. Birds eat the fruits.

Siparuna sp.

Misión Salesiano Bomboiza. Small, primary-forest tree.

TSUNAMUCH - Pujupet 1060; Informant: JOP.

No use reported.

genus indet.

Macas. Small tree on disturbed edge of primary-forest.

TSUMA - Baker 6637; Informant: ?

Forage. Foxes eat the fruits.

MORACEAE

Artocarpus atilis (Parkinson) Fosberg

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Centro Yukutais. Cultivated tree; to 15 m tall.

FRUITIPAN - Bennett 3582; Informant: ?

Food. Cultivated for edible fruit.

Batocarpus cf. orinocensis Karsten

Centros Chiar Entsa and Yukutais. Medium, montane forest tree; to 15 m.

PITIU - Bennett 4095; Informants: AA & JA & JCA; MK & PK.

PITIO - Mashu 15; Informant: NJM.

Food. Fruits are edible.

Brosimum alicastrum Sw. ssp. bolivavense (Pittier) C.C.Berg

Centro Pampants. Rare forest tree.

TSAKAYA - Juwa 4; Informant: RWJ.

Fuel, Forage. The stem is used for firewood. Parrots eat the fruits.

Clarisa biflora R. & P.

Centro Yukutais. Small tree; 9 m tall.

NAME UNKNOWN - Bennett 3502; Informant: DA.

No use reported.

Clarisa sp. [cf.]

Centro Yukutais. Small tree in pasture.

CHINCHAKI - Bennett 3651; Informants: MK & RN.

NAME UNKNOWN - Bennett 3651; Informants: GS & DA & AA.

Forage. Birds eat the fruits. The wood has no value.

Ficus insipida Willd. ssp. insipida

Centros Pampants and Tuutin Entsa. Common, primary-forest tree; 30 m tall.

APACH - Anananch 154; Informant: LA.

JAPA WAMPU - Juwa 132; Informant: RWJ.

Medicine, Veterinary. An emetic is made by cooking the bark in water. About 1 liter of the liquid is taken at one time. Liquid from plant is given to dogs or other animals without cooking for an undisclosed purpose.

Ficus yoponensis Desv.

Centro Tuutin Entsa. Secondary-forest tree.

WAMPU - Anananch 103; Informant: LA.

Medicine. The latex is used to kill "bichos."

Ficus sp.

Centro Yukutais. Medium tree; to 12 m tall.

YAPIT - Bennett 3610; Informant: PK.

Construction, Forage. Very good wood. Birds, turkeys, monkeys eat fruits.

Ficus sp.

Centro Yukutais. Small tree; 6 m tall.

SHAA YAPIT - Bennett 3618; Informant: PK.

Food, Forage. Children and birds eat the fruits.,

Ficus sp.

Centro Yukutais. Small tree; 6 m tall.

UUNT YAPIT - Bennett 3619; Informant: PK.

Food, Forage. Monkeys, birds and children eat the fruits.

Ficus sp.

Centro Yukutais. Medium tree; 10 m tall.

WAMPU - Bennett 3629; Informant: MK.

Construction, Medicine. Wood from this tree is considered very quality. The leaves are used as an emetic.

Ficus sp.

Centro Yukutais. Epiphytic shrub.

YAPIT - Bennett 3729; Informants: MK; DA & CCH.

Forage. Birds eat the fruits.

Ficus sp.

Centro Yukutais. Tree, protected in pasture; 20 m tall.

YAPIT - Bennett 4086; Informants: MK & PK.

WAMPU or WAMBU - Bennett 4086; Informants: AA; JCA & JA.

HIGUERON [Spanish] - Bennett 4086; Informants: JCA & JA.

Construction, Forage, Medicine. The wood makes good planks. Birds eat the fruits. Two or three drops of latex are taken to kill internal parasites or as a purgative (AA). The latex is considered dangerous if more than 3 drops are consumed.

Maclura tinctoria (L.) Steud. ssp. tinctoria

Misión Salesiano Bomboiza. Primary-forest tree; 10 m tall.

CHIAP - Pujupet 1051; Informant: JOP.

No use reported.

Olmedia aspera R. & P.

Centro Yukutais. Tree protected in pasture.

NAME UNKNOWN - Bennett 3507; Informant: Not recorded.

No use reported.

Perebea guinanesis Aubl.

Centros Pamants and Yukutais. Common, forest tree.

SUNKACH - Bennett 4042; Informants: AA; JA & JCA.

SUNKACH' - Juwa 26; Informant: RWJ.

NAME UNKNOWN - Bennett 4042; Informants: MK & PK.

Forage. Parrots, agoutis, and armadillos eat the fruits.

Pseudolmedia laevis (R. & P.) Macbr.

Centro Pampants. Common, forest tree.

MIK CHIMI - Juwa 31; Informant: RWJ.

Food, Forage. People, monkeys, parrots and other birds and animals eat the fruits.

Pseudolmedia rigida (Kl. Korst.) Cuatr. ssp. rigida

Centro Pimpints. Primary-forest tree; 35 m tall.

CHIMI - Kasent 50; Informant: PWK.

Construction, Food, Fuel. The durable wood is used in house construction and for fuel. The fruit is edible.

genus indet.

Centro Yukutais. Montane forest tree.

SUPINIM - Bennett 4039; Informants: JA & JCA.

YAPIT - Bennett 4039; Informants: MK & PK.

Forage. Birds eat the fruits.

genus indet.

Centro Yukutais. Small, montane forest tree.

CHIMI - Bennett 4053; Informants: AA; JA & JCA; MK & PK.

Food, Forage, Fuel. Birds and people eat the fruits. Stems used for firewood.

genus indet.

Misión Salesiano Bomboiza. Common, secondary-forest tree.

WAMPU - Pujupet 1046; Informant: JOP.

No use reported.

genus indet.

Centro Nayanmak. Secondary-forest tree.

CHIMI - Shakaim 21; Informant: SS.

Construction. Planks and posts are made from the wood.

genus indet.

Centro Kankaim. Hemi-epiphyte.

YAPIT - Shiki 209; Informant: DS.

No use reported.

MUSACEAE

Musa x paradisiaca L.

Centro Yukutais. Commonly cultivated plant.

PAANTAM - No collection; Informant: DA.

Food. One of the most important cultivars in this region.

Musa sp.

Misión Salesiano Bomboiza. Cultivated herb; 3 m tall.

TSUAK MEJECH - Pujupet 1054; Informant: JOP.

Food. Cultivated for edible fruits.

MYRISTICACEAE

Otoba parvifolia (Mgf.) Gentry

Centro Pampants. Common, forest tree.

UUMIPTSEMPU - Juwa 22; Informant: RWJ.

Construction, Fuel, Forage. The wood is used for fuels and planks. The fruits are eaten by peccaries, agoutis, and other ground-dwelling animals.

Virola sp.

Centros Pampants, Tuutin Entsa and Yukutais. Primary-forest tree; 20 m tall.

JEA TSEMPU - Anananch 139; Informant: LA.

TSEMPU or TSEMBU - Bennett 3649; Informants: GS & DA & AA; MK & RN.

TSEMPU - Juwa 40; Informant: RWJ.

TSIMBU - Bennett 3788; Informant: DA.

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CEDRELLO - Bennett 3788; Informant: DA.

Construction, Forage, Fuel. The stem is used for construction. Birds eat the fruits. The stem is used for firewood.

genus indet.

Centro Yukutais. Montane forest tree 15 m tall.

KUSUPNAPASH - Bennett 4121; Informants: AA & JCA & JA.
LECHE DE SANDI - Bennett 4121; Informants: AA & JCA & JA.
NAME UNKNOWN - Bennett 4121; Informants: MK & PK.

Medicine. Latex used to reduce kidney pain. Poultice place near kidney.

genus indet.

Centro Chiar Entsa. Primary-forest tree 20-25 m high, with a DBH of 1m.

TSEMPO - Mashu 22; Informant: NJM.

Construction. Planks are made from the trunk.

genus indet.

Centro Nayanmak. Secondary-forest tree; 15 m tall.

TSEMPU - Shakaim 32; Informant: SS.

Construction. The stem is a source of wood.

MYRSINACEAE

Ardisia guianensis (Aublet) Mez

Centro Yukutais. Small shrub in disturbed sites.

NAME UNKNOWN - Bennett 3327, 3439; Informant: DA.

No use reported.

genus indet.

Centro Yukutais. Shrub or small tree growing in ecotone between montane forest and pasture.

YAPIT - Bennett 4102; Informants: MK & PK; AA; JA & JCA.

Construction, Forage. Birds and monkeys eat the fruits. Good wood for tablas.

MYRTACEAE

Eugenia jambos L.

Centro Yukutais. Tree planted in pasture.

POMA ROSA - Bennett 4141; Informants: AA & JCA & JA; MK.

Food. Fruits are edible.

Eugenia [cf.] mirtomimeta Diels

Centro Yukutais.

ARRAYAN - Gómez 572; Informant: ?

Construction, Food, Fuel, Forage, Medicine. Wood is moderately hard used for finish work. Wood used for fuel. Used to prepare "colada morada" a typical Ecuadorian beverage. Made for the Day of the Deceased (Nov. 2) 2-4 leaves used to provide special flavor. A few leaves given to teething children alleviates pain. An infusion made from a small handful of fresh or dry leaves in one liter of water for 20 minutes. Tea alleviate tooth aches and soar throt. Taken 3 times per day after each meal for as long as necessary. Monkeys eat the seeds.

Eugenia stipitata McVaugh

Centro Yukutais.

ARAZA - Gómez 576; Informant: ?

MEMBRILLO DE ORIENTE [Spanish] - Gómez 576; Informant: ?

Food. Fruit is edible Rich in Vitamin C used to make juice jellies.

Myrcia sp.

Centro Yukutais.

YAAS SILVISTRE - Bennett 4099; Informant: AA.

NAME UNKNOWN - Bennett 4099; Informants: MK & PK.

Forage. FRuits not eaten by humans, birds eat the fruits.

cf. Myrcia sp.

Centro Pampants. Common, forest tree; 15 m tall.

SAKA - Juwa 16; Informant: RWJ.

Food, Fuel, Forage. People, birds, "guanta", armadillos, "guatura" and other animals eat the fruits. The stem is used for fuel.

Psidium guava L.

Centro Yukutais. Small tree; to 5 m.

WAMPA - Bennett 3326; Informant: DA.

GUAYABA - Gómez 493; Informant: ?

Food. Cultivated for edible fruits. Also used in jams, jellies and marmalades. A tonic is made from the fruits to cure diarrhea. Two or three fruits of medium size are placed in one liter of water for 10-15 minutes. The tea is taken three times per day, after each meal for 2-3 days. Three-five fresh leaves placed in one liter of water are cooked for 5-8 minutes then given to young children with upset stomachs. The medicine is taken 3 times per day after each meal for 2-3 days.

genus indet.

Centro Yukutais. Small shrub.

PAKANTMAYA SAKA - Bennett 3613; Informant: PK.

PAKATMAYA SAKA - Bennett 3664; Informants: MK & RN.

SAKA - Bennett 3664; Informants: GS & DA & AA.

Food, Forage, Fuel. People and animals eat the fruits. The stem is used for firewood.

genus indet.

Centro Yukutais. Common tree; to 15 m.

UWINIM - Bennett 3766; Informants: MK; DA & CCH.

USEFUL PLANTS OF THE SHUAR - 112

Construction, Food. Source of wood (MK). Fruits are edible (DA & CCH).

genus indet.

Centro Yukutais. Small, montane forest tree.

SAKA - Bennett 4144; Informants: AA & JCA & JA.

SHAKAI NUMI - Bennett 4144; Informant: PK.

Forage, Fuel. Birds (especially pacharacos) and monkeys eat the fruits. The stem is used for firewood.

genus indet.

Centro Yukutais. Small, montane forest, understory tree; 5 m tall.

SAKA - Bennett 4145; Informants: AA & JCA & JA.

NAME UNKNOWN - Bennett 4145; Informant: PK.

Forage, Fuel. Birds eat the fruits. The stem is used for fuel.

genus indet.

Centro Yukutais.

? - Gómez 553; Informant: ?

NYCTAGINACEAE

Mirabilis sp.

Centro Yukutais.

KUKUJ' - Bennett 3417; Informant: DA.

Ornamental. Planted around home sites.

Neea sp.

Centro Yukutais. Weak shrub; to 1 m.

KATSUA - Bennett 3601; Informant: PK.

No use reported.

USEFUL PLANTS OF THE SHUAR - 113

Neea sp.

Centro Pampants. Common, forest tree; 20 m tall.

KATSUA - Juwa 15; Informant: RWJ.

Forage. Deer eat the fruits. The wood has no value.

Neea sp.

Centro Pampants. Common, forest tree; 15 m tall.

WAIS - Juwa 30; Informant: RWJ.

Forage. Small birds eat the fruits.

genus indet.

Macas. Cultivated, secondary-forest shrub.

TUNDIEK - Baker 6656; Informant: ?

DONDIEKO [Spanish] - Baker 6656; Informant: ?

Medicine. An undisclosed part is used to reduce fever in children.

OCHNACEAE

Cespedezia sp.

Centro Nayanmak. Primary-forest tree.

MUNKUOKUA - Shakaim 14; Informant: SS.

Construction. The wood is used to make planks and posts.

OLACACEAE

Heisteria [cf.] latifolia Stand.

Centro Yukutais. Montane forest, understory tree; to 3 m tall.

NAME UNKNOWN - Bennett 4065; Informants: JA & JCA; MK & PK.

No use reported.

ONAGRACEAE

Ludwigia sp.

Centro Yukutais. Erect shrub; 35 cm tall.

KASIR - Bennett 3778; Informant: MK.

TSEMANTSEM - Bennett 3778; Informants: DA & CCH.

No use reported.

ORCHIDACEAE

Catasetum sp.

Centro Pampants. Common, forest herb.

ENENTAR NAJAMI - Warush 61; Informant: AW.

Food. The stem is eaten.

Encyclia demula (Richb.) Dressler

Centro Yukutais. Epiphyte.

KARIS - Bennett 3642; Informant: MK.

No use reported.

Epidendrum rigidum Jacq.

Centro Yukutais. Epiphytic.

KUKUJ' - Bennett 3329; Informant: DA.

Bennett 3400; Informant: DA.

No use reported.

Epidendrum sp.

Centro Yukutais. Epiphytic.

KUKUJ' - Bennett 3789; Informant: DA.

No use reported.

Epidendrum sp.

Centro Yukutais. Epiphytic.

KUKUJ' - Bennett 3780; Informant: DA.

No use reported.

Epidendrum sp.

Centro Yukutais. Epiphytic.

KUKUJ' - Bennett 3798; Informant: DA.

No use reported.

Maxillaria conferta (Griseb.) Leon ex C. Schw.

Centro Yukutais. Epiphyte.

KUKUJ' - Bennett 3313; Informant: DA.

No use reported.

Oncidium sp.

Centro Yukutais. Epiphyte.

KUKUJ' - Bennett 3765; Informant: DA.

No use reported.

Polystachya amazonica Schultes

Centro Yukutais. Epiphyte.

NAME UNKNOWN - Bennett 3371; Informant: PK.

No use reported.

Polystachya concreta (Jacq.) ?

Centro Yukutais. Epiphyte.

NAME UNKNOWN - Bennett 3402; Informant: DA.

No use reported.

Vanilla sp. nov.

Centro Yukutais. Epiphytic vine.

NAME UNKNOWN - Bennett 3518; Informant: Not recorded.

No use reported.

Vanilla sp.

Rio Yuquipa; Centro Taisha. Vine.

SEKUT - Baker 6828; Informant: ?.
- Baker 6780; Informants: JN & AN.

Food. The mature fruit is used to flavor sugar cane alcohol (Baker 6780).

genus indet.

Centro Yukutais. Epiphyte.

NAME UNKNOWN - Bennett 3515; Informant: AA; MK.

No use reported.

genus indet.

Centro Yukutais. Epiphyte.

AJUSNUM - Bennett 3717; Informant: MK.

Medicine. Juice from the pseudobulb is applied to skin ulcers.

genus indet.

Centro Yukutais. Epiphyte.

AJUSNUM - Bennett 3719; Informant: MK.
NAME UNKNOWN - Bennett 3719; Informant: AA.

Medicine. Juice from the pseudobulb is applied to skin ulcers.

genus indet.

Centro Yukutais. Plant collected by DA.

KUKUJ' - Bennett 3812; Informant: DA.

No use reported.

genus indet.

USEFUL PLANTS OF THE SHUAR - 117

Centro Yukutais. Terrestrial, primary forest herb.

SAU - Bennett 4124; Informants: JA & JCA & AA.
NAME UNKNOWN Bennett 4124; Informants: MK & PK.

Ornamental.

genus indet.

Centro Kankaim. Epiphytic.

TSENKEAK - Shiki 179; Informant: DS.

No use reported.

OXALIDACEAE

Oxalis sp.

Centro Yukutais.

TREBOL [Spanish] - Gómez 452; Informant: ?

Forage, Medicine. Forage plant of wild rodents. A handful of fresh leaves in on liter of water for 5 minutes. The tea uiis used to treat scurvy hemorrhages, diarrhea and also is a good diuretic. One glass should be taken before breakfast and another before going to bed for 2-3 days. Clothes soaked in the cold liquid applied to the head and to the stomach lower fever.

PASSIFLORACEAE

Passiflora edulis Sims

Centro Yukutais. Vine cultivated around homes.

MUNCHI - Bennett 3644; Informant: AA.
MARACUYA - Bennett 3644; Informant: AA.

Food. Fruits are edible.

Passiflora sp.

Centro Yukutais. Occasional vine of wet places.

MUNCHIMCHIM - Bennett 3737; Informants: DA & CCH.
KAISIR - Bennett 3737; Informant: MK.

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Food. Fruits edible taste like watermelon.

Passiflora sp.

Misión Salesiano Bomboiza. Vine climbing on house.

WASHI MUNCHI - Pujupet 1000; Informant: JOP.

Food. The fruit is edible and prized for its sweetness.

Passiflora sp.

Centro Kankaim. Vine.

MUNCHI - Shiki 261; Informant: DS.

No use reported.

Passiflora sp.

Centro Pampants. Very rare, forest vine.

MUNCHI - Warush 86; Informant: AW.

Food. The fruits are edible.

PHYTOLACCACEAE

Phytolacca rivinoides Kunth & Bouché

Centros Kankaim and Pimpints. Secondary-forest herb.

WAMPAKAR - Kasent 23; Informant: PWK.

- Shiki 274; Informant: DS.

NAME UNKNOWN - Bennett 3521; Informant: DA.

Food, Medicine, Personal. Mature fruit is edible. a para poner en chupo cuando esta maduro, se redienta y pone donde esta el hueco del chupo y se redienta el inchason" (PWK). Five to seven fruits are crushed with flowers and used like soap to wash clothes. This is equal to half a bar of soap.

PIPERACEAE

Peperomia josei Yunck

Centro Yukutais. Epiphyte.

TSIME - Bennett 3396, 3401; Informant: MK.

No use reported.

Peperomia sp.

Centro Yukutais. Epiphyte.

TSIMTSIM - Bennett 3706; Informant: AA.

WASHI TSIMTSIM - Bennett 3706; Informant: MK.

Medicine. To treat liver ailments the leaves are cooked in water and taken three times per day (AA). A tea made from leaves used to treat diarrhea (MK).

Peperomia sp.

Centro Yukutais. Epiphyte.

TSIME - Bennett 3459; Informant: MK.

- Bennett 3471; Informant: MK.

TSIMTSIM - Bennett 3730; Informants: DA & CCH.

No use reported.

Peperomia sp.

Centro Yantsas. Primary-forest herb.

MEJEN - Pujupet 1008; Informant: JOP.

Medicine. To cure fevers the leaves stems and flowers are mixed with TSAMPU, PIRTUYAKAS, PLANTEN, MATUT, AKAPNA, and later KANTSE and then cooked. Two hundred and fifty ml is taken each morning.

Peperomia sp.

Centro Naynamak.

TSENTSEME - Pujupet 1026; Informant: JOP.

No use reported.

Peperomia sp.

Misión Salesiano Bomboiza. Primary-forest herb; 40 cm tall.

WASHI TSENTSEM - Pujupet 1050; Informant: JOP.

No use reported.

Peperomia sp.

Centro Kankaim. Herb.

TIKIATIN TSUAK - Shiki 168; Informant: DS.

PATA KAYA - Shiki 168; Informant: DS.

Medicine. To reduce abdominal swelling a medicine is made by boiling 4 leaves (but no more) and a little sugar cane.

Peperomia sp.

Centro Kankaim. Climbing herb.

AUSHA TSEMI - Shiki 289; Informant: DS.

No use reported.

Piper [cf.] aequale Vahl

Centro Yukutais. Shrub in disturbed forest sites.

UNKUCH - Bennett 3359; Informant: PK.

No use reported.

Piper [cf.] aduncum L.

Centro Yukutais. Shrub in disturbed forest sites.

UNKUCH - Bennett 3360; Informant: PK.

UNTUNTUPI - Bennett 3360; Informant: Not recorded.

Medicine. Leaves are used to treat inflammation and cuts. A leaf poultice is used to relieve "bone pains."

Piper angustifolia Ruiz and Pavón

Centro Yukutais.

MATICO [Spanish] - Gómez 541; Informant: ?

Medicine. ½-6 leaves in one liter of water. Tea used to combat pulmonary hemorrhage. One should take one cup daily at night before sleeping for one week.

Five to eight finely ground leaves are used to treat nasal

hemorrhaging. Placed in nose also induces sneezing.

A handful of leaves fresh or dry cooked in one liter of water. The tea is used when women are in labor to treat tenesmus after contractions begin.

One cup of tea sweetened with honey helps alleviate menstrual colic. One cup taken daily before breakfast. The same tea with "agua de pelo de choclo" in a low proportion and taken "desabrido" is a good treatment for persons that have water retention because of its diuretic properties.. One large cup taken before breakfast and one before bed for 2-3 days.

Piper sp.

Centro Yukutais. Shrub; 2 m tall.

UNTUCH - Bennett 3492; Informant: JA.

No use reported.

Piper sp.

Centro Yukutais. Shrub growing in wet places; to 2 m.

UNTUUNTUP - Bennett 3748; Informants: MK; DA & CCH.

MATICO - Bennett 3748; Informants: MK; DA & CCH.

Forage, Medicine. Birds eat the fruits. A bath made from the leaves and sulphur soap is used to treat skin irritation.

Piper sp.

Centro Yukutais. Understory, montane forest shrub; 1.5 m tall.

UUNKUCH - Bennett 4075; Informants: JA & JCA; MK & PK.

Food. The young leaves are eaten in ayampaco like cabbage and added to flavor meat.

Piper sp.

Centro Yukutais. Understory shrub; 1 m tall.

UUNTUNTUP' - Bennett 4077; Informants: AA; JA & JCA.

TINTIKIP - Bennett 4077; Informants: PK & MK.

Medicinal. The leaves are boiled in water to treat fever. The juice from leaves is placed on pimples and papules (JA).

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To treat gonorrhoea 240 ml of a tea made from the leaves is taken every day for one week.

Piper sp.

Centro Yukutais. Montane forest, understory shrub; 1.5 m tall.

UUNTUNTUP - Bennett 4090; Informant: AA.

NAME UNKNOWN - Bennett 4090; Informants: JA & JCA; MK & PK.

Forage. Birds eat the fruits.

Piper sp.

Centro Yukutais. Montane forest, understory shrub.

TUNCHITUNCHI - Bennett 4123; Informants: MK & PK.

TUNCHINCHI - Bennett 4123; Informant: AA.

Food. The leaves are eaten in ayampacos like cabbage.

Piper sp.

Centro Yukutais.

MATICO - Gómez 505; Informant: ?

No use reported.

Pothomorphe peltata (L.) Miq.

Centro Yukutais. Common, secondary-forest plant.

NATSAMPAK - Bennett 3451; Informant: PK.

NATSAMPAR - Bennett 3451; Informant: DA.

SANTA MARIA - Bennett 3451; Informant: DA.

Food, Medicine. The leaves are used in ayampacos to cook fish. The young leaves are used to cure stomach ache and applied to bruises. To treat tumors, fresh leaves are mixed with other plants and applied to the afflicted area. Leaves are also mixed with egg white and applied to swellings. A bath to treat "mal aire" in children is made from the leaves and IPIAK.

PLANTAGINACEAE

Plantago major L. no collection in NY

Centro Yukutais. Herb cultivated in gardens

LLANTEN [Spanish] - Gómez 488; Informant: ?

Medicine. Root chewed and the juice applied to teeth alleviates tooth ache. Done twice a day as long as tooth hurts. Plasters of leaves are applied to wounds to stop hemorrhaging and to speed-up cicatrization.

The fresh juice of this plant taken before breakfast alleviates head colds, ulcers and internal parasites. One half glass taken and another at night before bed.

An infusion of one handful of leaves and inflorescences dried or fresh in one liter of water. Tea can be used to treat hemmorhoids as a wash or on clothes.

The juice of 2 leaves pplied to the eyes 1-2 drops once in the morning and once in the evening before going to sleep. for two days.

Also can crush 2-3 leaves and put these on the closed eyes alleviates ardencia and inflammation. It's best to place a poultice on eyes before retiring.

Plantago aff. major L.

Centro Yukutais. Herb cultivated around house.

LLANTEN [Spanish] - Bennett 3450; Informant: CCH.

Food. Leaves are eaten.

POACEAE

Axonopus scoparius (Flegge) Kuln aff.

Centro Yukutais. Dominant grass in abandoned chacras.

SAAK - Bennett 3381; Informant: DA; PK.

- Bennett 3500; Informant: DA; PK.

Forage. Considered a good pasture grass for horses and cattle.

Bambusa sp.

Centro Yukutais. Erect grass; to 15 m tall.

KINKI CHINIAP - Bennett 3560; Informant: DA.

USEFUL PLANTS OF THE SHUAR - 124

CANA BRAVA [Spanish] - Bennett 3560; Informant: DA.
CANA GUADUA [Spanish] - Bennett 3560; Informant: DA.

Construction. The stem is used to make walls, floors and beds. After hammering the stem into shhets the material is called PEAK. When used in construction it is called TENISH.

Coix lacryma-jobi L.

Centro Yukutais. Common grass in disturbed sites; erect to 2.5 m.

YUSARI - Bennett 3334; Informant: DA.
SAN PEDRO [Spanish] - Bennett 3334; Informant: GA.

Craft. Fruits used to make beads.

Cymbopogon citratus Stapf.

Centro Pimpints. Cultivated garden herb.

CHIRICHRI - Kasent 7; Informant: PWK.
HIERBA LUISA - Kasent 7; Informant: PWK.

Medicine. Sugar cane juice, a little chicha, CANELA and HIERBA LUISA are mixed together, heated and then taken to treat diarrhea.

Gynerium saggitatum

Centros Tuutin Entsa and Yukutais. Secondary-forest grass; 3 m tall.

PINTIU - No collection; Informant: DA.
POT - Anananch 209; Informant: LA.

Construction, Medicine. The stem is used to make walls and fences. A medicine made from the plant is used to treat diarrhea (LA).

Lasiacis ligulata Hitch. & Chase

Centro Yukutais. Common, primary-forest plant.

NANKUCHIP - Kunkumas 135; Informant: PK.

No use reported.

Lasiacis cf. sorghoidea (Desv.) Hitch. & Chase

USEFUL PLANTS OF THE SHUAR - 125

Centro Yukutais.

NAME UNKNOWN - Bennett 3473; Informant: MK.

Forage. Plant used for animal feed.

Lasiacis sp.

Centro Yukutais.

? - Gómez 499; Informant: ?

No use reported.

[cf.] Lasciacis sp.

Centro Tuutin Entsa. Common, secondary-forest herb.

NANKSHIP - Anananch 101; Informant: LA.

Craft. Used to make the instrument called "KANTASH."

Olyra latifolia L.

Centro Yukutais. Erect grass; to 2.5 m tall.

NAME UNKNOWN - Bennett 3515; Informant: MK.

Forage. The plant is used to feed guinea pigs.

Orthoclada laxa (L.Rich) Beauv.

Centro Yukutais.

NAME UNKNOWN - Bennett 3474; Informant: MK.

Forage. Collected to feed animals.

Panicum cf. pilosum Sw.

Centro Yukutais. Found in disturbed sites.

NAME UNKNOWN - Bennett 3351; Informant: JCA.

No use reported.

Panicum polygonatum Schrader

Centro Yukutais. Common chacra weed.

NAME UNKNOWN - Bennett 3341; Informant: JA.

No use reported.

Paspalum viriqatum L.

Misión Salesiano Bomboiza.

NAME UNKNOWN - Collector?; Informant: ?

Medicine. Plant cultivated in medicinal garden.

Paspalum sp.

Centro Yukutais. Common chacra weed.

NAME UNKNOWN - Bennett 3350; Informant: MK.

No use reported.

Setaria sp.

Centro Yukutais. Erect grass growing in dense stands; to 2.5 m tall.

PUJUSAK - Bennett 3354; Informant: MK.

Forage. Collected to feed guine pigs.

Zea mays L.

Centro Yukutais.

SHAA - Bennett 3483; Informant: JA & JCA.

MAIZ - Bennett 3483; Informant: JA & JCA.

Food, Forage. Commonly cultivated for food and for animal forage.

genus indet.

Centro Yukutais.

? - Gómez 458; Informant: ?

USEFUL PLANTS OF THE SHUAR - 127

genus indet.

Centro Yukutais.

PIRIPRI - Gómez 484; Informant: ?

Medicine. An infusion made from one liter of water and the root for 10 minutes is given to new-born children with diarrhea or colic. Children are given 5-6 spoonfuks before each meal as long as necessary.

genus indet.

Misión Salesiano Bomboiza. Garden herb; 30 cm tall.

CHIRICHRI - Pujupet 1033; Informant: JOP.

HIERBA LUISA - Pujupet 1033; Informant: JOP.

No use reported.

genus indet.

Misión Salesiano Bomboiza. Cultivated, garden herb.

NUMDA PAAT - Pujupet 1039; Informant: JOP.

No use reported.

genus indet.

Centro Kankaim. Secondary-forest grass; 10 m tall.

NANKUCHIP - Shiki 341; Informant: DS.

Craft. Used to make Shuar instrument rondador (KANTASH).

POLYGALACEAE

Polygala paniculata L.

Centro Yukutais. Occasional chacra weed.

NAME UNKNOWN - Bennett 3573; Informant: JA.

No use reported.

POLYGONACEAE

Triplaris americana L.

USEFUL PLANTS OF THE SHUAR - 128

Centro Pampants. Common, forest tree; 25 m tall.

UNKUYA - Juwa BAE0012; Informant: RWJ.

Fuel, Forage. Stem is used for firewood. Parrots eat the fruits.

Triplaris sp.

Centro Yukutais. Tree. protected in chacras; 12 m tall.

UNGUAY - Bennett 3460; Informant: F?

Fuel. The stem is used for firewood.

POLYPODIACEAE

Campyloneuron sp.

Centro Yukutais. Epiphyte.

NASHISHIP DE ARBOL - Bennett 3404; Informant: DA.
- Bennett 3627; Informant: PK.

No use reported.

Pleopeltis percussa (Chr.) Hook & Grev.

Centro Yukutais. Epiphyte.

NASHISHIP DE ARBOL - Bennett 3437; Informant: DA.
- Bennett 3626; Informant: DA.

No use reported.

Polypodium angustifolium

Centro Yukutais. Epiphyte.

NASHISHIP DE ARBOL - Bennett 3405; Informant: DA.

No use reported.

Polypodium percussum Cav.

Centro Yukutais. Epiphyte.

NASHISHIP DE ARBOL - Bennett 3626; Informant: PK.

No use reported.

Polypodium sp.

Centro Yukutais. Epiphyte.

NAME UNKNOWN - Bennett 3377; Informant: PK.

No use reported.

genus indet.

Centro Yukutais. Epiphyte.

SHIMBISHBI - Bennett 3734; Informant: MK.

ATEEP - Bennett 3734; Informants: DA & CCH.

No use reported.

PORTULACACEAE

Portulaca oleracea L. cf.

Centros Pimpints and Yukutais.

PIRTUGAKAS - Kasent 44; Informant: PWK.

VERDOLAGA [Spanish] - Gómez 518; Informant: ?

Food, Medicine. Cooked or raw leaves can be eaten in salads. Leaves used in eye wash relieve visual . Also used to treat ulcers and burns. Juice from fresh leaves used to treat erysipelas. Compress applied to afflicted areas. Two handfuls of leaves in one liter of water 2-3 minutes produce a tea eliminates gall stones. One large glass taken with each meal for 3-4 days (?). The juice is taken to cure "TAWARTIR." The roots and leaves are crushed and applied topically to tumors.

RANUNCULACEAE

Ranunculus sp.

Centro Yukutais. Repent herb in wet places.

NAME UNKNOWN - Bennett 3432; Informant: DA.

No use reported.

RHAMNACEAE

[cf.] Colubrina sp.

Centro Pampants. Common, montane-forest vine.

PUTUSH - Warush 69; Informant: AW.

Medicine. The boiled roots are taken for dysentery.

genus indet.

Misión Salesiano Bomboiza. Montane-forest vine.

TAMPIRUSH NAEK - Pujupet 1017; Informant: JOP.

Medicine. The stem is used to treat tumors.

ROSACEAE

Margyricarpus cetosus R. & P.

Centro Yukutais.

NIGUA - Gómez 536; Informant: ?

Medicine. An infusion made from leaves flowers and fruits relieves discomfort caused by hemorrhoids. A tonic made from the plant and sweetened with honey is a good heart tonic. Two glasses a day should be taken once in the morning and once in the night.

Rubus sp.

Mision Salesiano Bomboiza. Vine.

MURAS - Pujupet 1040; Informant: JOP.

No use reported.

RUBIACEAE

Borreria laevis (Lam.) Griseb.

Centro Yukutais. Very common weed.

NUPA [weed] - Bennett 3352; Informant: MK.

No use reported.

Borreria sp.

Centro Yukutais.

OREGANO [Spanish] - Gómez 391; Informant: ?

Medicine. Leaves and flowers steeped in one liter of water for 10 minutes. One cup three times per day.

Cephaelis tomentosa (Aubl.) Vahl

Centro Yukutais. Very common, montane forest, understory shrub.

UNTUNTUP - Bennett 3517, 4142; Informants: AA & JCA & JA; PK.

KUISHMINIAMAR - Bennett 4142; Informant: PK.

ADORNO DE MONTANA - Bennett 4142; Informant: PK.

Medicine, Ornamental. Juice of cooked leaves applied to pimples and papules in ears. An undisclosed part of the plant is used to treat snake bites (PK).

Caephehis [cf.] williamsii Standley

Centro Yukutais. Common, montane forest, undertory shrub.

NASHIP - Bennett 4119; Informants: AA & JA & JCA.

NAME UNKNOWN - Bennett 4119; Informants: MK & PK.

Personal. Stem and leaves used like deodorant.

Chimarrhis glabriflora Ducke

Centro Yukutais. Tree, protected along trail; 15 m tall.

MUKUNT - Bennett 4028; Informants: JA & AA; MK & PK

Construction, Fuel. Good wood for planks and floors, also used as firewood.

Cinchona sp. [cf.]

Centro Yukutais. Tree protected in pasture; 10 m tall.

NAME UNKNOWN - Bennett 4127; Informant: AA & JA & JCA; MK & PK.

No use reported.

Coffea arabica L.

Centro Yukutais. Occasionally cultivated shrub.

KAJUI [coffee] - Bennett 3431; Informant: PK
CAFE [Spanish - coffee] - Bennett 3431; Informant: PK

Food. Grown as a cash crop in some areas.

Coussarea brevicaulis Krause

Rio Yuquipa, Centro Pampants. Common, primary forest shrub;
to 2 m tall.

NANKAYA SUPINIM - Warush 79; Informant: AW.
SUPINIM - Baker 6757; Informants: JN & AN.

Food. The sweet fruit pulp is eaten but there's not much of
it.

Duroia hirsuta (P. & E.) Schum.

Centros Chiar Entsa and Pampants. Common, primary-forest
tree.

IWIANK - Mashu 36; Informant: NJM.
IWIANKI' - Juwa 24; Informant: RWJ.

Hunting, Poison. An arrow poison is made from the fruits and
bark (NJM). No specific use reported (RWJ).

Faramea miconioides Standl.

Centro Pampants. Common, forest shrub; 3 m tall.

SUPINIM YUTAI - Juwa 10; Informant: RWJ.

Food, Fuel. The stem is used for firewood. The fresh fruit
is edible.

Faramea sp.

Centro Yukutais. Shrub; 40 cm tall.

NAME UNKNOWN - Bennett 3532; Informant: JCA & JA.

Forage. Chickens eat the fruits.

Genipa americana L.

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Centros Pimpints and Yukutais. Small tree; 15 m tall.

SUA or SUWA - Bennett 3806; Informants: MK & RN; DA.
SUA - Kasent 21; Informant: PWK.

Medicine, Personal, Ritual. Used to stop balding. Fresh fruit is ground and placed in water until the solution turns black. The liquid then is used to wash the hair to make it shine. After being bitten by a snake the figure of a snake is painted on the recovered victim.

Geophila sp.

Centro Yukutais. Creeping herb.

YUTWINAIK - Bennett 3764; Informants: DA & CCH.
NAME UNKNOWN - Bennett 3764; Informants: DA & CCH.

Food. Fruits are edible.

Hamelia patens Jacq.

Centro Yukutais. Common shrub in disturbed sites.

JIMIAJIMIAS - Bennett 3365; Informant: Not recorded.

Forage. Birds (especially pacharaca) eat the fruits.

Psychotria brachiata Sw.

Centro Yukutais. Montane forest shrub; 2 m tall.

NAME UNKNOWN - Bennett 3606; Informant: MK & PK.

No use reported.

Psychotria sp.

Centro Yukutais. Montane forest, understory shrub; to 1 m.

WAMBUT - Bennett 3656; Informants: MK & RN.
NAME UNKNOWN - Bennett 3656; Informants: GS & DA & AA.

Forage. Birds eat the fruits.

Psychotria sp.

Centro Yukutais. Common, montane forest understory shrub.

USEFUL PLANTS OF THE SHUAR - 134

SUPINIM - Bennett 3673; Informants: GS & DA & AA.
NAME UNKNOWN - Bennett 3673; Informants: MK & RN.

Forage. Birds eat the fruits.

[cf.] Psychotria sp.

Centro Yukutais. Montane forest, uUnderstory shrub.

NAME UNKNOWN - Bennett 4047; Informants: JA & JCA; MK & PK.

No use reported.

Rudgea [cf.] amazonica Muell.

Centro Pampants. Common, forest shrub; 10 m tall.

SUPINIM YUT - Juwa 11; Informant: RWJ.

Fuel, Forage. The stem is used for firewood. Birds eat the fruits but those that fall to the ground are not eaten by other animals.

Sabicea villosa Willd. ex R. & S.

Centro Yukutais.

? - Gómez 498; Informant: ?

No use reported.

Simira rubescens (Benth.) Bremek. ex Steyerm.

Centro Pimpints. Forest tree; 35 m tall.

YUNKINIA - Kasent 33; Informant: PWK.

Construction, Fuel. The wood is used for construction and fuel.

Warszewiczia coccinea (Vahl) Klotzsch

Centro Chiar Entsa. Primary-forest tree.

YUSA AWAMKAMU - Mashu 39; Informant: NJM.

Fuel. The stems are used for firewood.

USEFUL PLANTS OF THE SHUAR - 135

genus indet.

Centro Yukutais.

NAME UNKNOWN - Bennett 4056; Informants: JA & JCA; MK & PK.

Forage. Fruits eaten by pacharaca (a type of bird) (JA).

genus indet.

Centro Yukutais. Montane forest, understory shrub; 1 m tall. Underside of leaves are purple.

CHINCHAK MORADO [purple chinchak] - Bennett 4079; Informants:
AA; JA & JCA.

NAME UNKNOWN - Bennett 4079; Informants: MK & PK.

Forage. Birds eat the fruits.

genus indet.

Centro Yukutais.

HIERBA DE INFANTE - Gómez 450; Informant: ?

Medicine. One handful of leaves cooked in two liters of water for 30 minutes. Liquid given to new borns with diarrhea or gas. 5-8 spoonfuls 3 times per day for 2-3 days.

genus indet.

Centro Pimpints. Common, primary-forest tree; 30 m tall.

MUKUNT - Kasent 55; Informant: PWK.

Construction, Fuel. Wood used to build houses and for firewood.

genus indet.

Centro Kankaim. Shrub; 5 m tall.

TUMISAR NUMI - Shiki 163; Informant: DS.

No use reported.

genus indet.

Centro Kankaim. Shrub; 2 m tall.

SHAUK NUMI - Shiki 185; Informant: DS.

No use reported.

genus indet.

Centro Kankaim. Primary- and secondary-forest vine.

KAMPUNTIN NASHUMP - Shiki 198; Informant: DS.

No use reported.

genus indet.

Centro Pampants. Garden shrub.

TSEKTA [family = SUPINIM] - Warush 3; Informant: AW.

Food, Medicine. The fruits are edible. Grated bark is taken to clean stomach. It is taken for one day only and is not mixed with other plants.

RUTACEAE

Citrus aurantiifolia (Christm.) Swingle

Centro Yukutais. Small tree cultivated in chacras and house gardens.

YUMUNK - No collection; Informant: PK.

LIMON [Spanish] - No collection; Informant: PK.

Food, Medicine. Cultivated for the bitter-tasting fruit. Fruits are sold in the market. The fruit is added to many herbal medications.

Citrus paradisa Macfaden

Centro Yukutais. Small tree cultivated in chacras and house gardens.

TURUNJA - No collection; Informant: PK.

TORONJA [Spanish] - no collection; Informant: PK.

Food. Fruits are sold in the market.

Citrus reticulata Blanco

USEFUL PLANTS OF THE SHUAR - 137

Centro Yukutais. Small tree occasionally cultivated in chacras and house gardens.

MANDARINA [Spanish] - No collection; Informant: DA.

Food. Fruits are consumed locally and sold in the market.

Citrus sinensis (L.) Osbeck

Centro Yukutais. Small tree, commonly cultivated in chacras and house gardens.

YURANK MUKUNTAI - No collection; Informant: DA.

NARANJA - No collection; Informant: DA.

Food. Fruits are consumed locally and sold in the market.

Citrus sp.

Centro Pimpints. Common shrub; 4-5 m tall.

YUMUNK - Kasent 38; Informant: PWK.

Medicine. The leaves and fruit are mixed with sugar cane juice; CANELA, TORONJIL and HIERBA LUISA leaves; and a little chicha to treat diarrhea.

Zanthoxylum sp.

Centro Nayanmak. Tree.

UNTUKAR - Shakaim 20; Informant: SS.

Construction. The wood is used to make beams and planks.

SAPINDACEAE

Cardiospermum halicacabum L.

Centro Yukutais. Occasional vine in disturbed sites.

CHICHI WIAMBIAK - Bennett 3784; Informant: DA.

SHAMPIAK - Bennett 3302; Informant: AA.

NAME UNKNOWN - Bennett 3302; Informant: JA.

- Bennett 3784; Informants: MK & R

Craft. The seeds are used to make necklaces.

Serjania sp.

Centro Yukutais. Vine in disturbed sites.

SHUINA - Bennett 3434; Informant: PK.

DIENTE DE ARMADILLO - Bennett 3434; Informant: PK.

Fiber. Stem used as cord.

SAPOTACEAE

Chrysophyllum aff. aureum

Centro Yukutais. Small, montane forest tree; 10 m tall.

CANI ULLA [Spanish] - Bennett 3387; Informant: JA & DA.

No use reported.

Pouteria caimito (R. & P.) Radkl.

Centro Yukutais. Small tree cultivated in chacras.

YAAS - Bennett 3677; Informants: MK & PK.

Food. The edible fruits are sold in the market for 20-30 sucres each.

Pouteria sp.

Centro Yukutais. Small tree, on edge of secondary-forest; 8 m tall.

TAUCH - Bennett 3457; Informant: JA.

Food. Fruits are eaten.

[cf.] Pouteria sp.

Centro Yukutais. Small secondary forest tree; 8 m tall.

KAUFE - Bennett 4029; Informants: JCA & AA.

SHAKASHKA YAAS - Bennett 4029; Informants: AA & JCA.

SHAKAINUMI - Bennett 409; Informants: MK & PK.

Forage, Fuel. Birds eat the fruits. The stem is used for fuel.

genus indet.

Centro Yukutais.

ICHINKIAT WAMPU - Bennett 3622; Informant: PK.

Forage, Fuel. Monkeys and birds eat the fruits. The stem is used for firewood.

genus indet.

Centro Yukutais. Medium tree; 15 m tall.

CHUYAAS - Bennett ?; Informant: MK & RN; GS & AA & DA.

YAAS - Bennett 3679; Informants: MK & PK.

CAIMITO DE MONO [montane forest caimito] Bennett 3679; Informants: MK & PK.

Food, Forage, Fuel. Birds, monkeys and people eat the fruits. The stem is used for firewood.

genus indet. cf. Micropholis

Centro Yukutais. Small, montane forest understory tree.

NAIYAP' - Bennett 4080; Informant: AA.

IWIAPIK - Bennett 4080; Informants: JA & JCA.

NAYAPIK - Bennett 4080; Informants: MK & PK.

Food, Forage, Myth. Birds and people eat the fruits. Devils and evil shamans also eat the fruits.

genus indet. Micropholis?

Centro Yukutais. Small, montane forest understory tree.

IWIAPIK - Bennett 4084; Informants: JA & JCA.

NAYAPIK - Bennett 4084; Informants: MK & PK.

Food, Myth. The fruits are edible (MK). Devils and shamans eat the fruits (JA).

genus indet.

Centro Yukutais. Montane forest, understory tree; 10 m tall.

IWIAPIK - Bennett 4087; Informants: JA & JCA.

NAYAPIP - Bennett 4087; Informants: MK & PK.

MYTH. Fruit of the devil (MK). Devils and shamans eat the fruits (JA). Humbumbe (animal) KUCHUCHU

genus indet.

Centro Pampants. Common, forest tree.

UNKUM YAAS' - Juwa 82; Informant: RWJ.

Food, Fuel, Forage. The stem is used for firewood. The seeds are eaten by people and animals.

genus indet.

Centro Pimpints. Common tree.

INIAK - Kasent 26; Informant: PWK.

Food. Fruits, seeds, and soft latex are eaten.

SCROPHULARIACEAE

Alonsoa meridionalis (L.F.) Kuntz

Centro Yukutais.

CASCABEL DE DIABLO - Gómez 531; Informant: ?

FLOR DE MUERTE - Gómez 531; Informant: ?

Medicine, Miscellaneous. One handful of leaves in an infusion of 1 liter of water for 10 minutes. Tea calms tooth ache. Used as a mouth wash 3 times per day.

Five or six entire plants tied together and moved slowly over the body of children that have "bad fright."

Dried fruits used as rattles.

Bacopa stricta (Schrad.) Wettst. ex Edwall

Centro Yukutais. Weak herb, in wet places; erect to 30 cm.

KUCHANTMANA SUPINIM - Bennett 3421, 3758; Informants: DA & CCH.

No use reported.

Scoparia dulcis L.

Centro Yukutais. Erect herb in disturbed sites; 50 cm.

USEFUL PLANTS OF THE SHUAR - 141

PAMPA - Bennett 3418, Gómez 420; Informant: JA.
TIATINA [Spanish] - Gómez 420; Informant: ?

Medicine, Tool. A febrifuge is made from one handful of leaves in one liter of water for 5-10 minutes. Also used as a tonic. One glass taken before each meal for 2-3 days.

One plant cooked in one liter of water, liquid used as an antiseptic. Wounds washed in water 3 times a day for 2-3 days. Also relieves discomfort caused by allergies or skin infections.

Fibers from stem also used to make primitive broom for sweeping house.

genus indet.

Centro Yukutais. Erect herb of wet places.

NAME UNKNOWN - Bennett 3759; Informant: DA & CCH; MK.

No use reported.

SELAGINELLACEAE

Selaginella sp.

Centro Yukutais. Occasional herb of wet places.

JUU - Bennett 3302; Informant: DA.

Medicine. Plant juice is applied to bruises.

Selaginella sp.

Centro Yukutais. Terrestrial herb; erect to 40 cm.

NAME UNKNOWN - Bennett 3397; Informant: JA.

No use reported.

genus indet.

Centro Yukutais.

? - Gómez 471; Informant: ?

SIMAROUBACEAE

Picramnia sp. [cf.]

Centro Yukutais. Sapling in secondary-forest.

MAMANDUNIM - Bennett 3711; Informant: AA.

SETUR - Bennett 3711; Informant: MK.

Forage. Birds eat the fruits. Seeds smell like chicha (AA).

Picramnia sp. [cf.]

Centro Yukutais. Small, subcanopy tree in montane forest.

KAUNUMI - Bennett 4043; Informant: AA.

NAME UNKNOWN - Bennett 4043; Informants: MK & PK; JA & JCA.

Forage, Fuel. Birds eat the fruits. Stem used for firewood.

SMILACACEAE

Smilax sp.

Centro Yukutais. Plant collected by RN.

IJIAC CHANKE - Bennett 3641; Informant: RN.

Medicine. A birth control medicine is made from this plant.

Smilax sp.

Centro Kankaim. Vine.

IJIACH NAEK - Shiki 276; Informant: DS.

No use reported.

SOLANACEAE

Acnistus arborescens (L.) Schlect.

Centro Yukutais. Small shrub in open disturbed sites.

NAME UNKNOWN - Bennett 3362; Informant: MK.

No use reported.

Browallia americana L.

Centro Yukutais.

PENSAMIENTO DE POBRE - Gómez 389; Informant: ?

Personal. The flowers are used as personal decorations during ceremonies and festivals.

Brugmansia suaveolens (H. & B. ex Willd.) Bercht & Presl.

Centro Yukutais. Shrub cultivated in house gardens.

MAIKUA - Bennett 3312; Informant: JCA.

Medicine. The leaves are applied to bruises and swellings to reduce inflammation.

Brugmansia sp.

Misión Salesiano Bomboiza; Centros Kankaim, Pampants, Pimpints, Tiink, and Tuutin Entsa. Garden shrub to 2 m.

AYASH MAIKUA - Shiki 334; Informant: DS.

KUPINIAKMANUM MAIKUA - Shiki 287; Informant: DS.

MAIKIUA - Kunkumas 131; Informant: PK.

- Warush 32; Informant: AW.

TSUAKROTIN MAIKUA - Shiki 317; Informant: DS.

TUKTUR MAIKUA - Kasent 36; Informant: PWK.

UKUNCH' MAIKUA - Utitiaj 7; Informant: MAU.

WAIMIATAI MAIKIUA - Pujupet 1028; Informant: JOP.

YAWA MAIKUA - Shiki 333; Informant: DS.

YAWA MAIKUA - Kasent 43; Informant: PWK.

Drug, Medicine, Veterinary. This is like the drug but not toxic even if too much is taken. The juice is taken to become brave. The leaves are used for infections or cuts (Warush 32). The drug made from this plant is taken at 6:00 PM and is considered very dangerous or in the words of the informant "This isn't a joke" (Kunkumas 131). Shiki 287 is the same plant as Shiki 286 but it has a different potency and is used to treat bone fractures. The sap from three pieces of the plant is collected in a spoon and taken one time until the break is better. The leaves also can be used (Shiki 287). Epidermis from the stem is placed on the skin that hurts. Four drops of the liquid are taken to calm the stomach (Shiki 317). Fractures are wrapped in NATSAMPAR leaves and an infusion made from the bark is applied to heal the break (Utitiaj 7). The middle part of fresh stem is scraped mixed with ground leaves and leaves of NATSAMPAR in liquid and "se amara bien la fractura" (Kasent 36). Three leaves are crushed and given to dogs every 12 hours to make them good hunters (Shiki 333). A measured portion of fresh stem mixed with

water is given to dogs when they "no codra, por deblidad" (Kasent 43).

Brugmansia sp.

Centro Kankaim. Herb; 20 cm tall.

YURANMIS - Shiki 282; Informant: DS.

Food. The fruits are edible.

Brunfelsia grandiflora D. Don ssp. schultessi Plowman

Near Centro Taisha. Secondary-forest shrub 2 m tall.

CHIRIKIASIP - Baker 6807; Informant: ?

Drug, Medicine. An undisclosed part is taken to improve hunting with blowguns or as an emetic.

Brunfelsia grandiflora D. Don.

Centros Chiar Entsa, Tuutin Entsa and Yukutais. Cultivated shrub; 3 m tall.

PAIAPIA - Mashu 6; Informant: NJM.

CHINKIASIP - Anananch 153; Informant: LA.

CHIRIKIASPI - Gómez 400; Informant: ?

Drug, Medicine, Personal. The stems and leaves are used as hallucinogens. Shamans "receive strong feelings" and they can easily cure infirmities after taking an infusion of the mixture (NJM). About 1 liter of an emetic made from the leaves and roots is taken to induce vomiting (LA). Flowers used by women as adornment during ceremonies and festivals (?).

Brunfelsia sp.

Centro Kankaim. Shrub 35 cm tall.

CHIRIKIASIP - Shiki 349; Informant: DS.

Drug. One kg of the white bark is boiled in a pot with 4 liters of water until 1/2 liter remains. One half thumb nail of this solution is taken to improve aim while hunting with either blow gun or shot gun, and also to relieve muscle pain.

Capsicum frutescens L.

USEFUL PLANTS OF THE SHUAR - 145

Centro Yukutais. Small shrub growing in playa along Rio Upano.

JIMIA - Bennett 3441; Informant: JA.

AJI [Spanish] - Bennett 3441; Informant: JA.

Food. The fruit is used as a condiment.

Capsicum sp.

Centro Yukutais. Small shrub, cultivated near homesites.

AJI - Bennett 3776; Informant: MK.

Food. Fruit used as a condiment.

Cestrum reflexum Sendtn.

Centro Yukutais. Shrub in disturbed sites.

NAME UNKNOWN - Bennett 3433; Informant: JA.

No use reported.

Cestrum strigillatum Ruiz & Pavón

Centro Yukutais.

? - Gómez 439; Informant: ?

Cestrum sp.

Centro Yukutais. Understory shrub in montane forest.

NAME UNKNOWN - Bennett 4045; Informants: JA & JCA; MK & PK; AA.

No use reported.

Cyphomandra cf. allophylla

Centros Pampants and Pimpints. Common, garden shrub; 60 cm tall.

SHIMPICH - Warush 29; Informant: AW.

SHIMPISH - Kasent 29; Informant: PWK.

Food, Medicine. The leaves are edible (AW). To cure children

of an undisclosed illness fresh fruit is placed in water but is not mixed with other plants (PWK).

Cyphomandra sp.

Centro Kankaim. Secondary-forest shrub; 3 m tall.

TAKUP - Shiki 263; Informant: DS.

No use reported.

cf. Cyphomandra sp.

Centro Pampants. Common shrub with a disagreeable odor.

TAKUP - Warush 4; Informant: AW.

Medicine. A medication made from young leaves, AKAPMAS, AKAP, PIRIPRI, TSANPU seeds, MEJENK and other plants is taken to alleviate liver pain.

cf. Hebecladus sp.

Centro Yukutais. Common shrub along trail.

PITRUNA - Bennett 4030; Informants: AA & JCA.

NUPA - Bennett 4030; Informants: MK & PK.

Food, Forage. Birds eat the fruits. People can eat small amounts of the fruit.

Jaltomata procumbens (Cav.) J.L. Gentry

Centro Yukutais.

? - Gómez 429; Informant: ?

Lycopersicum esculentum no specimen in NY

Centro Yukutais.

TOMATE (Spanish) - Gómez 444; Informant: ?

Food, Medicine. Fruits are eaten in salads and in cooked meals. One handful of fresh leaves and flowers placed in water for 10 minutes produces a tea used to treat tonsillitis. Three cups taken daily for 2-3 days. Stem used to rub callouses or corns on hands and feet.

Lycopersicum sp.

Centro Yukutais.

? - Gómez 522; Informant: ?

Nicotiana tabacum L.

Centros Pampants and Yukutais. Cultivated in house gardens.

TSAANK - Bennett 3596; Informant: MK.

TSANK - Warush 33; Informant: AW.

Drug, Medicine. Cultivated for stimulant properties (M). This plant is like the hallucinogen. If too much is taken one remains crazy for several days. It is used to treat headaches and to find the power of ARUTAM (AW).

Physalis cf. gracilis

Centro Yukutais. Not previously known from South America.

YURANKMIS - Bennett 3452; Informant: DA.

Food. The fruits are edible.

Physalis pubescens L.

Centro Pampants. Common, garden shrub.

YUANMIS - Warush 2; Informant: AW.

Medicine. A wash prepared from the grated root, bark, AMPAR SESA, and KANTSE and plenty of water is used to treat children with diarrhea.

Physalis sp.

Centro Yukutais. Small shrub.

CHINIACH INIAP - Bennett 3674; Informant: MK & RN.

Medicine. To treat measles a tea made from the leaves is taken three times a day for three days.

Physalis sp. no specimen in NY

Centro Yukutais.

YURNAKMIS - Gómez 407; Informant: ?

UVILLA (Spanish) - Gómez 407; Informant: ?
KUSHACSAS (Quichua) - Gómez 407; Informant: ?

Food, Forage, Medicine. Mature fruits are edible, having a bitter-sweet flavor. Juice from leaves in an infusion of water for 5-10 minutes is used as a diuretic. Taken before breakfast for 2-3 days. To combat intermitent fever take one or 2 cups per day; one in the morning and the other at night. for 4-5 days.

Physalis sp.

Centro Yukutais.

? - Gómez 517; Informant: ?

Solanum acuminatum Ruiz & Pavón

Centro Yukutais. Shrub.

NAME UNKNOWN - Bennett 3468; Informant: Not recorded.

No use reported.

Solanum americanum Mill.

Centros Pimpints and Yukutais. Garden shrub; 1.5 m tall.

SHIMPISHPI - Bennett 3484; Informant: JA.

SHIMPISHPISH - Kasent 45; Informant: PWK.

Food, Medicine. Children eat the fruits. The leaves are placed in water then boiled until the water becomes dark. The solution is used to bathe patients with PATAMAR (smallpox) or WAMPISHTIAS.

Solanum appresum Roe

Centro Yukutais.

NAME UNKNOWN - Bennet 3406; Informant: MK.

No use reported.

Solanum quitoense Lam.

Misión Salesiano Bomboiza; Centro Yukutais. Shrub cultivated in chacras.

USEFUL PLANTS OF THE SHUAR - 149

KUKUCH - Bennett 3315; Informant: JCA.
- Gómez 485; Informant: ?
- Pujupet 1001; Informant: JOP.
NARANILLA - Gómez 485; Informant: ?

Food. The fruits are edible and are used to make juice. This is an important cash crop in the region.

Solanum stramonifolium Jacq. var. inerme (Dunal) Whalen

Centro Pampants. Common, garden shrub.

YA KUKUCH - Warush 30; Informant: AW.

Food. The fruits are edible.

Solanum sp.

Centro Yukutais. Shrub in disturbed sites' to 3 m.

UNTUKAR - Bennett 3630; Informant: MK.

Poison. No specific use reported.

Solanum sp.

Centro Yukutais. Shrub; 1.5 m tall.

NANJUNANK or NANKEMANK - Bennett 3654; Informants: MK & RN;
GS & DA & AA.

No use reported.

Solanum sp.

Centro Yukutais. Spiny shrub 1.5 m tall.

SUAK NUMI KUKUCH - Bennett 3731; Informant: MK.
TIRINCH - Bennett 3731; Informants: DA & CCH.

Poison. No specific use reported (MK).

Solanum sp.

Centro Yukutais. Shrub.

NAME UNKNOWN - Bennett 4069; Informants: JA & JCA; MK & PK.

No use reported but considered to be toxic.

Solanum sp.

Centro Yukutais. Vine growing along trail in exposed sites.

MEJENKASH - Bennett 4134; Informants: AA & JCA & JA.

NAME UNKNOWN - Bennett 4134; Informants: MK & PK.

Personal. Women use the flowers for personal adornment.

Solanum sp.

Misión Salesiano Bomboiza. Garden herb.

KANTSE - Pujupet 1032; Informant: JOP.

No use reported.

genus indet.

Centro Yukutais. Small shrub in open disturbed sites; to 1 m tall.

JIMIAKMIANIM - Bennett 3752; Informants: DA & CCH.

No use reported.

genus indet.

Misión Salesiano Bomboiza. Common plant.

JINIA - Pujupet 1005; Informant: JOP.

Food. The fruit, leaves and seeds are eaten.

genus indet.

Misión Salesiano Bomboiza.

UCHU JIMIA - Pujupet 1027; Informant: JOP.

No use reported.

genus indet.

Misión Salesiano Bomboiza. Shrub; 2.5 m tall.

UKUNCH MAIKIUA - Pujupet 1029; Informant: JOP.

USEFUL PLANTS OF THE SHUAR - 151

No use reported.

genus indet.

Misión Salesiano Bomboiza. Garden herb; 1.5 m tall.

TSAANK - Pujupet 1045; Informant: JOP.

No use reported.

genus indet.

Misión Salesiano Bomboiza. Common shrub; 80 cm tall.

SHIMPISHPI - Pujupet 1047; Informant: JOP.

No use reported.

genus indet.

Misión Salesiano Bomboiza. Rare shrub; 3 m tall.

MIKIUT - Pujupet 1065; Informant: JOP.

Unknown. The stem is used for an undisclosed purpose.

genus indet.

Misión Salesiano Bomboiza. Uncommon shrub; 2.5 m tall.

CHIMITIA MAIKIUA - Pujupet 1066; Informant: JOP.

Medicine. A medication from the stem is used to cure wounds.

genus indet.

Centro Kankaim. Herb.

WAMPISHKUR - Shiki 143; Informant: DS.

Medicine. Fruits are mixed with an achiote extract then boiled for 20 minutes. The mixture is collected on cotton or Ceiba sp. seed hairs and the swab is applied to burrowing larvae (perhaps botflies) for 3 hours.

genus indet.

Centro Kankaim. Herb.

SHIMPICH - Shiki 213; Informant: DS.

Food. The leaves are eaten with sardines in an ayampaco.

genus indet.

Centro Kankaim. Tree; 8 m tall.

UNTUKAR - Shiki 222; Informant: DS.

No use reported.

genus indet.

Centro Kankaim. Primary-forest vine.

KUKUCH NUMI - Shiki 264; Informant: DS.

No use reported.

STERCULIACEAE

Herrania mariae (Mart.) Decne. ex Goudot

Centro Pampants. Common, garden shrub.

KUSHIKIAMP - Warush 5; Informant: AW.

Food, Medicine. The fruits are edible. The bark and leaves used to wash snake bites.

Herrania sp.

Centro Yukutais. Small montane forest tree; 2.5 m tall.

KUSHINJIAP - Bennett 3819; Informant: DA.

KUSHINIAP - Bennett 4055; Informants: JA & JCA; MK & PK.

CACAO DE MONTE - Bennett 4055; Informants: JA & JCA; MK & PK.

Food, Hallucinogen. Fruits are edible. The inner bark is added to NATEM.

Herrania sp.

Rio Yuquipa; Centro Kankaim. Small, montane forest tree; 2 m tall.

USEFUL PLANTS OF THE SHUAR - 153

KUSHIKAM - Baker 6756; Informants: AN & JN.

KUSHIKAMP - Shiki 340; Informant: DS.

Food, Drug. The seeds and fruit pulp is edible. The leaves or part of the bark is cooked with NATEM to increase its potency.

Herrania sp.

Centro Pimpints. Common, forest shrub; 4 m tall.

KUSHIPIAT - Kasent 37; Informant: PWK.

Medicine. Warmed leaves, bark or fruit are placed on snake bites to relieve the pain.

Melochia lupulina Sw.

Centro Yukutais. Common weed to 2 m tall.

NAME UNKNOWN - Bennett 3411; Informant: MK.

? - Gómez 414; Informant: ?

No use reported.

Theobroma cacao L.

Centro Yukutais. Common cultivar in chacras.

KAKAU - Bennett 3698; Informant: DA.

CACAO - Bennett 3698; Informant: DA.

Food. Cultivated as a cash crop for edible fruit.

Theobroma cf. subincanum Mart.

Centro Yukutais.

CACAO DE MONTE - Gómez 575; Informant: ?

Food. Seed pulp is edible with a sweet taste.

Theobroma sp.

Centro Chiar Entsa. Primary-forest tree.

CHUKUCHOK - Mashu 48; Informant: NJM.

CACAO DE SELVA - Mashu 48; Informant: NJM.

Food. The fruits are edible.

THEOPHRASTACEAE

Clavija membranacea Mez

Centro Yukutais. Shrub; 1.5 m tall.

YAMPAK' - Bennett 4071; Informants: AA; JA & JCA; MK & PK.

Food. The fruits are edible.

Clavija cf. weberbaueri Mez

Centro Tuutin Entsa. Primary-forest shrub.

YAMPAK' - Anananch 121; Informant: LA.

Unknown. The flower is used for an undisclosed purpose.

genus indet.

Centro Pampants. Rare, garden shrub; 3 m tall.

YAMPAK' - Warush 95; Informant: AW.

Food. The fruit is edible.

THELYPTERIDACEAE

Thelypteris sp.

Centro Yukutais. Terrestrial.

NASHISHIP [fern] - Bennett 3376; Informant: DA.

- Bennett 3385; Informant: DA.

No use reported.

TILIACEAE

Apeiba aspera Aublet ssp. membranacea (Spr. ex Bentham) Meijer & Setser

Centros Nayanmak and Yukutais. Secondary-forest tree; 15 m tall.

SHIMUT - Shakaim 33; Informant: SS.

TIMASH - Bennett 3476; Informant: JA.

USEFUL PLANTS OF THE SHUAR - 155

TIMESHNIU - Bennett 3822; Informant: MK.
PEINE DE MONO [Spanish] - Bennett 3822; Informant: MK.

Personal. Used as a comb.

Apeiba sp.

Centro Pampants. Common, playa tree.

SHIMUT - Juwa 123; Informant: RWJ.

Craft. Stem used to make "tombor (TUNTI)." One meter of the stem is cut, dried well and then hollowed.

Heliocarpus americanus L. (Kunth) ssp. papayonensis Meijer

Misión Salesiano Bomboiza; Centro Yukutais.

KUTSA - Baker 6316; Informant: ?
KUTSA - Bennett 3639; Informant: MK.
BALSA [Spanish] - Baker 6316; Informant: ?

Craft. The bark is used as cord

ULMACEAE

Celtis iguanaea (Jacq.) Sargent

Centro Tuutin Entsa. Secondary-forest vine.

SHACHIK - Anananch 135; Informant: LA.

Medicine. Bark used to treat undisclosed illness.

Celtis sp.

Misión Salesiano Bomboiza. Primary-forest vine.

TSACHIK or TACHIK - Pujupet 1049; Informant: JOP.

Medicine. An undisclosed plant part is used in a medicine for stomach aches.

cf. Celtis sp.

Centro Pampants. Common, garden tree; 35 m tall.

SHINKIPNUM - Juwa 56; Informant: RWJ.

Forage. Birds eat the fruits and can be killed easily near this tree.

Trema micrantha (L.) Blume

Centros Chiar Entsa, Pampants, and Yukutais. Secondary-forest tree; 15 m tall.

KAKA - Bennett 3446; Informants: PK.
- Bennett 3727; Informants: MK; DA & CCH.
- Mashu 1; Informant: NJM.
- Juwa 93; Informant: RWJ.

KARABASKA - Bennett 3727; Informants: MK; DA & CCH.

Craft, Forage, Hunting. Cord is made from bark to lash beams and to tie thatch. Birds eat the fruits and can be killed easily near this tree.

URTICACEAE

Phenax cf. hirsuta (Sw.) Webb.

Centro Yukutais. Common chacra weed; to 60 cm tall.

NAME UNKNOWN -Bennett 3323; Informant: MK.

No use reported.

Urera caracasana (Jacq.) Griseb.

Centro Pampants. Common, montane-forest vine.

KUYUJIMIAS - Warush 73; Informant: AW.

Medicine. The leaves and stem are used to sting the legs of children so that they won't be weak.

Urera lacinata Wedd.

Centro Pampants. Rare, garden shrub.

NAPI NARA - Warush 35; Informant: AW.

Medicine. The young, tender leaves are used to calm stomach aches and rheumatism.

Urera sp.

USEFUL PLANTS OF THE SHUAR - 157

Centro Yukutais. Weak shrub in disturbed sites; to 2 m tall.

NARA - Bennett 3724; Informant: MK.

Medicine. Applied to skin to treat rheumatism. To treat cases of severe fright in children new leaves are mixed with leaves of SANTA MARIA and VANILLA in 4 L of water. The solution is cooked for 20 minutes. Children drink 120 ml of the solution twice a day.

Urtica urens

Centro Yukutais.

ORTIGA BLANCA - Gómez 530; Informant: ?

Fiber, Food, Medicine. Fibers used to make fine cloth and paper. Fresh juice ofr an infusion of leaves is a galactogogue.. Five handful of leaves cooked in a large pot for 20 minutes then strained. Liquid used to wash affected hemmorroids or urinary tract for 3-5 days..

Two-3 leaves placed in 4 cups of water for 5 minutes then strained. One cup taken before each meal to treat asmtha and diarrhea. Also Poutice of leaves warmed placed an back and chest.

A medium-sized root cooked in one liter of water for 20 minutes used to wash head to prevent baldness.

Fresh leaves cooked are used in soups. Cooked young shoots eaten in salads.

USNEACEAE

Usnea sp.

Centro Yukutais. Epiphyte.

JUU - Bennett 3779; Informant: DA.

Medicine. Applied to wouhds to stop bleeding.

VERBENACEAE

Citharexylum poeppigii Walp.

Centro Yukutais. Medium tree in secondary forest; 20 m tall.

NAME UNKNOWN - Bennett 3620; Informant: DA.

USEFUL PLANTS OF THE SHUAR - 158

No use reported.

Lantana camara L.

Centro Yukutais. Common scandent herb in open, disturbed sites.

MURAS - Gómez 435; Informant: ?
MURAS - Gómez 425; Informant: ?
SUPIRROSA - Gómez 425; Informant: ?

Medicine. A herb bath is made by cooking the plant in 1 l of water. Two handfuls of the leaves are put in one liter of water for 15 minutes. The resulting liquid used to combat rheumatism. One cup taken before breakfast and the other before sleeping for 2 weeks but less than a month

A handful of leaves and inflorescences dried and placed in one liter of water for 10 minutes. The tea sweetened with honey is used to treat anemia in children. One cup taken with each meal for two weeks but should not be continued uch longer.

Lantana sp.

Centro Pimpints. Common climbing herb in secondary-forests.

MURAMURAS - Kasent 54; Informant: PWK.

Medicine. A vapor bath of leaves and stems mixed with leaves of KUMPIA and HIERBA LUISA is used to treat children with diarrhea or that have been frightened.

Lippia sp.

Misión Salesiano Bomboiza. Garden shrub.

YANTRIA - Pujupet 1043; Informant: JOP.

No use reported.

Priva sp.

Centro Yukutais. Secondary-forest herb; 1m tall.

ARARATZ - Gómez 398; Informant: ?

No use reported.

Stachytarpheta cayennensis (L. Rich.) Vahl

Centro Yukutais. Very common weed; to 1m tall.

KATIPIUJUK [rat tail] - Bennett 3301; Informant: DA.

RABO DE RATON [rat tail] - Bennett 3301; Informant: DA.

Medicine, Tool. Used as a minor medicine in tea to treat stomach pain. Used as a broom.

Verbena litoralis HBK

Misión Salesiano Bomboiza; Centros Chiar Entsa and Yukutais. Occasional weed; to 1 m.

YAPA - Bennett 3489; Informant: JA.

- Mashu 16; Informant: NJM.

- Pujupet 1042; Informant: JOP.

Food, Medicine. The tea is considered refreshing and is used to cure stomach aches. The entire plant is placed in a pot with other plants, and LIMON then boiled well and used as a febrifuge or to treat coughs (NJM).

Verbena sp.

Centro Yukutais.

VERBENA - Gómez 410; Informant: ?

Medicine. 5-6 grams of plant cooked in 2 cups of water. One cup of liquid taken before breakfast for 2-3 days to combat typhoid.

Decoction also used to wash children with skin infections or pimples.

Macerated leaves and flowers used to treat fevers of gastric origin. Plasters applied to forehead or stomach.

Vitex cymosa Bert.

Centros Pimpints and Yukutais. Common tree, protected in chacras to 15 m tall.

TITINIM or TITININ - Bennett 3592, 3699, 4031; Informants:
PK & MK; AA; JA.

PECHICHE [Spanish] - Bennett 3592, 3699, 4031; Informants:
PK & MK; AA; JCA & JA.

PICHICHI - Kasent 53; Informant: PWK.

USEFUL PLANTS OF THE SHUAR - 160

Construction, Food, Forage. The wood is used to make planks and diagonal braces. Jelly is made from the fruits. People and birds also eat the fruits. The stem and bark are used for firewood.

[cf.] *Vitex* sp.

Centro Pampants. Rare, forest tree.

IJINNUM - Juwa 5; Informant: RWJ.

MANCHUNNUMI - Juwa 5; Informant: RWJ.

Construction, Fuel. Wood used in house construction, especially for posts and for firewood.

genus indet. Verbenaceae? S.Botta

Centro Yukutais. Suffrutescent; to 40 cm.

YANTANI - Bennett 3633; Informant: MK.

No use reported.

genus indet.

Centro Yukutais. Occasional chacra weed.

MURRAS - Bennett 3710; Informants: AA & MK.

Medicine. Used to treat rheumatism by breathing vapors of the cooked leaves (AA). For stomach ache a tea is taken 3 times a day (MK).

genus indet.

Centros Chiar Entsa and Pimpints. Herb; 20 cm tall.

YANTRIA - Kasent 1; Informant: PWK.

- Mashu 5; Informant: NJM.

Medicine. A remedy to cure sever headaches is made by placing leaves in a pot with HIERBA LUISA then heated for 4-5 mintues until warm (NJM). A vapor bath for children is made by boiling the leaves and stem with HIERBA LUISA until the liquid becomes dark then adding a hot rock. The solution is also mixed with KUMPIA to treat stomach aches.

genus indet.

USEFUL PLANTS OF THE SHUAR - 161

Centro Kankaim. Primary-forest herb; 20 cm.

YAPAA - Shiki 224; Informant: DS.

Medicine. The plant is mixed with sugar cane juice and AJEJ in 1 liter of water then boiled for 15 minutes. The solution is taken 3 times as an emetic.

genus indet. ver

Centro Pampants. Garden herb.

YAWA - Warush 10; Informant: AW.

Medicine. The leaves are taken to clean stomach and to avoid nausea.

VIOLACEAE

Leonia glyocarpa Ruiz & Pavón

Centro Pampants. Common forest shrub.

KUNKUIM NUJINT - Juwa 104; Informant: RWJ.

No use reported.

genus indet.

Centro Tuutin Entsa. Primary-forest shrub; 1 m tall.

PARAPRA - Anananch 151; Informant: LA.

Medicine. A remedy for stomach aches is made by mixing leaves and roots in water.

genus indet.

Centro Pampants. Common, playa tree.

NAMP' - Juwa 51; Informant: RWJ.

Food. The fruit is edible.

genus indet.

Centro Pimpints. Vine.

USEFUL PLANTS OF THE SHUAR - 162

KUYUJIMIAS - KASENT 25; Informant: PWK.

Medicine. The leaves are placed on weak children so that they will walk or run.

VISCACEAE

Dendrophthora Lueri Kuijt

Centro Yukutais. Parasite.

IWIANCHMER - Bennett 3761; Informants: DA & CCH.

NAME UNKNOWN - Bennett 3761; Informant: MK.

No use reported.

VITACEAE

Cissus sicyciodes L.

Centro Yukutais. Climbing vine.

NAME UNKNOWN - Bennett 3407; Informant: MK.

No use reported.

Cissus sp.

Centro Yukutais. Vine growing along trail.

TIRES - Bennett 4027; Informants: AA & JA & JCA.

- Bennett 3435; Informant: PK.

TERES - Bennett 4027; Informant: MK.

Forage, Medicine. Birds eat the fruits. A bath made from the fruits is used to treat insect bites and skin infections in children (AA).

VOCHYSIACEAE

Vochysia sp.

Centro Yukutais. Common canopy tree in montane forest.

PAUNIM - Bennett 4108; Informant: JCA.

BELLA MARIA - Bennett 4108; Informant: JCA.

No use reported.

USEFUL PLANTS OF THE SHUAR - 163

XYRIDACEAE

Xyris sp.

Centro Yukutais. Erect herb growing in wet, sandy soils; to 1.5 m tall.

MURANA CHIRICHIRI - Bennett 3740; Informants: DA & CCH.
NAME UNKNOWN - Bennett 3740; Informant: MK.

No use reported.

ZINGIBERACEAE

Hedychium coronarium Koenig

Centro Yukutais. Erect herb forming large clumps in open areas; to 2.5 m tall.

NAME UNKNOWN - Bennett 3579; Informant: MK.

No use reported.

Renealmia alpinia (Rottb.) Maas

Centro Pampants. Rare, garden herb.

KUMPIA - Warush 27; Informant: AW.

Food, Medicine. The "fruits" are eaten. The leaves are used to treat rheumatism.

Renealmia nicolaioides Loes.

Centro Yukutais. Erect herb; to 3 m tall.

KUMBIA - Bennett 3493; Informant: JA.

Food. The fruits are edible.

Renealmia thyrsoides (R. & P.) P. & E. ssp. thyrsoides

Centro Chiar Entsa. Herb.

CHIANK - Mashu 14; Informant: NJM.

Food Processing. The leaves are used to cook game.

Zingiber officinale Roscoe no collection in NY

USEFUL PLANTS OF THE SHUAR - 164

Centros Pampants, Pimpints, Tiink, and Yukutais. Common, rhizomatous garden herb.

KAUR AJEJ - Kasent 11; Informant: PWK.
KAUR AJEJ - Utitiaj 3; Informant: MAU.
NAPI AJEJ - Kasent 9; Informant: PWK.
NAPI AJEJ - Warush 25; Informant: AW.
PENKE AJEJ - Warush 22; Informant: AW.
SEEKA AJEJ - Utitiaj 25; Informant: MAU.
? - Gómez 483; Informant: ?
? - Gómez 503; Informant: ?

Medicine. To cure snake bite the fresh rhizome? is ground, placed in the petiole from a papaya leaf then administered anally. The dried medicine can be stored for 1-2 weeks (Kasent 9, Warush 25). A medicine to treat coughs is made from a measured amount of water, AJEJ, chicha, HIERBA LUISA and CANELA. This can be stored 1-2 weeks (KASENT 11). Warush 22 described as hot like chili pepper. Rhizome washed then mixed with KANTSE, one egg, water, and the stem of TSAAK MEJECH. The herb bath is used to to treat diarrhea, stomach ache and "to give light" (Utitiaj 3). The ground bulb is mixed with a 250 ml of chicha, heated, and consumed warm to cure stomach ache and dysentery (Utitiaj 25).

genus indet.

Rio Yuquipa. Secondary-forest herb.

CHIANK - Baker 6769; Informants: JN & AN.

Food Processing. The leaves are used to wrap food for cooking.

genus indet.

Centro Tiink.

CHIANK - Utitiaj 42; Informant: MAU.

Medicine. Rhizome is ground and given to children to fatten them or to cure bronchitis.

FAMILY INDEBT.

genus indet.

Morona Santiago near Rio Bomboiza. Vine.

USEFUL PLANTS OF THE SHUAR - 165

WAAPA - Baker 6329; Informant: ?

Fishing. Stem used to make fish nets used to fish with barbasco.

genus indet.

Centro Kankaim. Rhizomatous herb.

MESEKAK NUMI - Baker 6385; Informant: DS.

Ritual. A bath of the leaves given to cure insomnia or bad dreams.

genus indet.

Centro Yukutais. Montane forest tree; 10 m tall.

REMU - Bennett 3628; Informant: PK.

Fuel, Tools. The stem is considered to be good firewood. The wood also is used to make handles for hammers, axes, and other tools.

genus indet.

Centro Yukutais. Epiphytic climber.

TSEMI TSEMI - Bennett 3733; Informant: MK.

UWE - Bennett 3733; Informants: DA & CCH.

Medicine. Macerated leaves are applied to wounds.

genus indet.

Centro Yukutais. Tree.

ETSE - Bennett ?; Informant: MK & PK.

WANTSUNT - Bennett ?; Informant: GS & DA & AA.

Construction, Craft. The stem is a good wood source. The seeds are used to make necklaces.

genus indet.

Centro Yukutais. Small tree; 5 m tall.

KUISHIP - Bennett 3791; Informant: DA.

NAME UNKNOWN - Bennett 3791; Informant: MK & RN.

USEFUL PLANTS OF THE SHUAR - 166

Construction, Tools. Planks are made from the wood. The fruit is used to sand pottery.

genus indet. lichen

AWA - Bennett 3807; Informant: MK & PK.

JUU - Bennett 3807; Informant: DA.

Craft, Medicine. The plant is used to decorate nativity scenes (DA) and applied to wounds to stop the bleeding (MK).

genus indet. Ges or Acanth

Centro Yukutais. Common, montane forest, understory shrub; to 1.5 m tall

NASHIP - Bennett 4058; Informant: AA.

NAME UNKNOWN - Bennett 4058; Informants: JA & JCA; MK & PK.

- Bennett 4107; Informants: JA & JCA & AA; MK & PK.

Forage, Ornamental. Birds eat the fruits. Used as an ornamental.

genus indet.

Centro Yukutais. Montane forest, understory tree; 8 m tall.

YAAS - Bennett 4089; Informant: AA.

SAKA - Bennett 4089; Informants: MK & PK.

NAME UNKNOWN - Bennett 4089; Informants: JA & JCA.

Food, Forage. Birds, mammals (guanta and quatusa) eat fruits.

genus indet.

Centro Yukutais.

MURANYA KAWANUM - Bennett 4091; Informant: AA.

KUWAI - Bennett 4091; Informants: MK & PK.

NAME UNKNOWN - Bennett 4091; Informants: JA & JCA.

Forage, Fuel. Birds and mammals (quatusa, guanta) eat the fruits. The stem is used for firewood.

genus indet.

Centro Yukutais.

USEFUL PLANTS OF THE SHUAR - 167

CHINCHP' - Bennett 4097; Informant: AA & DA & JCA; PK.

Fiber. Roots are use like cord.

genus indet.

Centro Yukutais.

MURANIA SAKA - Bennett 4104; Informants: AA; JCA & JA.

NAME UNKNOWN - Bennett 4104; Informants: MK & PK.

Forage. Birds eat the fruits.

genus indet.

Centro Yukutais.

NAME UNKNOWN - Bennett 4111; Informants: JA & JCA; MK & PK.

No use reported.

genus indet.

Centro Yukutais.

NAME UNKNOWN - Bennett 4113; Informants: JA & JCA; MK & PK.

Forage. Considered poisonous but some birds (e.g. purichek) eat fruits.

genus indet.

Centro Yukutais.

NAME UNKNOWN - Bennett 4114; Informants: JA & JCA; AA; MK & PK.

No use reported.

genus indet. CARYOPH

Centro Yukutais. Vine growing along trail in secondary forest.

KANKAP - Bennett 4128; Informants: AA & JCA & JA.

NAME UNKNOWN - Bennett 4128; Informants: MK & PK.

No use reported.

genus indet.

Centro Yukutais.

YAMAKAI - Bennett 4135; Informants: AA & JCA & JA.

NAME UNKNOWN Bennett 4135; Informants: MK & PK.

DYE/PAINT. The leaves, flowers, and fruits are used as a red dye.

genus indet.

Centro Yukutais.

KUWAI - Bennett 4138; Informants: MK & PK.

NAME UNKNOWN - Bennett 4138; Informants: AA & JCA & JA.

Forage. Guatusa eat fruits.

genus indet.

Centro Yukutais. Small, montane forest tree.

AKAYAS - Bennett 4146; Informants: AA & JCA & JA.

NAME UNKNOWN - Bennett 4146; Informant: PK.

Forage. Birds (especially turkeys) and mammals (monkeys, guatusa and quanta) eat the fruits.

genus indet.

Centro Yukutais. Small, montane forest tree.

SAKA - Bennett 4150; Informants: AA & JCA & JA.

NAME UNKNOWN - Bennett 4150; Informant: PK.

Food. Fruits are edible (PK).

genus indet. cedrilinga?

Centro Yukutais.

TSAIK - Bennett 4160; Informants: AA; JCA & JA.

NAME UNKNOWN - Bennett 4160; Informants: MK & PK.

Construction. The wood is considered very good (JA) and is used to make planks(AA). Some (PK) consider the plant to be toxic.

genus indet.

Centro Yukutais.

CHUYU YAAS - Bennett 4162; Informants: MK & PK.

No use reported.

genus indet.

Centro Yukutais.

KUWAI - Bennett 4163; Informants: MK & PK.

No use reported.

genus indet.

Centro Yukutais.

WAAKI - Bennett 4165; Informants: MK & PK.

Forage. Animals eat the fruits.

genus indet.

Centro Yukutais.

CHUYA YAAS - Bennett 4167; Informants: MK & PK.

No use reported.

genus indet.

Centro Yukutais.

UNTU YAAS - Bennett 4168; Informants: MK & PK.

No use reported.

genus indet.

Centro Yukutais.

MUKAT CHIAM - Bennett 4169; Informants: AA & JCA & JA.

Medicine. Vapors inhaled from the boiling leaves relieve

USEFUL PLANTS OF THE SHUAR - 170

headaches.

genus indet. Sol?

Centro Yukutais.

MEJENKASH - Bennett 4170; Informant: AA.

No use reported.

genus indet.

Centro Pampants. Common tree.

KAWA - Juwa 73; Informant: RWJ.

Construction, Fuel. The wood is used to build houses and for fuel.

genus indet.

Centro Pampants. Rare, forest tree; 10 m tall.

PAYANK NUMI - Juwa 111; Informant: RWJ.

Fuel. The stem is used for firewood.

genus indet.

PITIUK - Kasent 52; Informant: PWK.

Construction, Fuel. The wood is used for house construction and for fuel.

genus indet. [EUPHORBIACEAE ACA?]

Centro Tiink. Garden shrub with tuberous root [sic].

PEMPENTRUNCH - Utitiaj 35; Informant: MAU.

Food. The boiled rhizome is eaten.

genus indet. Araceae?

Centro Pampants. Common, forest herb.

KATIRPAS - Warush 82; Informant: AW.

USEFUL PLANTS OF THE SHUAR - 171

Unknown. Leaves are used for an undisclosed purpose.

genus indet. Ara?

Centro Pampants. Common, forest herb.

TINKISHAP' NUKA - Warush 96; Informant: AW.

No use reported.

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USEFUL PLANTS OF AMAZONIAN ECUADOR
SPECIES LIST

ACANTHACEAE

Aphelandra crispata Leonard emend. Wassh.
Aphelandra spp.
Fittonia albivenis (Lindley ex Veitch) Brummitt [=F. argyroneura]
Fittonia argyroneura E.Coem. [see F. albivenis]
Fittonia verschaffeltii (Lem.) Coem.
Fittonia spp.
Justicia pectoralis Jacq.
Justicia polygonoides H.B.K.
Justicia spp.
Pachystachys sp. [cf.]
Pseuderanthemum sp. [cf.]
Ruellia chartacea (T.Anders.) Wassh. [=R. colorata]
Ruellia colorata Baillon [see R. chartacea]
Ruellia riopalenquensis Wassh.
Ruellia sp.
Sanchezia oxysepala Mildbr.
Teliostachya lanceolata Nees
Tetramerium nervosum Nees
 genus indet.

ACTINIDIACEAE

Saurauia herthae Sleumer
Saurauia prainiana Busc. var. pastasana (Diels) Soejarto

ADIANTACEAE

Adiantum sp.
Antrophyum brasilianum
Antrophyum cajenense
Pityrogramma calomelanos (L.) Link
Pityrogramma sp.
Polytaenium guayanense (Hieron.) Alston

AGAVACEAE

Cordyline fruticosa (L.) A.Chev.
Cordyline sp.

ALISMATACEAE

Alisma sp.
Sagittaria latifolia Willdenow

AMARANTHACEAE

Achyranthes aspera L.
Aerva sanguinolenta Blume

Alternanthera bettzichiana (Regel) Voss
Alternanthera brasiliana (L.) Kuntze [cf.]
Alternanthera lanceolata (Benth.) Schinz [see A. mexicana]
Alternanthera mexicana (Schldl.) Hieron. [=A. lanceolata]
Alternanthera pubiflora (Benth.) Kuntze
Alternanthera spp.
Amaranthus caudatus L.
Amaranthus cruentus L.
Amaranthus hybridus L.
Amaranthus spp.
Celosia argenta L. var. crinata (L.) Kuntze [=C. cristata]
Celosia cristata L. [see C. argenta var. crinata]
Cyathula achyranthoides (H.B.K.) Moquin in DC.
Cyathula prostrata (L.) Blume
Cyathula sp.
Iresine diffusa Humb. & Bonpl. ex Willdenow var. diffusa
Iresine sp.
Pfaffia irisinoidea (H.B.K.) Sprengel
 genus indet.

AMARYLLIDACEAE
 [see LILIACEAE]

ANACARDIACEAE

Anacardium occidentale L.
Mangifera indica L.
Spondias mombin L.
Spondias purpurea L.
Tapira guianensis Aublet

ANNONACEAE

Anaxagorea spp.
Annona duckei Diels
Annona edulis
Annona muricata L.
Annona purpurea Mociño & Sesse ex Dunal
Annona spp.
Duquetia odorata (Diels) Macbr.
Duquetia sp.
Gutteria chrysophylla Maas & van Setten
Gutteria multivenia Diels [aff.]
Gutteria schunkeviogoi [see G. chrysophylla]
Gutteria spp.
Porcelia sp.
Rollinia edulis Triana & Planchon
Rollinia mucosa (Jacq.) Baillon
Rollinia sp.
Unonopsis veneficiorum (Martius) R.E.Fries
Unonopsis sp.

Xylopia aromatica
Xylopia neglecta [spelling?]
Xylopia spp.
 genus indet.

APIACEAE

Anethum graveolens L.
Arracacia xanthorrhiza Bancroft
Daucus carota L.
Eryngium foetidum L.
Spananthe paniculata Jacq.
 genus indet.

APOCYNACEAE

Allamanda cathartica L.
Ambelania lopezii (Woodson) R.E. Schultes
Aspidosperma laxiflorum Kuhlmann
Aspidosperma rigidum Rusby
Aspidosperma verruculosum Muell.Arg.
Aspidosperma spp.
Bonafousia spp. [see Tabernaemontana spp.]
Couma guianensis Aublet
Himatanthus articulata (Vahl.) Woods.
Himatanthus bracteatus (A.DC.) Woods.
Himatanthus lancifolius (Muell.Arg.) Woodson
Himatanthus sucuba (Spruce) Woodson
Himatanthus spp.
Lacmella lactescens (Kuhlmann) Monachino
Lacmellea oblongata Markgraf
Lacmellea speciosa (L.) Woodson
Lacmellea spp.
Odontadenia cognata (Stadelm.) Woodson
Odontadenia funigera Woodson
Odontadenia sp.
Rauvolfia praecox K.Schumann ex Markgraf
Tabernaemontana maxima
Tabernaemontana sananho Ruiz & Pavon [=B. sanaho]
Tabernaemontana tetrastachya H.B.K. [=B. tetrastachya]
Tabernaemontana spp.
 genus indet.

AQUIFOLIACEAE

Ilex guayusa Loes.
Ilex sp.

ARACEAE

Anthurium alienatum Schott
Anthurium aureum Engl.
Anthurium clavigerum Poeppig & Endl.
Anthurium decurrens Poeppig
Anthurium eminens Schott
Anthurium ernestii Engl.
Anthurium harlingianum Croat.
Anthurium gracile (Rudge) Lindley
Anthurium cf. quayaquilense Engl.
Anthurium loretense Croat
Anthurium oxycarpum Poeppig
Anthurium polyschistum Schultes & Idrobo
Anthurium pseudoclavigerum Croat
Anthurium tessmannii K.Krause
Anthurium cf. uleanum Engl.
Anthurium spp.
Caladium bicolor (Aiton) Vent.
Caladium sp.
Colocasia esculenta (L.) Schott
Diffenbachia sequine Schott
Dracontium loretense Krause
Diffenbachia spp.
Dracontium sp.
Heteropsis cf. oblongifolia Kunth
Heteropsis sp.
Homalonema spp.
Monstera adansonii Schott
Monstera dilacerata C.Koch
Monstera obliqua Miq.
Monstera spruceana (Schott) Engl.
Philodendron deflexum Poeppig ex Schott
Philodendron spp.
Spathiphyllum cf.
Stenospermation anomifolium c
(Poeppig) Schott
Synгонium podophyllum Schott
Synгонium yurimaguense Engl.
Xanthosoma helleborifolium (Jacq.) Schott
Xanthosoma violaceum
Xanthosoma spp.
genus indet.

ARALIACEAE

Dendropanax arboreus (L.) Dcne. & Planchon
Dendropanax umbellatus (R. & P.) Dcne. & Planchon
Dendropanax sp.
Didymopanax morototoni (Aublet) Dcne. & Planchon
Didymopanax sp.
Oreopanax sp.
Schefflera morototoni (Aublet) Maguire, Steyermark & Frodin

Schefflera sp.
genus indet.

ARECACEAE

Aiphanes schultzeana Burret
Ammandra cf. ulei
Astrocaryum chambira Burret
Astrocaryum jauari Mart.
Astrocaryum murumuru Mart.
Astrocaryum cf. tucuma Mart.
Astrocaryum spp.
Attalea sp.
Attalea vel Orbignya sp.
 cf. Attalea sp.
Bactris concinna Mart.
Bactris gasipaes H.B.K.
Bactris setosa
Bactris spp.
Catoblastus sp.
Chamaedora integrifolia Damm.
Chamaedora pinnatifrons (Jacq.) Oerst.
Cocos nucifera L.
Cryosophila warszewiczii (Endl.) Batl.
Denocarpus sp.
Desmoncus cf. vacivus L.H.Bailey
Desmoncus sp.
Dictyocaryum lamrkianum
Dictyocaryum superbum Burret
Euterpe precatória Mart.
Euterpe sp.
Geonoma deversa (Poit.) Kunth.
Geonoma heinrichsiae Burret
Geonoma macrostachya Mart.
Geonoma maxima (Poit.) Kunth.
Geonoma pycnostachys Mart.
Geonoma tecurrens
Geonoma cf. undata Klotzsch
Geonoma spp.
Hyospathe elegans
Iriarteia deltoidea Ruiz & Pavon
Iriarteia ventricosa
Iriarteia spp.
Jessenia bataua (Mart.) Burret
Jessenia sp.
Mauritia flexuosa L.f.
Mauritia sp.
Mauritiella cf. aculeata (Kunth) Burret
Maximiliana maripa (Aublet) Drude
Maximiliana sp.
Oenocarpus mapora Karsten
Oenocarpus minor
Oenocarpus sp.

Pholidostachys cf. dactyloides H.E. Moore
Phytelephas macrocarpa Ruiz & Pavón
Phytelephas microcarpa Ruiz & Pavón
Phytelephas sp.
Prestoea asplundii H.E. Moore
Prestoea spp.
Prestoea sp.
Scheelea brachyclada Burret
Scheelea brassleriana
Scheelea rostrata
Socratea exorrhiza (Mart.) H.Wendl.
Socratea cf. quinaria (Cook & Doyle) Burr. [=W. maynensis]
Socratea spp.
Wettinia maynensis Spruce
Wettinia sp.
genus indet.

ARISTOLOCHIACEAE

Aristolochia cornuta Mast.
Aristolochia cf. cornuta Mast.
Aristolochia spp.
genus indet.

ASCLEPIADACEAE

Asclepias curassavica L.
Asclepias sp.
Matelea rivularis Woodson

ASPIDIACEAE

Tectaria sp. [cf]

Centro Yukutais. Terrestrial; fronds to 50 cm.

NAME UNKNOWN - Bennett 3382; Informant: DA.

No use reported.

ASPLENIACEAE

Asplenium serratum
Asplenium sp.
Diplazium cf. ambiguum Raddi
Diplazium juvenile
Elaphoglossum cf. apodum (Klf.) Schott
Lomariopsis japurensis (Martius) J.Smith
Lomariopsis sp.
Polybotra decorata

Polybotra salicifolia L. Jlinger [sic]

ASTERACEAE

Acmella brachyglossa Cass.
Adenostemma fosbergii K. & R.
Adenostemma platyphyllum Cass.
Ageratum sp. [cf.]
Bidens cynapifoliac H.B.K.
Bidens pilosa L.
Bidens bipinnata L. var. cynapiifolia (HBK) Maza
Bidens sp.
Centratherum punctatum Cass.
Clibadium asperum (Aublet) DC. [see C. surinamense]
Clibadium cf. grandifolium Blake
Clibadium surinamense L. [=C. asperum]
Clibadium sylvestre (Aublet) Baillon
Clibadium spp.
Critonia spp.
Eclipta alba (L.) Hassk. [see E. prostrata]
Eclipta prostrata (L.) L. [=E. alba]
Elephantopsis mollis HBK
Emelia sp.
Erechites hieracifolia (L.) Raf.
Eupatorium spp.
Hebeclinium macrophyllum (L.) DC.
Heliopsis bupthalmoides (Jacq.) Dunal
Jaegeria hirta (Lag.) Less.
Mikania cordifolia (L.f.) Willd.
Mikania quaco H.B.K.
Mikania sp.
Neurolaena lobata (L.) R. Brown
 cf. Piptocarpha sp.
Pollalesta discolor (Kunth) Aristeguieta
Pollalesta karstesii (Sch. Bip.) Arist.
Polymnia sp.
Pseudelephantopus spiralis (Less.) Cronq.
Schistocarpha eupatoicoides (Fenzl) Kuntze
Spilanthes alba L'Her.
Spilanthes cf. americana
Spilanthes cf. paniculata Jacq.
Spilanthes spp.
Tagetes erecta L.
Tagetes sp.
Tessaria integrifolia Ruiz & Pavón

Vernonia arborescens (L.) Sw.
Vernonia baccharoides H.B.K. [see V. patens]
Vernonia patens Kunth
Vernonia spp.
Wulffia baccata (L.f.) Kuntze
Wulffia sp. cf.
Zinnia elegans Jacq. [see Z. peruviana]
Zinnia peruviana (L.) L. [= Z. elegans]
 genus indet.

AURICULARIACEAE

Auricularia cf. fuscusuccinea (Montague) Farl.

BALANOPHORACEAE

Ombrophytum sp.

BALSAMINACEAE

Impatiens balsaminea L.
Impatiens wallerana Hook.f.

BEGONIACEAE

Begonia fischeri Schrank
Begonia glabra Aublet
Begonia maynensis A.DC.
Begonia parviflora Poeppig & Endl.
Begonia rossmanniae A.DC. in DC.
Begonia semiovata Liebm.
Begonia spp.

BIGNONIACEAE

Arrabidaea chica (Humb. & Bonpl.) Verlot
Arrabidaea sp.
Arrabidaea verrucosa (Standley) A.Gentry
Callichlamys latifolia (L.Rich.) K.Schum.
Crescentia cujete L.
Crescentia spp.
Distictella magnoliifolia (H.B.K.) Sandw.
Distictella racemosa (Bur. & K. Schum. ex Mart.) Urban [see. D
 . magnoliifolia]
Jacaranda copaia ssp. spectabilis (Mart. ex DC.) A.G.
Jacaranda sp.
Jacaranda copaia (Aublet) D.Don
Jacaranda glabra (DC.) Burret & K.Schum.
Macfadyena unguis cati (L.) A.Gentry

Mansoa alliacea (Lam.) A.Gentry
Mansoa sp.
Mansoa standleyi [see P. standleyi]
Mansoa verrucifera (Schlect.) A.G.
Martinella obovata (H.B.K.) Bur. & K.Schum. in Mart.
Memora cladotricha Sandw.
Pachyptera sp.
Pachyptera standleyi (Steyermark) A.Gentry [=M. standleyi]
Spathicalyx xanthophylla (DC.) A.Gentry
Tabebuia chyrsantha (Jacq.) Nichols ssp. pluvicola A.Gentry
Tabebuia chyrsantha (Jacq.) Nichols.
Tabebuia serratifolia (Vahl) Nicholson
Tabebuia sp.
Tynnanthus cf. panurensis (Bur.) Sandw.
Tynnanthus polyanthus (Bur.) Sandw.
genus indet.

BIXACEAE

Bixa arborea Huber
Bixa orellana L.
Bixa platycarpa Ruiz & Pavon ex G.Don
Bixa urucuranana Willdenow
Bixa sp.

BLECHNACEAE

Blechnum occidentale
Blechnum volubile ?
Blechnum sp.

BOMBACACEAE

Bombacopsis quinta (Jacq.) Dugand
Ceiba pentandra (L.) Gaertner
Ceiba saumauma (Martius) K.Schum.
Ceiba spruceana Ducke
Ceiba sp.
Chorisia cf. insignis Kunth
Chorisia sp.
Matisia cf. bracteolosa Ducke [=Q. bracteolosa]
Matisia cordata Humboldt & Bonpland [=Q. cordata]
Matisia malacocalyx (Robyns & Nilsson) Alverson [=Q. malacocalyx]
Matisia obliquifolia Standley [=Q. obliquifolia]
Matisia ochrocalyx K.Schum. [=Q. ochrocalyx]
Ochroma pyramidale (Cav.) Urban
Ochroma spp.
Pachira aquatica Aublet
Pachira insignis (Sw.) Sav.
Patinoa cf. almirajo Cuatrec.
Patinoa sp.

Pseudobombax septenatum (Jacq.) Dugand
Quararibea asterolepis Pittier
Quararibea bracteolosa (Ducke) Cuatrec. [see M. bracteolosa]
Quararibea cordata (H. & B.) Vischer [see M. cordata]
Quararibea grandifolia (Little) Cuatrec.
Quararibea malacocalyx A.Robyns & S.Nilsson [see M. malocalyx]
Quararibea obliquifolia (Standley) Standley [see M. obliquifolia]
Quararibea ochrocalyx (K.Schum.) Vischer [see M. ochrocalyx]
Quararibea penningtonii Cheek [sp. nov. inedit.]
Quararibea wittii K.Schum & E.Ulbr.
Quararibea spp.
genus indet.

BORAGIANCEAE

Borago officinalis L.
Cordia alliodora (Ruiz & Pavon) Oken
Cordia bifurcata Roemer & Schultes
Cordia nodosa Lam.
Cordia panamensis Riley
Cordia ripicola I.M.Johnston
Cordia spinescens L.
Cordia spp.
Heliotropium angiospermum Murr.
Tournefortia angustiflora Ruiz & Pavon
Tournefortia glabra L.
Tournefortia sp.
genus indet.

BRASSICACEAE

Rorippa nasturtium-aquaticum (L.) Britt. & Rendle

BROMELIACEAE

Aechmaea cf. magdalenae (Andre) Andre ex Baker
Aechmea zebrina L.B.Smith
Ananas comosus (L.) Merrill
Catopsis sessiflora (R. & P.) Mez
Guzmania cf. eduardii Mez
Guzmania sp.
Guzmania roezlii (E.Morr) Mez
Tillandsia complanata Benth.
Tillandsia cf. multiflora Benth.
Tillandsia cf. pyramidata Andre
Tillandsia complanata Benth.
Tillandsia sp.

BRUNELLIACEAE

Brunellia comocladifolia H. & B.

BURSERACEAE

Crepidospermum rhoifolium (Benth.) Triana & Planchon

Dacryodes cupularis Cuatrec. vel aff.

Dacryodes cf. kukaskana L.O.Williams

Dacryodes occidentalis Cuatrec.

Dacryodes peruviana (Loes.) Macbr.

Dacryodes sp.

Protium ecuadorensis Benoist

Protium fimbriatum Swart

Protium cf. macrocarpum Cuatrec.

Protium macrophyllum (H.B.K.) Engl.

Protium nodulosum Swart

Protium tenuifolium (Engl.) Engl.

Protium spp.

Trattinnickia peruviana Loes.

Trattinnickia rhoifolia Willd.

genus indet.

CACTACEAE

Epiphyllum phyllanthus (L.) Haw.

Epiphyllum phyllanthus (L.) Haw var. phyllanthus

Epiphyllum sp.

Hylocereus polyrhizus (Web.) Br.H.

Hylocereus sp.

Mediocactus megalanthus (Schum.) Britt. & Rose

genus indet.

CAMPANULACEAE

Centropogon lorentensis Wimmer

Centropogon solanifolius Benth.

Hippobroma longifolia (L.) G.Don

genus indet.

CANNACEAE

Canna cf. generalis

Canna indica L.

Canna jageriana

Canna sp.

genus indet.

CAPPARACEAE

Capparis magnifica Gilg ex Ule
Capparis sola Macbr.
 genus indet.

CAPRIFOLIACEAE

Sambucus cf. mexicana Presl.

CARICACEAE

Carica microcarpa Jacq. ssp. microcarpa
Carica monoica Desf.
Carica papaya L.
Carica sp.
Jacartia digitata (P. & E.) Solms-Laub.
Jacaratia spinosa (Aublet) A.DC.
 genus indet.

CARYOCARACEAE

Anthodiscus klugii
Anthodiscus peruvianus Baillon
Caryocar glabrum (Aublet) Pers.
Caryocar sp.

CARYOPHYLLACEAE

Drymaria sp.

CECROPIACEAE

Cecropia cf. ficifolia Warb. ex Snethlage
Cecropia membranacea Trécul
Cecropia sciadophylla Martius
Cecropia spp.
Coussapoa asperifolia Trécul ssp. magnolifolia [sic]
Coussapoa cinnamomea
Coussapoa ovalifolia Trécul
Coussapoa orthoneura Standley
Coussapoa trinervia Spruce ex Mildbr.
Coussapoa spp.
Pourouma aspera Trécul
Pourouma bicolor Martius [=P. quianensis]
Pourouma bicolor Martius ssp. bicolor [=P. quianensis]
Pourouma cecropiifolia Martius ex Miq.
Pourouma cf. chocoama
Pourouma quianensis Aublet [see P. bicolor]

USEFUL PLANTS OF AMAZONIAN ECUADOR - 196

Pourouma minor Benoist
Pourouma cf. velutina
Pourouma cf. venezuelensis Cuatrec.
Pourouma spp.
genus indet.

CELASTRACEAE

Maytenus ebenifolia Reisseck
Maytenus krukovii A.C.Smith
Maytenus spp.
Salacia ulei Loess. [cf.]

CHENOPODIACEAE

Chenopodium ambrosiodes L.

CHLORANTHACEAE

Hedyosmum glabratum H.B.K.
Hedyosmum racemosum
Hedyosmum sprucei
Hedyosmum strigosum

CHYRSOLBALANACEAE

Couepia chyrsoalyx (Poeppig & Endl.) Benth. ex Hook f.
Hirtella bicornis Martius & Zuccarini var. pubescens Ducke
Hirtella macrophylla Benth. ex Hook f.
Hirtella pilosissima Martius & Zucc.
Hirtella racemosa Lam. var. racemosa
Hirtella triandra Swartz ssp. triandra
Hirtella sp.
Licania apetala (E. Meyer) Fritsch
Licania durifolia Cuatrec.
Licania hypoleuca Benth.
Licania sp.

CLUSIACEAE

Calophyllum brasiliense Cambess.
Chyrsochlamys bracteolata Cuatr.
Chyrsochlamys macrophylla Pax
Chyrsochlamys membranacea Planchon & Trel.
Chyrsochlamys weberbauerii Engl.
Chyrsochlamys spp.
Clusia amazonica Planchon & Triana
Clusia mamillota Cuatrec.
Clusia spp.

USEFUL PLANTS OF AMAZONIAN ECUADOR - 197

Dystovomita paniculata (Donn.Smith) Hammel
Dystovomita spp.
Hypericum cf. mutilum L.
Marila pluricostata cf. Standl. & L. Williams
Oedematopus sp.
Quapoya peruviana (Poepig & Endl.) Kuntze
Rheedia acuminata (Ruiz & Pavon) Planchon & Triana
Rheedia edulis
Rheedia macrophylla (Martius) Planchon & Triana
Rheedia madruno Planchon & Triana
Rheedia spruceana Engl.
Rheedia spp.
Symphonia globulifera L.f.
Tovomita weddelliana Planchon & Triana
Tovomita spp.
Tovomitopsis membranacea (Planchon & Triana) D'Arcy
Tovomitopsis spp.
Vismia baccifera (L.) Triana & Planchon ssp. dealbata (Kunth)
Ewan
Vismia confertiflora Spruce ex Reichb.
Vismia macrophylla Kunth
Vismia cf. tomentosa Ruiz & Pavon
Vismia spp.
genus indet.

COMBRETACEAE

Combretum laxum Jacq.
Combretum rotundifolium Rich.
Combretum sp.
Terminalia amazonica (J.F.Gmel.) Exell
Terminalia guianensis Eichl.
Terminalia oblonga (Ruiz & Pavon) Steudel
Terminalia sp.

COMMELINIACEAE

Campelia zanonina (L.) H.B.K.
Commelina erecta L.
Commelina sp.
Dichorisandra sp.
Floscopa peruviana Hassk. ex C.B.Clarke
Geogenanthus ciliatus Brueckn.
Geogenanthus rhizianthus (Ule) Brueckn.
Geogenanthus sp.
Tripogandra serrulata (Vahl) Handlos

CONNARACEAE

Connarus fasciculatus (DC.) Planchon ssp. pachyneurus (Radlk.)
 Forerro
Connarus sp.
Rourea cuspidata
Rourea sp.

CONVOLVULACEAE

Ipomoea batatas (L.) Lam.
Ipomoea carnea Jacq. ssp. fistulosa (Mart. ex Choisy) D. Austin
 [=I. fistulosa]
Ipomoea fistulosa [see I. carnea ssp. fistulosa]
Ipomoea spp.
Merremia macrocalyx (R. & P.) O'Donnell
Merremia sp.

CORIARIACEAE

Coriaria ruscifolia L. ssp. microphylla (Poir.) L. Skog

COSTACEAE

Costus asplundii (Maas) Maas
Costus erythrocoryne K. Schum.
Costus laevis Ruiz & Pavón
Costus pulverulents Presl.
Costus scaber Ruiz & Pavón
Costus spp.
Dimerocostus strobilaceus Kuntze
Dimerocostus strobilaceus Kuntze ssp. strobilaceus
 genus indet.

CRASSULACEAE

Bryophyllum spp. [see Kalanchoe]
Kalanchoe pinnata (Lam.) Pers.

CUCURBITACEAE

Cayaponia glandulosa (Poeppig & Endlich.) Cogn.
Cayaponia ruizii Cogn.
Cayaponia sp.
Citrullus lanatus (Thunb.) Matsum. & Nakai
ucurbita sp.
Cyclanthera pedata (L.) Schrader
Fevillea cordifolia L.f.
Gurania spinulosa (Poeppig & Endl.) Cogn.

Gurania sp.
Lagenaria siceraria (Molina) Standley
Luffa aegyptiaca Mill.
Luffa sp.
Melothria pendula L.
Momordica charantia L.
 genus indet.

CYATHACEAE

Cyathea sp.
Sphaeropteris sp.
Trichipteris nigripes (C.Chr.) Barr.
 genus indet.

CYCLANTHACEAE

Asplundia alata Harling
Asplundia peruviana Harling [see A. alata]
Asplundia spp.
Carludovica palmata Ruiz & Pavón
Carludovica sp.
Cyclanthus bipartitus Poit.
Evodianthus funifer (Poit.) Lindm.
Thoracocarpus bissectus (Vell.) Harling
 genus indet.

CYPERACEAE

Cyperus articulatus L.
Cyperus diffusus
Cyperus prolixus H.B.K.
Cyperus spp.
Eleocharis elegans (Kunth) Roemer & Schultes
Eleocharis sp.
Fimbristylis dichotoma (L.) Vahl
Fimbristylis miliacea (L.) Vahl.
Fuirena sp.
Heliocharis sp. [see Eleocharis sp.]
Kyllingia sp. [see Cyperus sp.]
Rhynchospora blepharophora (Presl.) Pfeiffer
Rhynchospora spp.
Scleria mitis Berg.
Scleria spp.
 genus indet.

DAVALLIACEAE

Nephrolepis sp.

DENNSTAEDTIACEAE

Lindsaea sp.

DICHAPETALACEAE

Tapura acreana

Tapura amazonica Poeppig & Endl. var. amazonica

Tapura guianensis Aublet

Tapura peruviana Krause

Tapura peruviana K.Krause var. petioliflora Prance

genus indet.

DICTYONEMATACEAE

Dictyonema sp.

DILLENACEAE

Doliocarpus sp.

genus indet.

DIOSCORACEAE

Dioscorea cf. polygonoides Humb. & Bonpl. ex Willd.

Dioscorea samydea K.von Mart. ex Griseb.

Dioscorea trifida L.f.

Dioscorea sp.

DRYOPTERIDACEAE

Bulbitis lindigii

Cyclopeltis semicordata

ELAEOCARPACEAE

Sloanea fragrans Rusby

Sloanea grandiflora J.E.Smith

Sloanea robusta Uittien

Sloanea sp.

genus indet.

ERICACEAE

Cavendishia sp.
Macleania sp.
Rammisia paucifolia
Satyria panurensis (Benth.) Benth. & Hook.
Sphyrospermum buxifolium Poepp. & Endl.
Sphyrospermum sp. [cf.]
Themistoclesia sp.

EQUISETACEAE

Equisetum giganteum L.

ERYTHROXYLACEAE

Erythroxyllum coca Lam. var. coca
Erythroxyllum coca Lam. var. Ipadu Plowman
Erythroxyllum ulei O.E.Schulz
Erythroxyllum gracilipes Peyr.
Erythroxyllum macrophyllum Cav. var. macrophyllum
Erythroxyllum macrophyllum Cav. var. ecuadorensis Plowman
Erythroxyllum Ulei O.E. Schulz in Engl.
Erythroxyllum spp.

EUPHORBIACEAE

Acalypha cuneata Poeppig
Acalypha diversifolia Jacq.
Acalypha obovata Benth.
Acalypha cf. odorata
Acalypha spp.
Alchornea castaneifolia
Alchornea glandulosa Poeppig & Endl.
Alchornea latifolia Swartz
Alchornea triplinervia (Spreng) Mull.Arg.
Alchornea sp.
Aparisthium cordatum (Juss.) Baillon
Caryodendron amazonicum Ducke
Caryodendron orinocense Karsten
Caryodendron sp.
Chamaesyce hirta (L.) Millspaugh
Chamaesyce hyssopifolia (L.) Small
Croton lechleri Muell.Arg.
Croton mutisianus
Croton pungens Jacq.
Croton spp.
Drypetes amazonica Stey.
Euphorbia chamaesyce [see E. prostrata]
Euphorbia cotinifolia L.

Euphorbia heterophylla L. cf.
Euphorbia laurifolia
Euphorbia prostrata Ait.
Euphorbia spp.
Hevea brasiliensis (Willd. & Juss.) Muell.Arg.
Hevea guianensis Aublet
Hura crepitans L.
Hyeronima alchorneoides Fr.Alemão
Hyeronima andina Pax & Hoffm.
Hyeronima chocoensis Cuatrec.
Hyeronima laxiflora (Tul.) Muell.Arg.
Hyeronima macrocarpa
Hyeronima oblonga (Tul.)Muell.Arg.
Hyeronima sp.
Jatropha curcas L.
Jatropha gossypifolia L.
Jatropha podagrica Hook
Mabea cf. caudata Pax & Hoffmann
Mabea maynensis
Mabea spp.
Manihot brachiloba Muell.Arg.
Manihot esculenta Crantz
Manihot sp.
Margaritaria noblis (L.f.) Muell.Arg.
Nealchornea sp.
Pausandra sp.
Pausandra sp.
Pausandra trianae (Muell.Arg.) Baillon
Phyllanthus acuminatus Vahl
Phyllanthus anisolobus Muell.Arg.
Phyllanthus cf. brasiliensis (Aublet) Poir.
Phyllanthus piscatorum H.B.K.
Phyllanthus pseudoconami Muell.Arg.
Phyllanthus spp.
Piranhea trifoliata Baillon
Plukenetia volubilis L.
Richeria racemosa (Poeppig & Endl.) Pax & Hoffm.
Ricinus communis L.
Sapium cuatrecasassii
Sapium eglandulosum Ule
Sapium marmieri Huber
Sapium utile Preuss.
Sapium vernum
Sapium stylare
Sapium sp.
Tetrochidium andinum Muell.Arg.
Tetrochidium macrophyllum Muell.Arg.
Tetrochidium rubrivenium Poeppig
Tetrochidium sp.
 genus indet.

FABACEAE - CAESALAPINIOIDEAE

- Bauhinia arborea Wunderlin
Bauhinia tarapotensis Benth.
Bauhinia spp.
Brownea ariza Benth.
Brownea grandiceps Jacq.
Brownea macrophylla Linden ex Mast.
Brownea ucayalina (Huber) Ducke
Brownea cf. ucayalina (Huber) Ducke
Brownea spp.
Caesalpinia pulcherrima (L.) Sw.
Caesalpinia spp.
Cassia [see also Senna]
Cassia cowanii Irwin & Barneby var. Peruviana (Macbride) Irwin & Barneby
Cassia reticulata (Willd.) Irwin & Barneby
Dialium guianense (Aublet) Sandw. ex A.C. Smith
Dussia cf. tessmanii Harms
Hymenaea courbaril L.
Hymenaea oblongifolia Huber var. oblongifolia
Hymenaea oblongifolia Huber var. palustris (Ducke) Lee & Lagenheim
Hymenaea sp.
Macrolobium acaciifolium (Benth.) Benth.
Macrolobium ischnocalyx
Macrolobium cf. stenocladum Harms
Macrolobium unijugum (Poeppig & Endl.) R.S. Cowan
Macrolobium spp.
Schizolobium amazonicum Huber ex Ducke
Schizolobium parahybum (Vell.) Blake
Schizolobium spp.
Sclerolobium guianense Benth.
Sclerolobium spp.
Senna alata (L.) Roxb.
Senna bacillaris (L.f.) Irwin & Barneby
Senna cernua (Balbis) Irwin & Barneby
Senna fruticosa (Mill.) Irwin & Barneby
Senna grandis L.
Senna hirsuta (L.) var. hirta Irwin & Barneby
Senna macrocarpa (Kunth) Irwin & Barneby
Senna macrophylla (Kunth) Irwin & Barneby var. giantifolia (Britt. & Killip) Irwin & Barneby
Senna multijuga (L.C. Rich.) Irwin & Barneby var. multijuga
Senna reticulata (Willd.) Irwin & Barneby
Senna ruiziana (G. Don) Irwin & Barneby
Senna spinescens (Vog.) Irwin & Barneby
Senna trolliiflora Irwin & Barneby
Senna sp.
Tachigali sp.
 genus indet.

FABACEAE - MIMOSOIDEAE

- Abarema jupunba (Willdenow) Britton & Killip
Acacia glomerosa Benth.
Acacia multipinnata Ducke
Acacia spp.
Albizzia sp.
Calliandra angustifolia Spruce ex Benth.
Calliandra carbonaria Benth.
Cedrelinga catenaeformis Ducke
Entada polymorpha
Entada [cf.] polyphylla Benth.
Entada sp.
Entadopsis sp. [see Entada]
Enterlobium barnebianum Mesquita & da Silva
Enterlobium cyclocarpum (Jacq.) Griseb.
Enterlobium spp.
Inga acrocephala Steudel
Inga cf. brachybrachis Harms
Inga cf. ciliata Presl.
Inga cordatolata Ducke
Inga edulis Martius
Inga fastuosa (Jacq.) Willd.
Inga grandiflora Ducke
Inga marginata Willd.
Inga cf. marginata Willd.
Inga mathewsiana Benth.
Inga pezizifera [spelling?]
Inga pruriens Poeppig & Endl.
Inga punctata Willd.
Inga quaternata Poeppig & Endl.
Inga ruiziana G. Don
Inga spectabilis (Vahl) Willd.
Inga thibaudiana DC.
Inga spp.
Mimosa polydactyla Humb. & Bonpl. ex Willd.
Mimosa pudica L.
Mimosa rutescens Benth.
Mimosa spp.
Parkia auriculata
Parkia balslevii H.C. Hopkins
Parkia multijuga Benth.
Parkia nitida Miq.
Parkia velutina Benoist
Parkia spp.
Piptadenia flava (Spreng.) Benth.
Piptadenia cf. flava (Spreng.) Benth.
Piptadenia psilostachys
Piptadenia pteroclada Benth.
Pithecellobium auriculatum Benth.
Pithecellobium laetum (Poeppig & Endl.) Benth.
Pithecellobium latifolium (L.) Benth.
Pithecellobium latifolium (L.) Benth. ssp. latifolium
Pithecellobium longifolium (Humb. & Bonpl.) Standley

Pithecellobium macrophyllum Spruce ex Benth.
Pithecellobium cf. macrophyllum Spruce ex Benth.

Pithecellobium pedicillare (DC.) Benth.
Pithecellobium spp.
Stryphnodendron porcatum Neill & Occhioni
 genus indet.

FABACEAE - PAPILIONOIDEAE

Aeschynomene americana L.
Arachis hypoqaea L.
Cajanus bicolor DC.
Cajanus cajan (L.) Millsp. [see C. bicolor]
Crotalaria nitens HBK
Crotalaria sp.
entrolobium paraense Tulasane
Dalbergia sp.
Desmodium axillare (Sw.) DC.
Desmodium spp.
Dioclea malacocarpa Ducke
Dioclea ucayalina Harms
Dioclea spp.
Diploctropis purpurea
Dussia cf. discolor Benth.
Dussia tessmanii Harms
Erythrina amazonica Krukoff
Erythrina krukovii
Erythrina peruviana Krukoff
Erythrina poeppigiana (Walp.) O.F.Cook
Erythrina rubrinervia H.B.K.
Erythrina ulei Harms
Erythrina spp.
Lonchocarpus araripensis Bentham
Lonchocarpus nicou (Aubl.) DC.
Lonchocarpus nicou var. lanquidus (Aubl.) DC
Lonchocarpus nicou var. urucu (Aubl.) DC
Lonchocarpus cf. nicou (Aubl.) DC.
Lonchocarpus spp.
Machaerium sp.
Monopteryx uacu Spruce ex Benth.
Mucuna mutisiana
Mucuna spp.
Myroxylon balsamum (L.) Harms
Myroxylon peristera
Myroxylon sp.
Ormosia amazonica Ducke
Ormosia cf. oblongifolia
Ormosia stipularis
Pachyrrhizus anquilatus Rich ex DC.
Pachyrrhizus tuberosus (Lam.) Spreng.
Pachyrrhizus sp.
Phaseolus caracalla L. [see Vigna caracalla]

C

Phaseolus cf. vulgaris L.
Phaseolus sp.
Platymiscium pinnatum (Jacq.) Dugand
Platymiscium stipulare Benth.
Pterocarpus amazonum (Martius ex Benth.) Amshoff
Pterocarpus rohrri Vahl
Pterocarpus ulei Harms
Pterocarpus spp.

Pueraria [cf.] phaseoloides Benth.
Pueraria sp.
Rhynchosia sp.
Swartzia arborescens (Aublet) Pittier
Swartzia auriculatus Poeppig
Swartzia laevicarpa Amshoff
Swartzia schultessi Cowan
Swartzia simplex (Sw.) Sprengel
Swartzia simplex (Sw.) Sprengel var. simplex
Swartzia spp.
Tephrosia toxicaria (Sw.) Pers.
Tephrosia sinapou (Buchoz) A.Chev.
Vigna caracalla (L.) Verdcourt [=P. caracalla]

FLACOURTIACEAE

Banara guianensis Aublet
Carpotroche longifolia (Poeppig) Benth.
Carpotroche sp.
Casearia decandra Jacquin
Casearia fasciculata (Ruiz & Pavon) Sleumer
Casearia javitensis H.B.K.
Casearia macrophylla Vahl [see C. pitumba]
Casearia pitumba Sleumer [=C. macrophylla]
Casearia prunifolia H.B.K.
Casearia sylvestris Sw.
Casearia spp.
Laetia procera (Poeppig) Eichler
Lunania parviflora Spruce ex Benth.
Lunania sp.
Mayna amazonica (Mart. & Eichl.) J.F.MacBride
Mayna longifolia Poeppig & Endl. [see Carpotroche longifolia]
Mayna odorata Aublet
Mayna sauveolens (Karsten & Triana) Wartburg
Mayna sp.
Neosprucea grandiflora (Spruce ex Benth.) Sleumer
Neosprucea sp.
Ryania speciosa Vahl
Ryania sp.
Tetrathylacium macrophyllum Poeppig & Endl.
Tetrathylacium sp.
Xylosma benthamii (Tul.) Tr. & Pl. Xylosma sp.
genus indet.

GENTIANACEAE

Voyria sp.

GESNERIACEAE

Besleria aggregata (Martius) Hanst.

Besleria sp.

Codanthe spp.

Codonanthopsis dissimulata (H.E.Moore) Wiehler

Columnnea archidonae Cuatrec.

Columnnea ericae Mansf.

Columnnea spp.

Dalbergaria picta (Karsten) Wiehler

V: Vickers 72

Dalbergaria subracuta Wiehler

Dalbergaria tessmanii (Mansf.) Wiehler

Dalbergaria sp.

Drymonia coriacea (Oersted ex Hanst.) Wiehler

Drymonia pendula (Poeppig) Wiehler

Drymonia warszewicziana Hanst.

Drymonia sp.

Gloxinia perennis (L.) Fritsch

Kohleria spicata (H.B.K.) Oerst.

genus indet.

GLEICHENIACEAE

Dicranopteris cf. pectinata (Willd.) Presl.

HAEMODORACEAE

Xiphidium caeruleum Aublet

HELICONIACEAE

Heliconia hirsuta L.f.

Heliconia rostrata Ruiz & Pavón

Heliconia af. stricta Huber

Heliconia schumanniana Loes.

Heliconia stricta Huber cf.

Heliconia vellerigera Poeppig

Heliconia velutina L.Anderss.

Heliconia spp.

HERNANDIACEAE

Sparattanthelium glabrum Rusby

HIPPOCASTANACEAE

Billia colombiana Planchon & Lindley

HIPPOCRATEACEAE [or CELASTRACEAE?]

Salacia sp.
genus indet.

HUMIRIACEAE

Humiriastrum sp.

HYMENOPHYLLACEAE

Hymenophyllum sp.
Trichomanes membranaceum L.

ICACINACEAE

Calatola columbiana Sleumer
Calatola costaricensis Standley
Calatola venezuelana Pittier
Citronella incarum (MacBride) Howard
Dendrobanqia boliviana Rusby
Leretia cordata Vell.
genus indet.

IRIDACEAE

Eleuthrine bulbosa (Mill.) Urban
Sisyrinchium chilense

LACSITEMACEAE

Lacistema aggregatum (Berg.) Rusby
Lacistema nena Macbride
Lozania klugii (Mansf.) Mansf.
Lozania sp.

LAMIACEAE

Coleus sp.
Hyptis atrorubens Poit.
Hyptis capitata Jacq.
Hyptis mutabilis (A.Rich.) Briq.
Hyptis obtusifolia Presl. ex Benth.
Hyptis pectinata (L.) Poit.
Hyptis spp.
Melissa officinalis
Mentha sauveolens Ehrh.
Mentha verdis
Mentha sp.
Ocimum basilicum L.
Ocimum campechianum Willd. [=O. micranthum]
Ocimum micranthum Willd. [see O. campechianum]
Origanum vulgare L.
Ocimum spp.
Salvia sp.
Satureja cf. globosa
Scutellaria cf. agrestis St.Hil. ex Benth.
genus indet.

LAURACEAE

- Aniba hostmanniana (Nees) Mez
Aniba cf. puchury-minor (Martius) Mez
Aniba sp.
Beilschmiedia sulcata (Ruiz & Pavón) Kosterm.
Caryodaphnopsis sp. nov.
Caryodaphnopsis sp.
Cinnamomum zylanicum
Cinnamomum sp.
Endlicheria anomala Nees ex Meisner
Endlicheria krukovii (A.C. Smith) Kosterm.
Licaria canella (Ruiz & Pavón) Kosterm.
Licaria limbosa (R. & P.) Kosterm.
Nectandra caucana (Meissner) Mez
Nectandra cf. cinnamomoides Nees.
Nectandra cf. cissiflora Nees
ndra coeloclada Rohwer ined. Necta
Nectandra crassiloba Rohwer
Nectandra membranacea (Sw.) Griseb.
Nectandra obtusa
Nectandra reticulata (Ruiz & Pavón) Mez
Nectandra turbacensis (H.B.K.) Nees
Nectandra spp.
Ocotea caudata (Nees) Mez
Ocotea costulata (Nees) Mez
Ocotea floribunda (Swartz) Benth
Ocotea javitensis (Kunth) Pittier
Ocotea laxiflora (Meissner) Mez
Ocotea simulans C.K.Allen
Ocotea tessmannii O.C. Schmidt
Ocotea ucayalensis O.C. Schmidt
Ocotea venenosa Kosterm. & Pinkley
Ocotea spp.
Persea americana Mill.
Phoebe spp.
Rhodostemonodaphne kunthiana (Mez) Rohwer
genus indet.

LECYTHIDACEAE

- Couroupita quianensis Aublet
Eschweilera andina (Rusby) Macbr.
Eschweilera coriacea (A.DC.) Martius ex Berg
Eschweilera gigantea (R.Kunth) Macbr.
Eschweilera laevicarpa Mori
Eschweilera parvifolia Martius ex A.DC.
Eschweilera spp.
Grias foetidissima Dugand [see G. neuberthii]
Grias neuberthii Macbr. [= G. foetidissima]
Grias peruviana Miers
Grias spp..
Gustavia longifolia Poeppig ex Berg

Gustavia hexapetala Aublet Smith
Gustavia macarenensis Philipson
Gustavia macarenensis Philipson ssp. macarenensis
Gustavia spp.
 genus indet.

LILIACEAE

Allium cepa L.
Allium sp.
Eucharis amazonica Lindley ex Planchon
Eucharis formosa Meerow
Eucharis grandiflora Planchon & Linden [see U. grandiflora]
Hippeastrum puniceum (Lam.) Urban
Hippeastrum sp.
Urceolina grandiflora (Planch. & Linden) Traub. [=E. grandiflora]
Urceolina sp.

LOASACEAE

Sclerothrix fasciculata Presl.

LOGANIACEAE

Potalia amara Aublet
Sanango racemosum (Ruiz & Pavon) Barringer
Spigelia anthelmia L.
Strychnos amazonica Krukoff
Strychnos brachyata [spelling?] Ruiz & Pavon
Strychnos darienensis Seemann
Strychnos erichsonii R.Schomb.
Strychnos guianensis (Aubl.) Mart.
Strychnos javariensis Krukoff
Strychnos jobertiana Baillon
Strychnos peckii B.L. Robinson
Strychnos cf. peckii B.L. Robinson
Strychnos subcordata Spruce ex Benth.
Strychnos tomentosa Benth.
Strychnos toxifera R.Schomb. ex Benth.
Strychnos spp.
 genus indet.

LORANTHACEAE

Aetanthus dichotomus (Ruiz & Pavón) Kuijt
Aetanthus nodosus (Desr.) Engler [see A. dichotomus]
Gaiadendron punctatum (Ruiz & Pavón) G. Don
Oryctanthus alveolatus (H.B.K.) Kuijt
Oryctanthus florulentus (Rich.) van Tiegh.
Oryctanthus spicatus (Jacq.) Eichler

Phoradendron piperoides (H.B.K.) Trel.
Phthirusa pyrifolia (H.B.K.) Eichler
Phthirusa sp.
Phrygilanthus eugenioides
Psittacanthus cucullaris (Lam.) Blume
Psittacanthus cupulifer [see P. cucullaris]
Struthanthus orbicularis (HBK) Blume
Struthanthus sp.

genus indet.

LYTHRACEAE

Adenaria floribunda
Cuphea sp.

MAGNOLIACEAE

Talauma spp.

MALPIGHIACEAE

Banisteriopsis caapi (Spruce ex Griseb.) Morton
Banisteriopsis cf. caapi
Banisteriopsis cabrerana Cuatr. see Diploteris cabrerana
 (Cuatrec.) B.Gates
Banisteriopsis longialata (Niedenzu) B.Gates
Banisteriopsis muricata (Cav.) Cuatrec.
Banisteriopsis rusbyana (Niedenzu) Morton [see B. longialata]
Banisteriopsis spp.
Brunchosia argenta (Jacq.) DC.
Brunchosia hookeriana Juss.
Byrsonima japurensis Juss.
Byrsonima putumayensis Cuatrec.
Diploteris cabrerana (Cuatrec.) B.Gates
Hiraea sp. nov.
Stigmaphyllon sp.
 genus indet.

MALVACEAE

Abelmoschus moschatus Medic.
Althaea officinalis L.
Gossypium barbadense L.
Gossypium sp.
Hibiscus abelmoschus L. [see A. moschatus]
Hibiscus rosa-sinensis L.
 cf. Hibiscus sp.
Malachra capitata
Malachra fasciata Jacq.

Malachra ruderalis Gürke
Malvaviscus penduliflorus DC.
Pavonia fruticosa (Miller) Fawcett & Rendle
Pavonia sp.
Sida acuta Burm.
Sida glomerata Cav.
Sida scandis
Sida poeppigiana (Schumann) Fyxr. [inedit]
Sida sp.
 genus indet.

MARANTACEAE

Calathea allouia (Aublet) Lindley
Calathea altissima (Poeppig & Endl.) Koernicke
Calathea inocephala (O.Kuntze) Kennedy & Nicoloson
Calathea majestica (Linden) Kennedy
Calathea marantina (Willdenow ex Koernicke) Koch
Calathea cf. ornata (Linden) Koernicke
Calathea plurispicata Kennedy
Calathea roseopicta (Linden) Regel
Calathea utilis Kennedy
Calathea spp.
Ischnosiphon cerotus Loes.
Ischnosiphon obliquus (Rudge) Koern.
Ischnosiphon puberulus Loes.
Ischnosiphon sp.
Maranta ruiziana Koernicke
Monotagma laxum (Poeppig & Endlicher) K.Schum.
Monotagma secundum (Peters) Schum.
Myrosma stromanthoides Macbr. [see S. stromanthoides]
Monotagma cf. vaginatum Hagberg
Stromanthe stromanthoides (MacBride) L.Andersson
 [= M. stromanthoides]
 genus indet.

MARCGRAVIACEAE

Marcgravia courarea
Marcgravia macrophylla
Marcgravia subcaudata
Marcgravia spp.
Marcgravia vel Souroubea sp.
Souroubea sp.
 genus indet.

MELASTOMATACEAE

Arthrostemma ciliatum Ruiz and Pavón
Bellucia axinantha Triana
Bellucia pentamera Naudin

Bellucia weberbaueri Cogn. [see FE note re. B. pentamera]
Blakea cf. ciliata Markgrag
Blakea glandulosa Gleason
Blakea rosea (Ruis & Pavon) D.Don.
Clidemia allardii Wurdack
Clidemia capitellata Bonpl. D.Don
Clidemia dimorphica Macbride
Clidemia heterophylla (Desr.) Gleason
Clidemia hirta (L.) D.Don
Clidemia septuplinervia Cogn.
Clidemia sprucei Gleason
Clidemia sp.
Henriettella lawrancei Gleason
Henriettella sp.
Leandra caquetensis Gleason
Leandra sp.
Loreya collatata Wurdack [see L. spruceanum]
Loreya subandina Wurdack
Loreya spruceana Benth. ex Triana [=L. collatata]
Loreya sp.
Maieta guianensis Aublet
Meriana ampla Wurdack
Miconia affinis DC.
Miconia amazonica Triana
Miconia aspergillaris (Bonpl.) Naud.
Miconia astroplocama Donn.Smith
Miconia bubalina (D.Don) Naud.
Miconia calvescens DC.
Miconia cazaletii Wurdack
Miconia decurrens Cogn.
Miconia elata (Sw.) DC.
Miconia grandifolia Ule
Miconia longifolia (Aublet) DC.
Miconia lugonis Wurdack
Miconia matthaei Naudin
Miconia napoana Wurdack
Miconia nervosa (Smith) Triana
Miconia paleacea Cogn.
Miconia pilgeriana Ule
Miconia procumbens (Gleason) Wurdack
Miconia punctata (Desr.) D.Don ex DC.
Miconia serrulata (DC.) Naudin
Miconia subspicata Wurdack
Miconia trinervia (Sw.) D.Don ex Loud.
Miconia venulosa Wurdack
Miconia zubenetana MacBride
Miconia sp.
Monolena primulaeflora Hook.f.
Mouriri sp.
Ossasea sp.
Tessmannianthus heterostemon Markgraf
Tibouchina ochypetela (Ruis & Pavón) Baill.
Tibouchina sp.
Tococa guianensis Aublet

Tococa parviflora Spruce ex Triana
Triolena hirsuta (Benth.) Triana
Triolena pluviialis (Wurdack) Wurdack
Triolena spp.
 genus indet.

MELIACEAE

Cabralea canjerana (Vell.) Martius
Cabralea canjerana (Vell.) Martius ssp. canjerana
Carapa sp.
Cedrela carinata Ducke
Cedrela fissilis Vell.
Cedrela montana
Cedrela odorata L.
Cedrela sp.
Guarea carinata Ducke
Guarea cinnamomea Harms
Guarea glabra Vahl
Guarea gomma Pulle
Guarea grandifolia A.DC.
Guarea guentheri Harms
Guarea guidonia (L.) Sleumer
Guarea kunthiana A.Juss.
Guarea macrophylla Vahl var. pendulispica (C.DC.) Pennington
Guarea macrophylla Vahl ssp. pachycar (C.DC.) Pennington
Guarea pterorhachis Harms
Guarea pubescens (L.C.Rich.) A.Juss.
Guarea purusana C.DC.
Guarea silvatica C.DC.
Guarea spp.
Melia azederach L.
Ruagea insignis (C.DC in J.D. Smith) Pennington
Swietenia macrophylla G.King
Trichilia maynasiana C.DC.
Trichilia pallida Sw.
Trichilia pleeana (A. Juss.) C.DC.
Trichilia quadrijugata Kunth ssp. quadrijugata
Trichilia rubra C.DC.
Trichilia septentrionalis C.DC.
Trichilia solitudinis Harms
Trichilia spp.
 genus indet.

MENDONCIACEAE

Mendoncia sp.
 K:

MENISPERMACEAE

- Abuta grandifolia (Martius) Sandw.
Abuta rufescens Aublet
Abuta cf. rufescens Aublet
Abuta splendida Krukoff & Moldenke
Abuta spp.
Anomospermum chloranthum Diels ssp. confusum Barneby & Krukoff
Chondrodendron iguitanum Diels [see Chondrodendron tecunarum]
Chondrodendron tecunarum Barneby & Krukoff
Chondrodendron tomentosum Ruiz & Pavón [see Curarea tomentosa]
Chondrodendron toxicoferum (Wedd.) Krukoff & Moldenke
 [see Curarea toxicofera]
Chondrodendron spp.
Cissampelos pareira L.
Cissampelos sp.
Cocculus grandifolius (Martius) Sandw. [see Abuta grandifolia]
Curarea tomentosa
Curarea toxifera Barneby & Krukoff
Curarea tecunarum Barneby & Krukoff [see Ch. tecunarum]
Odontocarya spp.
Sciadotenia toxifera Krukoff & Smith
 genus indet.

MONIMIACEAE

- Mollinedia spp.
Siparuna cervicornis Perk.
Siparuna eriocalyx (Tul.) A.DC.
Siparuna spp.
 genus indet.

MORACEAE

- Artocarpus altilis (S. Parkinson) Fosberg
Artocarpus sp.
Batocarpus amazonicus
Batocarpus orinocensis Karsten
Brosimum alicastrum Sw. ssp. bolivavense (Pittier) C.C.Berg
Brosimum lactescens (S. Moore) C.C.Berg
Brosimum utile (H.B.K.) Pittier
Brosimum sp.
Castilla ulei Warburg
Chlorophora tinctoria (L.) Guad.
Chlorophora tinctoria (L.) Guad. ssp. tinctoria
Clarisia biflora Ruiz & Pavon
Clarisia racemosa Ruiz & Pavon
Clarisia sp.
Ficus costaricana
Ficus cuatrecasana Dugand
Ficus erratica Standley
Ficus eximia Schott

Ficus glabrata H.B.K.
Ficus gomelleira Kunth & Bouche
Ficus guianensis Desv. ex Harms
Ficus insipida Willd.
Ficus macrasyce
Ficus martinii
Ficus cf. mathewsii (Miq.) Miq.
Ficus maxima P.Miller
Ficus pandifolia
Ficus paraensis (Miq.) Miq.
Ficus cf. tonduzii Standley
Ficus trianae Dugand
Ficus trigona Linnaeus f.
Ficus velutina
Ficus yopoensis Desv.
Ficus spp.
Heliocostylis tomentosa (Poeppig & Endl.) MacBride
Heliocostylis scabra (MacBride) C.C. Berg
Helicostylis sp.
Maclura tinctoria (L.) Steud. ssp. tinctoria
Maquira calophylla (Poeppig & Endl.) C.C.Berg
Maquira sp.
Naucleopsis amara Ducke
Naucleopsis concinna (Standley) C.C.Berg
Naucleopsis krukovii (Standley) C.C.Berg
Naucleopsis sp.
Olmedia aspera Ruiz & Pavón
Perebea guianensis Aublet
Perebea guianensis Aubl. ssp. castilloides (Pitt.) Berg
Perebea tessmannii Mildbr.
Perebea xanthochyma Karsten
Poulsenia armata (Miq.) Standley
Poulsenia sp.
Pseudolmedia laevigata Trécul
Pseudolmedia laevis (Ruiz & Pavón) Macbr.
Pseudolmedia macrophylla Trécul
Pseudolmedia rigida (Klotzsch & Karsten) Cuatrec.
Pseudolmedia sp.
Sorocea hirtella Mildbr.
Sorocea muriculata Miq. ssp. muriculata
Sorocea sarcocarpa
Trophis racemosa (L.) Urban
 genus indet.

MUSACEAE

Musa acuminata Colla
Musa spp.
Musa x paradisiaca L.
 genus indet.

MYRICACEAE (elevation?)

Myrica pubescens

H3:

MYRISTICACEAE

Compsoeura sprucei (A.DC.) Warb.Compsoeura spp.Dialyanthera sp. [see Otoba sp.]Iryanthera elliptica DuckeIryanthera juruensis Warb.Iryanthera paraensis HuberIryanthera longiflora DuckeIryanthera macrophylla (Benth.) Warb.Iryanthera paraensis HuberIryanthera ulei Warb.Iryanthera sp.Osteophloem platyspermum (A.DC.) Warb.Osteophloem suicatum LittleOtoba parvifolia (Markgraf) A.GentryOtoba sp.Virola albidiflora DuckeVirola calophylla Warb.Virola carinataVirola elongata (Spruce ex Benth.) Warb.Virola flexuosa A.C.SmithVirola multinervia DuckeVirola peruviana (A.DC.) Warb.Virola sebifera AubletVirola surinamensis (Rol.) Warb.Virola spp.

genus indet.

MYRSINACEAE

Ardisia guianensis (Aublet) MezArdisia sp.Cybianthus sp.Stylogyne spp.

genus indet.

MYRTACEAE

Calypttranthes cf. longifolia Berg.Calypttranthes macrophylla Berg.Calypttranthes maxima McVaughCalypttranthes plicata McVaughCalypttranthes sp.cf. Calypttranthes sp.Campomanesia lineatofilia Ruiz & Pavón

Eugenia biflora (L.) DC.
Eugenia florida DC.
Eugenia jambos L.
Eugenia cf. mirtomimeta Diels
Eugenia stipitata McVaugh
Eugenia sp.
Eugenia sp.
 cf. Myrcia sp.
Myrciaria floribunda (Willd.) Berg.
Myrciaria sp.
Psidium acutangulum DC.
Psidium quajava L.
Psidium pyriferum
Psidium sp.
 genus indet.

NYCTAGINACEAE

Mirabilis sp.
Neea divaricata Poeppig & Endl.
Neea cf. divaricata Poeppig & Endl.
Neea floribunda Poeppig & Endl.
Neea cf. floribunda Poeppig & Endl.
Neea hirsuta (Poeppig & Endl.) Schum.
Neea laxa Poeppig & Endl.
Neea leterirens
Neea macrophylla Poeppig & Endl.
Neea parviflora Poeppig & Endl.
Neea virens Poeppig ex Heimerl
Neea spruceana Heimerl
Neea spp.
 genus indet.

OCHNACEAE

Cespedesia macrophylla Seemann
Cespedesia spathulata (Ruiz & Pavón) Planchon
Cespedezia sp.
Ouratea cf. williamsii Macbr.
Ouratea sp.
Sauvagesia erecta L.

OLACACEAE

Heisteria acuminata (Humb. & Bonpl.) Engl.
Heisteria nitida Spruce ex Engl.
Heisteria spruceana Engl.
Heisteria sp.
Heisteria sp.
Minguartia guianensis Aublet
Minguartia punctata

genus indet.

ONAGRACAE

Ludwigia decurrens Walt.
Ludwigia hyssopifolia (G. Don) Exell
Ludwigia octovalis (Jacq.) Raven [see L. decurrens]
Ludwigia spp.

ORCHIDACEAE

Catasetum sp.
Dichaea muricata (Sw.) Lindl.
Elleanthus spp.
Encyclia demula (Richb.) Dressler
Epidendrum rigidum Jacq.
Epidendrum sp.
Habenaria monorrhiza (Sw.) Richb. f.
Habenaria sp.
Lepanthes sp.
Masdevallia bicolor
Masdevallia diversifolia
Maxillaria conferta (Griseb.) Leon ex C. Schw.
Maxillaria rufescens Lindl.
Oncidium pusillum (L.) Reichb. f.
Oncidium sp.
Phragmipedium sp.
Pleurothallis canaligera
Pleurothallis cernua
Pleurothallis galeata
Pleurothallis nephroplossa
Pleurothallis ramificans
Pleurothallis scansor
Pleurothallis schizopogon
Pleurothallis simplicianalis
Pleurothallis sp.
Schomburgkia crista Lindl.
Selenipedium sp.
Stelis elongata
Stelis purpurea
Stelis pusilla
Stelis scansor
Stelis sp.
Vanilla sp.
 genus indet.

OXALIDACEAE

Biophytum sp.
Oxalis sp.

PASSIFLORACEAE

Passiflora alata Dryander
Passiflora edulis Sims
Passiflora foetida L.
Passiflora quadrangularis L.
Passiflora cf. riparia Mart. ex Mast. in Mast.
Passiflora serratodigitata L.
Passiflora vespertilio L.
Passiflora vitifolia H.B.K.
Passiflora sp.
 genus indet.

PHYTOLACCACEAE

Petiveria alliacea L.
Phytolacca bogotensis
Phytolacca rivnoides Kunth & Bouche
Phytolacca spp.
 genus indet.

PIPERACEAE

Lepianthes sp. [see Piper]
Peperomia josei Yunck
Peperomia quaesita Trel.
Peperomia sp.
Piper arboreum
Piper aduncum L.
Piper aequale Vahl
Piper albertsmithii Trel. & Yuncker
Piper amazonicum (Miq.) C. DC. [see P. coruscans]
Piper aquadulcense Trel. & Yuncker
Piper angustifolia Ruiz and Pavón
Piper augustum Rudge
Piper bellidifolium Yuncker
Piper conojoense Trel. & Yuncker [see P. leticianum]
Piper coruscans H.B.K. [= P. amazonicum]
Piper crassinervium H.B.K.
Piper quianense (Klotzsch) C.DC.
Piper hispidum Sw.
Piper leticianum C.DC. [= P. conojoense]
Piper macerispicum Trel. & Yuncker
Piper marsupiatum Trel. & Yuncker
Piper maxonii C.DC.
Piper nudilimbium C.DC.
Piper obliquum Ruiz & Pavón
Piper obtusilimbium C.DC.
Piper reticulatum L.
Piper scutilimbium C.DC.

Piper tuberculatum Jacq.
Piper umbriense Trel. & Yuncker
Piper sp.
Pothomorphe peltata (L.) Miq.
Pothomorphe umbellata (L.) Miq.
Pothomorphe sp.
 genus indet.

PLANTAGINACEAE

Plantago major L.

POACEAE

Arundo donax L.
Axonopus scoparius (Flugge) Hitchc.
Bambusa subgenus Padua
Bambusa guada
Bambusa vulgaris Schrad. ex Wendl. var. striata (Lindley) Gamble
Bambusa sp.
Chusquea sp.
Coix lacyrma-jobi L.
Cymbopogon citratus (DC.) Stapf.
Cymbopogon sp.
Eleusine indica (L.) Gaertn.
Guadua sp. [see Bambusa sp.]
Gynerium sagittatum (Aublet) Beauv.
Lasiacis ligulata Hitchc. & Chase
Lasiacis sorghoidea (Desv.) Hitchc. & Chase
Olyra latifolia L.
Orthoclada laxa (L.Rich) Beauv.
Oryza sativa L.
Panicum pilosum Sw.
Panicum polygonatum Schrader
Pariana aurita Swallen
Pariana spp.
Paspalum conjugatum Berg.
Paspalum virgatum L.
Pharus latifolius L.
Pharus sp.
Saccharum officinarum L.
Setaria vulpiseta (Lam.) Roemer & Schultes
Setaria sp.
Zea mays L.
 genus indet.

PODOCARPACEAE

Podocarpus montanus [elevation]
Podocarpus oleifolius
Podocarpus rospigliosii Pilger

POLYGALACEAE

Monnina salicifloia [elevation?]
Polygala paniculata L.
Polygala sp.

POLYGONACEAE

Coccoloba densifrons Martius ex Meissner
Coccoloba latifolia Lehm.
Coccoloba mollis Casar.
Coccoloba sp.
Polygonum acuminatum
Rumex sp.
Triplaris americana L.
Triplaris cf. cumingiana
Triplaris dugandii Brandbyge
Triplaris inaequalis Dugand ex Brandbyge
Triplaris martii
Triplaris poeppigiana Wedd. [see T. dugandii]
Triplaris schomburgkiana Benth.
Triplaris surinamensis Cham.
Triplaris sp.
 genus indet.

POLYPODIACEAE

Campyloneuron sp.
Pleopeltis percussa (Chr.) Hook & Grev.
Polypodium angustifolium
Polypodium decumanum
Polypodium percussum Cav.
Polypodium sp.
 genus indet.

POLYPORACEAE

Ganoderma sp.

PONTEDERIACEAE

Heteranthera reniformis Ruiz & Pavón
Pontederia diversifolia
Pontederia sp.
 genus indet.

PORTULACACEAE

Portulaca grandiflora Hook.
Portulaca oleracea L.
Portulaca pilosa L.
Portulaca sp.
 genus indet.

PROTEACEAE

Roupala sp.

QUIINACEAE

Quiina sp.

RANUNCULACEAE

Ranunculus sp.

RHAMNACEAE

Colubrina sp.
Gauania sp.
Zizyphus cinnamomum Triane & Planch.
 genus indet.

ROSACEAE

Hesperomeles glabrata [elevation?]
Margyricarpus cetosus R. & P.
Prunus vana Macbr.
Rubus sp.

RUBIACEAE

Alibertia edulis (L.C.Rich.) A.Rich
Alseis peruviana Standley
Borojoa sobilis (Ducke Cuatrec.
Borojoa sp.
Borreria laevis (Lam.) Griseb.
Borreria sp.
Calycophyllum acreanum Ducke
Calycophyllum obovatum Ducke
Calycophyllum spruceanum (Benth.) Hook.f. ex Schum.
Calycophyllum sp.
Capirona decorticans Spruce
Cephaelis tomentosa (Aubl.) Vahl

Cephaelis williamsii Standley
Cephaelis sp.
Chimarrhis glabriflora Ducke
Chimarrhis hookeri Schum.
Chimarrhis sp.
Chomelia tenuiflora Benth.
Cinchona sp. [cf.]
cilianthes cf.
Coffea arabica L.
Coffea canephora Pierre
Coussarea brevicaulis Krause
Coussarea dulcifolia Dwyer
Coussarea sp.
Duroia duckei Huber
Duroia hirsuta (Poeppig & Endl.) K.Schum.
Duroia spp.
Elaeagia sp.
Faramea axillaris Standley
Faramea exemplaris Standley
Faramea miconioides Standl.
Faramea quinqueflora Poeppig & Endl.
Faramea spp.
Genipa americana L.
Genipa curviflora Dwyer
Genipa spruceana Steyermark
Geophila cordifolia Miq.
Geophila herbacea (Jacq.) K.Schum.
Geophila repens (L.) I.M. Johnston
Geophila spruceana
Geophila sp.
Gonzalagunia cornifolia (H.B.K.) Standley
Hamelia axilliaris Sw.
Hamelia patens Jacq.
Hoffmannia sp.
Isertia sp.
Landbergia sp.
Manettia divaricata Wernham
Manettia glandulosa Poeppig & Endl.
Pallasia standleyana Klotzsch
Palicourea spp.
Pentagonia macrophylla Benth.
Pentagonia parvifolia Steyermark
Pentagonia spathicalyx K.Schum.
Pentagonia sprucei Standley
Pentagonia williamsii Standley
Pentagonia spp.
Posoqueria latifolia (Rudge) Roemer & Schultes
Posoqueria sp.
Psychotria carthaginensis Jacq.
Psychotria flaviflora (Krause) Standley
Psychotria franquevilleana Muell.Arg.
Psychotria micrantha H.B.K.
Psychotria cf. polyphlebia
Psychotria racemosa (Aubl.) Rausch.

Psychotria remota Benth.
Psychotria stenostachya Standley
Psychotria viridis Ruiz & Pavón
Psychotria sp.
Remijia asperula Standley
Rudgea [cf.] amazonica Muell.
Rudgea spp.
Sickingia [see Simira]
Simira cordifolia (Hook.f.) Steyermark
Simira rubescens (Benth.) Bremek. ex Steyermark
Simira sp.
Tocoyena sp.
Uncaria spp.
Warscewiczia coccinea (Vahl) Klotzsch
Warscewiczia schwackei Schum.
Warscewiczia sp.
Wittmackanthus standleyanus Kuntze
 genus indet.

RUTACEAE

Amyris macrocarpa R.Gereau (sp. no. ined.)
Citrus aurantifolia (Christm.) Swingle
Citrus aurantium L.
Citrus limon (L.) Burm.f.
Citrus x paradisi Macfad.
Citrus reticulata Blanco
Citrus sinensis (L.) Osbeck
Citrus sp.
Zanthoxylum caribaeum Lam.
Zanthoxylum culantrilo Kunth
Zanthoxylum grandifolium Tul.
Zanthoxylum cf. juniperinum P. & E.
Zanthoxylum procerum Donn.Smith
Zanthoxylum vel. aff. riedelianum Engl.
Zanthoxylum tachuelo Little
Zanthoxylum spp.

SABIACEAE

Melisoma herbertii Rolfe
Melisoma sp.
Ophiocaryon heterophyllum (Benth.) Urban
Ophiocaryon sp.
Sabicea villosa Willd. ex R. & S.

SAPINDACEAE

Allophyllus floribundus (Poeppig & Endl.) Radlk.
Allophyllus pilosus (MacBride) A.Gentry
Allophyllus peruvianus Radlk.
Allophyllus pilosus (MacBride) A.Gentry
Allophyllus punctatus (Poeppig & Endl.) Radlk.
Allophyllus scrobiculatus (Ruiz & Pavón) Radlk.
Allophyllus sp.
Cardiospermum halicacabum L.
Cardiospermum sp.
Cupania americana
Cupania cinera Poeppig & Endl.
Cupania sp.
Paullinia alata (Ruiz & Pavón) G.Don ssp. loretana Macbr.
Paullinia bracteosa Radlk.
Paullinia yoco Schultes & Killip
Paullinia sp.
Serjania inflata Poeppig & Endl.
Serjania sp.
Serjania sp.
Talisia cf. acutifolia Radlk.
Talisia sp.
 genus indet.

SAPOTACEAE

Chrysophyllum argenteum Jacq. ssp. auratum Jacq.
Chrysophyllum amazonicum Pennington
Chrysophyllum aureum cf.
Chrysophyllum caimito Griseb. ex Pierre
Chrysophyllum manaosense (Aubreville) Pennington
Chrysophyllum peruvianum sp. nov. Pennington
Chrysophyllum sanguinolentum (Pierr) Boeh.
Chrysophyllum sect. Prieurella
Chrysophyllum venezuelanense (Pierre) Pennington
Manilkara bidentata (A.DC.) Chev.
Micropholis egensis (A.DC.) Pierre
Micropholis melinoniana Pierre
Micropholis venulosa (Martius & Eichl.) Pierre
Pouteria caimito (Ruiz & Pavon) Radlk.
Pouteria cuspidata (A.DC) Baehni ssp. robusta (Martius & Eichler)
 Pennington
Pouteria durlandii (Standley) Baehni
Pouteria dolichophylla Pennington
Pouteria glomerata (Miq.) Radlk.
Pouteria hispida Eyma
Pouteria multiflora (A.DC.) Eyma
Pouteria sclerocarpa (Pittier) Cronquist
Pouteria torta (Martius) Radlk. ssp. tuberculata Pennington
Pouteria sp.
 genus indet.

SCHIZACEAE

Lygodium venustum

SCROPHULARIACEAE

Alonsoa meridionalis (L.f.) Kuntz
Bacopa stricta (Schrader) Edwall
Scoparia dulcis L.
 genus indet.

SELLAGINELLACEAE

Selaginella exaltata (Kze.) Spring
Selaginella mortoniana Crabbe & Jermy
Selaginella speciosa
Selaginella sp.

SIMAROUBACEAE

Picramnia martiniana Macbr.
Picramnia sellowii Planchon ex Hook ssp. spruceana (Engler) Daly
Picramnia spruceana Engl. see P. sellowii
Picramnia sp.
Simarouba amara Aublet
 genus indet.

SMILACACEAE

Smilax spp.

SOLANACEAE

Acnistus arborescens (L.) Schlect.
Browallia americana L.
Brugmansia arborea (L.) Lagerheim
Brugmansia x insignis (Barb.Rodr.) Lockwood ex Davis
Brugsmania sanguinea (Ruiz & Pavon) D.Don
Brugsmania suaveolens (H. & B. ex Willd.) Brecht. & Presl
Brugmansia sp.
Brunfelsia chiricaspi Plowman
Brunfelsia grandiflora D.Don. ssp. grandiflora
Brunfelsia grandiflora D.Don. ssp. schultesii Plowman
Brunfelsia cf. grandiflora D.Don
Brunfelsia sp.
Capsicum annum L.
Capsicum chinense Jacq.
Capsicum frutescens L.
Capsicum sp.

Cestrum racemosum Ruiz & Pavon
Cestrum silvaticum Francey
Cestrum spp.
Cyphomandra cf. allophylla
Cyphomandra crassifolia (Ortega) Kuntze
Cyphomandra endopogon Bitter
Cyphomandra endopogon Bitter var. parviflora Bohs
Cyphomandra hartwegii (Miers) Walp. var. hartwegii
Cyphomandra sp.
Cyphomandra sp.
Datura insignis (Barb.Rodr.) Lockwood ex Davis [see B.x insignis]
Datura stramonium L.
 cf. Hebecladus sp.
Jaltomata procumbens (Cav.) J.L. Gentry
Juanulloa ochracea Cuatrec.
Lycianthes cf. amatitlanensis (Coulter & Donn.Smith) Bitter
Lycianthes cf. cyathocalyx (Van Heurk & Muell.Arg) Bitter
Lycianthes sp.
Lycopersicon esculentum Mill.
Lycopersicum sp.
Markea sp.
Markea vel Juanullos sp.
Nicotiana tabacum L.
Nicotiana sp.
Physalis anquilata L.
Physalis cf. gracilis
Physalis peruviana L.
Physalis pubescens L.
Physalis pubescens L. var. pubescens
Physalis spp.
Solanum americanum Mill.
Solanum appressum Roe
Solanum candidum Lindl.
Solanum diffusum Ruiz & Pavón
Solanum georgicum R.E.Schultes
Solanum hirsutissimum Standley
Solanum cf. hypermegethes Werdelin
Solanum leptopodum Van Heurck & Muell.Arg.
Solanum lycopersicum L.
Solanum mammosum L.
Solanum pectinatum Dunal
Solanum quitoenses Lam.
Solanum sessile Ruiz & Pavon
Solanum sessiliflorum Dunal
Solanum stramaniifolium (Jacq.) var. inerme (Dunal) Whalen
Solanum supranitidum Bitter
Solanum tequilense A.Gray [see S. candidum]
Solanum tuberosum L.
Solanum sp.
Witheringia solanacea L'Her.
Witheringia sp.
 genus indet.

STAPHYLEACEAE

Huerteia glandulosa Ruiz & Pavón
Huerteia putumayensis Cuatrec.

STERCULIACEAE

Guazuma crinata Martius
Guazuma sp.
Herrania balaensis Preuss
Herrania cuatrecasana Garcia Barriga
Herrania dugandii Garcia Barriga
Herrania mariaae (Martius) Decaisne ex Goudot
Herrania nitida (Poeppig & Endl.) Schultes
Herrania sp.
Sterculia apetala (Jacq.) Karsten
Sterculia colombiana Sprague
Sterculia dieguensis [spelling]
Sterculia excelsa Martius
Sterculia pilosa Ducke
Sterculia pruriens (Aublet) Schum.
Sterculia rugosa Rob. Brown
Sterculia tessmannii Mildbraed
Sterculia spp.
Theobroma bicolor Humb. & Bonpl.
Theobroma cacao L.
Theobroma speciosum Willd. ex Sprengel
Theobroma subincanum Mart.
Theobroma sp.
Theobroma subincana Martius
genus indet.

STYRACACEAE

Styrax sp.
Styrax tessmannii Perkins

THEOPHRASTACEAE

Clavija hookeri A. DC. [see C. weberbauerii]
Clavija membranacea Mez
Clavija procera Stahl (sp. nov. ined.)
Clavija weberbaueri Mez [= C. hookeri]
Clavija sp.
genus indet.

THELYPTERIDACEAE

Thelypteris cf. berroi (C. Chr.) Reed
Thelypteris sp.

THYMELAEACEAE

Schoenobilus peruvianus Standley

TILIACEAE

Apeiba aspera Aublet ssp. membranacea (Spr. ex Bentham) Meijer

Apeiba membranacea Spruce ex Schum. see A. aspera]

Apeiba schomburgkii

Apeiba tibourbou Aublet

Apeiba sp.

Heliocarpus americanus (L.) Kunth spp. popayanensis (Kunth) Meijer.

Mollia williamsii

Mollia sp.

genus indet.

TRICHOLOMATACEAE

Marasmius schultesii Singer

Psilocybe sp.

ULMACEAE

Celtis iquana Jacq. Sargent

Celtis schippii Standley

Celtis sp.

Trema integerrima (Beurl.) Standley

Trema micrantha (L.) Blume

Trema sp.

genus indet.

URTICACEAE

Bohmeria caudata Sw.

Pilea hydrocotyliflora Killip

Pilea imparifolia Wedd.

Pilea sp.

Urera baccifera (L.) Gaudich

Urera caracasana (Jacq.) Griseb.

Urera elata

Urera laciniata (Goudot) Wedd.

Urera sp.

Urtica urens

genus indet.

USNEACEAE

Usnea sp.

VERBENACEAE

Aegiphila alba MoldenkeAegiphila haughtii MoldenkeAegiphila integrifolia (Jacq.) B.D.Jacks.Aegiphila sellowiana Cham.Aegiphila sp.Citharexylum poeppigii Walp.Clerodendron sp.Lantana armata SchauerLantana camara L.Lantana sp.Lippia sp.Petraea maynensis HuberPetraea peruviana MoldenkePriva sp.Stachytarpheta cayennensis (L.C.Rich.) VahlStachytarpheta sp.Verbena litoralis H.B.K.Verbena sp.Vitex cymosa Bert. ex SprengelVitex orinocensis var. multiflora (Miquel) HuberVitex schunkei MoldenkeVitex sp.

genus indet.

VIOLACEAE

Gloeospermum sphaerocarpum Triana & PlanchonLeonia crassa Sm. & FernandezLeonia glycycarpa Ruiz & PavónLeonia sp.Rinorea apiculata HekkingRinorea lindeniana (Tul.) KuntzeRinorea racemosa (Mart.) KuntzeRinorea viridiflora RusbyRinoreocarpus ulei (Melchior) Ducke

genus indet.

VISCACEAE

Dendrophthora Lueri KuijtPhoradendron crassifolium (DC.) EichlerPhoradendron sp.

VITACEAE

Cissus bifounifolia [sic]
Cissus ulmifolia (Baker) Planchon
Cissus erosa L.C.Rich.
Cissus sicyciodes L.
Cissus sp.
 genus indet.

VOCHYSIACEAE

Erisma uncinatum Warm.
Qualea sp.
Ruizterania sp.
Vochysia bracedinii Standley
Vochysia ferruginea Martius
Vochysia gardneri Warm.
Vochysia grandis Martius
Vochysia quianensis Aublet
Vochysia sp.
 genus indet.

XYRIDACEAE

Xyris sp.

ZINGIBERACEAE

Curcuma longa L.
Hedychium coronarium Koenig
Renealmia alpina (Rottb.) Maas
Renealmia asplundii Maas
Renealmia breviscapa Poeppig & Endl.
Renealmia nicolaioides Loes.
Renealmia spp.
Renealmia thyrsoides (Ruiz & Pavon) Poeppig & Endl.
Renealmia thyrsoides (R. & P.) P. & E. ssp. thyrsoides
Zingiber officinale Roscoe
 genus indet.

APPENDIX C - 234

LETTER FROM DIOSCORIDES



Dioscorides
Press

Books in Botany

235
FILE

9999 S.W. Wilshire
Portland, Oregon 97225 U.S.A.
(503) 292-0745
Telex: 4938850 PUBFOR
FAX: (503) 292-6607

March 14, 1990

Dr. Bradley C. Bennett
506 N. Greensboro St. #10
Carrboro, NC 27510

Dear Dr. Bennett:

No, we have not vanished off the face of the earth after receiving your letter of 1 February. I was simply waiting for some printing quotations to come in to support the estimates I had made before calling you on 26 January.

With this letter I want to confirm that we wish to proceed with you on this book if AID would be prepared to give you an additional \$7000.00 which with the \$4000.00 you presently have in hand would provide the amount necessary to get the list price under control. This assumes a book of about 450 pages based on the 900 pages of typescript you estimated in your letter of 16 January. With \$11,00.00 in hand we can get the list price of the book down to the point that we will not drive all the potential buyers away.

In order to keep the ball rolling I enclose a sample copy of our standard author's agreement for your consideration. Upon review I'm sure you will find it typical of such agreements used in the book trade. Our royalty schedule is equally typical:

10% of net billing on the 1st 10,000 copies sold,
15% of net billing on the 2nd 10,000 copies sold,
20% of net billing on all copies in excess of 20,000 sold,
50% of subsidiary rights sales.

I'm also certain you will have questions about it. So when you have them in hand give me a call at 800-327-5680. I'll then get the number from which you are calling and call you back on a WATTS line to thrash through them.

I look forward to your further thoughts.

Best regards,

Richard Abel

RA:je

Enclosure

APPENDIX D - 236
SAMPLE FAMILY TREATMENTS

BIXACEAE

(MAGNOLIOPSIDA - DILLENIIDAE - VIOLALES)

Bixa arborea Huber

Rain forest tree of central Amazon basin.

Spanish: achiotillo [small achiote] - Neill 1987: Neill 6931;
Palacios 926

Bixa orellana L., Sp.Pl.512(1753).

Synonyms: B. odorata R. & P. ex G. Don.
Orellana orellana (L.) O. Ktze.

Uses: dye-paint (seed aril), food (seed), and medicine
(seed aril, leaves, stem)

Commonly cultivated shrub to 8 m. Leaves alternate, simple to 24 x 17 cm. Corolla white or pink, petals to 3.5 x 1.7 cm. Fruits ovoid, red or green, to 6.5 cm usually bearing soft spines. A spineless variety also occurs (Molau 1983). B. orellana may be native to Ecuador but is now widely distributed in the neotropics. Source of annatto.

English: annatto

Spanish: achiote
achiote de monte [montane forest achiote] - Neill 1987:
Nowak 92,136

Kofan: ki"a kina [red achiote] - Pinkley 1973: Pinkley
7B,543
inzipak'ó [yellowish tree achiote] - Pinkley 1973:
Pinkley 7A
tsanda kina [storm achiote] - Pinkley 1973: Pinkley
542
inszia kina [yellowish achiote] - Pinkley 1973:
Pinkley 541
pachu'a cuna - Neill 1987: Lugo 1014

Quichua: manduru - [achiote] - Alarcón 1988: Alarcón
17,19178; H2: Balslev & Santos Dea 2855
achiwiti, achihuiti (Peru)

Secoya: su'nyo bosa [yellow achiote] - V: Vickers 241

Siona: bayo bosa [oily achiote] - V: Vickers 240
muhu bosa [thunder achiote] - V: Vickers 241

APPENDIX D - 237
SAMPLE FAMILY TREATMENTS

Shuar: ipiak, ipiaku [achiote] - Bennett ms: Bennett 3466,
Pujupet RBAE1003, Warush RBAE0001, Juwa RBAE0001,
Kasent RBAE0014; Lescure et al. 1987: Villegas &
Meneses 55, Van Asdall 83-35
huantura (in Peru) - Soukup 1970

Waorani: caca [achiote] - Davis and Yost 1983: Davis & Yost
1013

All six major tribes extract a red coloring from the seed (aril) to use as a dye or body paint (A,B,D,L,P,V). Blowguns, spears, pottery, cloth, and food are colored with achiote. Body paints are made by mixing achiote with animal or vegetable oils. Colonists in the oriente also cultivate Bixa orellana. In Ecuador, Colombia, and Peru it has been an important export (Perez-Arbelaez). A food dye made from Bixa is used to color butter, margarine, cheese, and chocolate (Purseglove 1968). The plant also has medicinal value. Quichuas macerate the stem in water, allow the mixture to sit overnight, and then add a drop to to each eye to treat "mal de ojos" or conjunctivitis (A). Quichua women drink a decoction made from achiote leaves to regain strength after giving birth (L). The Shuar treat "mal de piel" (probably a fungal infection of the skin) with Bixa seeds. They also flavor soups with the seeds (B).

Aztecs added ground achiote seeds to a drink they made from cacao (Simpson and Conner-Ogorzaly 1968). The Chaccobo Indians of Bolivia eat achiote seeds after cooking them in butter and treat body pains by pressing leaves against the ailing area (Boom 1987). Schultes (cited in D) reports that the root is considered a digestive aid and that the seeds may be used as an expectorant. Perez-Arbelaez mentions the use of B. orellana to treat kidney problems and as an aphrodisiac. Duke (1970) and Garcia-Barriga (19775) also report the latter use. Other medicinal uses include the treatment of wounds (Lipp 1971) and purgatives (Delascio-Chitty 1978). Standley (cited in Soukup 1970) mentions its use as an astringent, antipyretic, diuretic, aphrodisiac and also notes its use to treat venereal disease, dysentery, fevers, epilepsy, erysipelas, burns, and sore throats.

Bixa platycarpa Ruiz & Pavón ex G. Don, Gen. Syst. 1:294 (1831)

Uses: paint and dye (seeds, stem), personal (seeds, stem)

Tree 10-35 m tall of the primary forest. Leaves broadly ovate to 28 cm by 22 cm. Corolla white, petals to 3 cm long. Fruits red-brown to 4 cm wide. Western Amazon Basin including Brazil and Peru.

Spanish: achitotillo [little achiote] - Neill 1987: Lugo 1014

Quichua: achiote caspi - Sourkup 1970

APPENDIX D - 238
SAMPLE FAMILY TREATMENTS

Peruvian indians use the yellow sap from the seeds and stem as a body paint and as an insect repellent.

Bixa urucurana Willd., Enum.Hort.Berol.565(1809).

Tree to 10 m tall. Leaves to 20 by 14 cm. Corolla white or pink, petals to 2.0 by 1.0 cm. Fruits brownish red, subglobose to 3 cm. Native to western Amazon Basin in primary and disturbed lowland rainforest.

Spanish: urucu rana (Soukup 1970)
achiote blanco (Soukup 1970)

Bixa sp.

Siona: pon-sa - Neill 1987: Balslev 4638

Waorani: ratowae - Neill 1987: Oldeman 29

Taxonomic References

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APPENDIX D - 239
SAMPLE FAMILY TREATMENTS

MALVACEAE

(MAGNOLIOPHYTA - MAGNOLIOPSIDA - MALVALES)

Abelmoschus moschatus Medic., Meth. Malv. 46. 1787.

Synonyms: Hibiscus abelmoschus L., Sp. Pl. 696. 1753.

Uses: medicine (seed)

Occasionally cultivated garden herb; erect 1-2 m tall. Leaves are simple, alternate to 40 cm long. Corolla white to sulfur yellow, base of petals dark red or maroon, 15 cm wide. Capsular fruit is cylindrical to 8 cm long. Introduced from Southeast Asia.

English: musk mallow
ambrette seed - Mabberley 1987

Spanish: ají de conga [conga ant chili] - Marles 1988: Marles
69
abelmosco (Peru) - Soukup 1970
almizclillo (Colombia) - Perez-Arbelaez 1956
algalia (Colombia) - Perez-Arbelaez 1956

Quichua: yuturi uchu [conga ant chili] - Marles 1988: Marles 69
aya murillu (Peru) [death painted] - Soukup 1970

Siona: anya nye nye [snake nye nye] - Vickers and Plowman:
Vicker 155

Quichuas apply crushed seeds to conga ant stings and prepare a seed decoction to cure anuria (Marles 1988). The Siona treat snake bites with H. abelmoschus (Vickers and Plowman 1984). The Chocó of Colombia (Duke 1970), the Creole and Wayapi of French Guiana (Grenand et al. 1987), and people of Trinidad (Ayensu 1978) also treat snake bites with this plant. In Colombia its seeds are taken to treat stomach aches (von Reis Altschul 1973). The U.S. F.D.A. classifies H. abelmoschus seeds as "generally regarded as safe" for use as a flavoring agent (F.D.A. 1976). Martinique exports the seeds to use in perfumes (Purseglove 1968a). Perez-Arbelaez (1956) reports its use as a diuretic, tonic, carminative, tranquilizer, and antisyphilitic.

Abutilon sylvaticum (Cav.) Schum.

Use: medicine

Spanish: papaguru (Peru) - Soukup 1970

Plant used as an emollient (Soukup 1970).

APPENDIX D - 240
SAMPLE FAMILY TREATMENTS

Althaea officinalis L.

Uses: medicine (root, leaves, flowers)

Cultivated herb, erect to 1 m or more. Leaves simple, alternate. Petals blue to pale pink, to 5 cm wide.

English: marsh mallow, white mallow

Spanish: malva blanca [white mallow] - Bennett (ms): P. Gómez
538
malvavisco (Peru) - Soukup 1970

Shuars make an eyewash by cooking one tablespoon of ground root in two cups of water for 30 minutes. They apply drops or a warm cloth soaked in the liquid to the eyes. The solution also may be used to treat pulmonary ailments. The Shuar place one or two handfuls of leaves and flowers (fresh or dry) in 1.5 liters of water to treat kidney problems. They drink the liquid for 5 days while fasting. Shuars also treat colic and menstrual irregularity by taking 2 glasses of the liquid for one week. Women use the liquid as a douche as well, but proscribe its use while pregnant (Bennett ms). Source of original marshmallow, roots are used medicinally and in salads (Mabberley 1987). Introduced from Europe.

Gossypium barbadense L., Sp. Pl. 693. 1753.

Commonly cultivated shrub to 4 m. Leaves simple, alternate, 3-5 lobed. Corolla showy, to 10 cm wide, yellow, often purple toward base. Capsule to 5 cm long. South American native, now widely cultivated in the tropics.

Synonyms: Gossypium religiosum L., Syst. Nat. 2: 462.
G. vitifolium Lam., Encyl. Method. 2: 135. 1786.
G. peruviana Cav., Diss. 6:313, pl. 168. 1788.
G. acuminatum Roxb., Hort. Beng. 51.
G. pubescens Splitg., Msc. in Herb. Lugd. Bot.

Use: fiber (seed), medicine (flower), personal (flower)

English: sea island cotton, tree cotton

Spanish: algodón - Alarcón 1988: Alarcón 10

Kofán: shichha ta"va - Pinkley 1973: Pinkley 61

Siona: ho'ya yui [house cotton] - Vickers and Plowman 1984:
Vickers 10

APPENDIX D - 241
SAMPLE FAMILY TREATMENTS

Shuar: urúch [cotton] - Bennett ms: Anananch RBAE0157,
Bennett 3415, Gómez 490, Kasent RBAE0019, AJK RBAE0108,
Mashu RBAE0010, Warush RBAE0046; Lescure et al. 1987:
Villegas & Meneses 70

Woorani: dayo - Davis & Yost 1983: Davis & Yost 920

Most lowland Ecuadorian people use the fibrous, seed hairs. Siona-Secoyas and Shuars weave armbands and make air seals for blowgun darts with the fibers (Vickers and Plowman 1984; Bennett ms). Wooranis make G-strings and arm bands, and decorate spears with cotton fibers (Davis and Yost 1983). Quichuas make mattresses from the fibers. They also apply oil from flower to relieve fungal infections of the skin (Alarcón 1988). Kofáns wear cotton flowers in the ear or nose (Pinkley 1973). Soukup reports the use of cotton to treat head wounds (ashes), head pains (an infusion of fibers), hemorrhoids (leaf poultice), ear aches, and as a diuretic (root).

Gossypium sp.

Quichua: algudun [corruption of the Spanish algodón] - Irvine
1988: Balslev 4608

Hibiscus peruvianus R.E. Fries

Common name: binaqui-ey - Soukup 1970

Hibiscus rosa-sinensis L., Sp. Pl. 694. 1753.

Synonyms: Hibiscus chinensis Hort. in part, not Roxb. or DC
H. fulgens Hort.
H. sinensis Hort. not Mill.

Uses: ornamental (plant), personal (flowers)

Shrub to 4 m, cultivated in house gardens. Leaves simple, alternate to 15 cm long. Flowers are red, showy to cm wide. Introduced from Asia by missionaries. Widely cultivated in tropics.

English: hibiscus, china rose

Spanish: peregrina
flor de betún - Soukup 1970
rosa de China - Soukup 1970
rojo - Perez-Arbelaez 1956

APPENDIX D - 242
SAMPLE FAMILY TREATMENTS

Siona: horo [flower - generic term for flowering ornamentals]
- Vikers and Plowman 1984: Vickers 166

Kofán: ci" teta - Pinkley 1973: Pinkley 91,92
cu'a te'ta - Borman 1976

Sionas cultivate H. rosa-sinensis around homesites (Vickers and Plowman 1984). Kofáns wear the flowers through their ears or noses (Pinkley 1973). The flower may be used in place of shoe polish to shine shoes. A decoction of flowers is used to treat coughs and the bark is an emmenagogue (Soukup 1970).

cf. Hibiscus sp.

Quichua: ishpa muyu [urine seed] - Irvine 1988: Balslev 4580

Malachra alceifolia Jacq.

Use: medicine

Spanish: malva

The plant has emollient properties (Soukup 1970).

Malachra fasciata Jacq.

Uses: medicine (leaves, flowers)

Spanish: malva - Alarcón 1988: Alarcón 8

Quichuas make a rectal lavage by cooking leaves and flowers in water to treat internal inflammation. They drink a warm decoction made from ground leaves and a few drops of lime juice to treat diarrhea and treat liver inflammation with an infusion of leaves (Alarcón 1988).

Malachra sp.

Uses: medicine

Weak shrub along trails and in disturbed sites, to 2 m. Petals yellow, flowers to 3 cm wide.

Spanish: malva - Bennett (ms): Bradley C. Bennett 3358

APPENDIX D - 243
SAMPLE FAMILY TREATMENTS

Shuar: mapas - Bennett (ms): Bradley C. Bennett 3358

The Shuar prepare a tea from leaves and flowers to treat stomach aches (Bennett ms).

Malvaviscus arboreus Cav., *Monad. cl. Diss. Dec. 3: 131,*
t.48, f.1.1787.

Uses: medicine, ornamental

Cultivated shrub around homesites. Petals red, twisted into a tube 3 cm long. Extreme southern U.S. and WI to Brazil, often cultivated.

Spanish: perigrino - Bennett (ms): Bennett 3300
malvavisco - Soukup 1970

Shuar women prepare a post-partem tonic with 3 leaves, 3 flowers, and new shoots. They mix these with winchu in 1 cup of water then cook the solution. They drink the tonic three times a day with alcohol and sugar (Bennett ms).

Pavonia fruiticosa (Miller) Fawcett & Rendle

Uses: ritual

Spanish: hoja de paludismo [malaria leaf] - Marles 1988: Marles
103

Quichua: chucchuc panga [trembling leaf] - Marles 1988: Marles
103

While under the influence of aya huasca (Banisteriopsis caapi) evil, Quichua shamans (yachag) burn Pavonia leaves then blow the ashes into small streams or rivers. They say that this causes malaria in people that pass by the stream (Marles 1988).

Pavonia leucantha Garcke

Spanish: charapilla huatana - Soukup 1970
mushusillo - Soukup 1970
yerba del monte - Soukup 1970

Pavonia sp.

Uses: medicine

APPENDIX D - 244
SAMPLE FAMILY TREATMENTS

Erect herb, weakly suffrutescent to 1 m. Leaves simple, alternate to 4 cm long. Petals white, corolla 1.5 cm wide.

Shuar: weawea - Bennett (ms): Bennett 3616

The Shuar mix Pavonia sp. with Sida acuta, cook the leaves in water, then use the liquid to treat dandruff (Bennett ms).

Sida acuta Burm., Fl. Indo. 147. 1768.

Synonyms: Sida carpinifolia L.f., Suppl. 307. 1781.

Uses: medicine (leaves)

Erect herb or sometimes suffrutescent. Leaves alternate, simple to 7 cm, petal yellow 1 cm long. Native to Old World Tropics, now a common, pantropical weed.

Spanish: escoba [broom] - Alarón 1988: Alarón 8
escoba blanca [white broom], guisho - Dodson et al.
1985

Quichua: pichán [broom] - Alarón 1988: Alarón 8

Shuar: japinim - Lescure et al. 1987: Villegas & Meneses 49.
japimiyuk - Bennett ms: Bennett 3487, Gómez 406

Unknown: jocuchuchupa - Soukup 1970

Quichuas apply a poultice made from ground leaves to cure tumors (Alarcón 1988). Shuars mix the plant with Pavonia sp. to treat dandruff (see Pavonia sp.). They also treat abscesses with a poultice made from S. acuta leaves (Lescure et al. 1987). The Spanish name of this plant escoba, reveals its common use as a broom.

Sida glomerata Cav., Diss. 1: 18, pl 2. 1785.

Uses: personal (sap), tools (plant)

Herb cultivated in house gardens. Mexico to Paraguay.

Spanish: escoba [broom] - Vickers and Plowman 1984: Vickers 29

Quichua: sinchi - Soukup 1970
sinchi pichana - Soukup 1970

Secoya: yua suó [broom] - Vickers and Plowman 1984: Vickers 29

Secoyas and Quichuas sweep their houses with this plant. Bodley

APPENDIX D - 245
SAMPLE FAMILY TREATMENTS

(1978) reports that the sap is used as soap.

Sida scandis

Uses: medicine (leaves and flowers)

Spanish: escobilla [little broom] - Alarcón 1988: Alarcón 19371

Quichuas drink a tea made by from leaves and flowers to treat cystitis. They drink the tea 2-3 times per day (Alarcón 1988).

Sida sp.

Uses: medicine

Quichua: sachamuyu [forest seed] - Alarcón: Alarcón 19531
pichana [broom] - Irvine 1988: Balslev 4607

Quichuas drink an infusion made from flowers and leaves to cure headaches (Alarcón 1988). The Chocó treat upset stomachs with S. rhombifolia L. (Duke 1970). The Cuna use a decoction of Sida sp. to reduce edema from snake bites (Forero-Pinto 1980).

genus indet.

Quichua: yahuarhuiquipanga - Lescure et al. 1987 - Balslev & Santos Dea 2866

TAXONOMIC REFERENCES

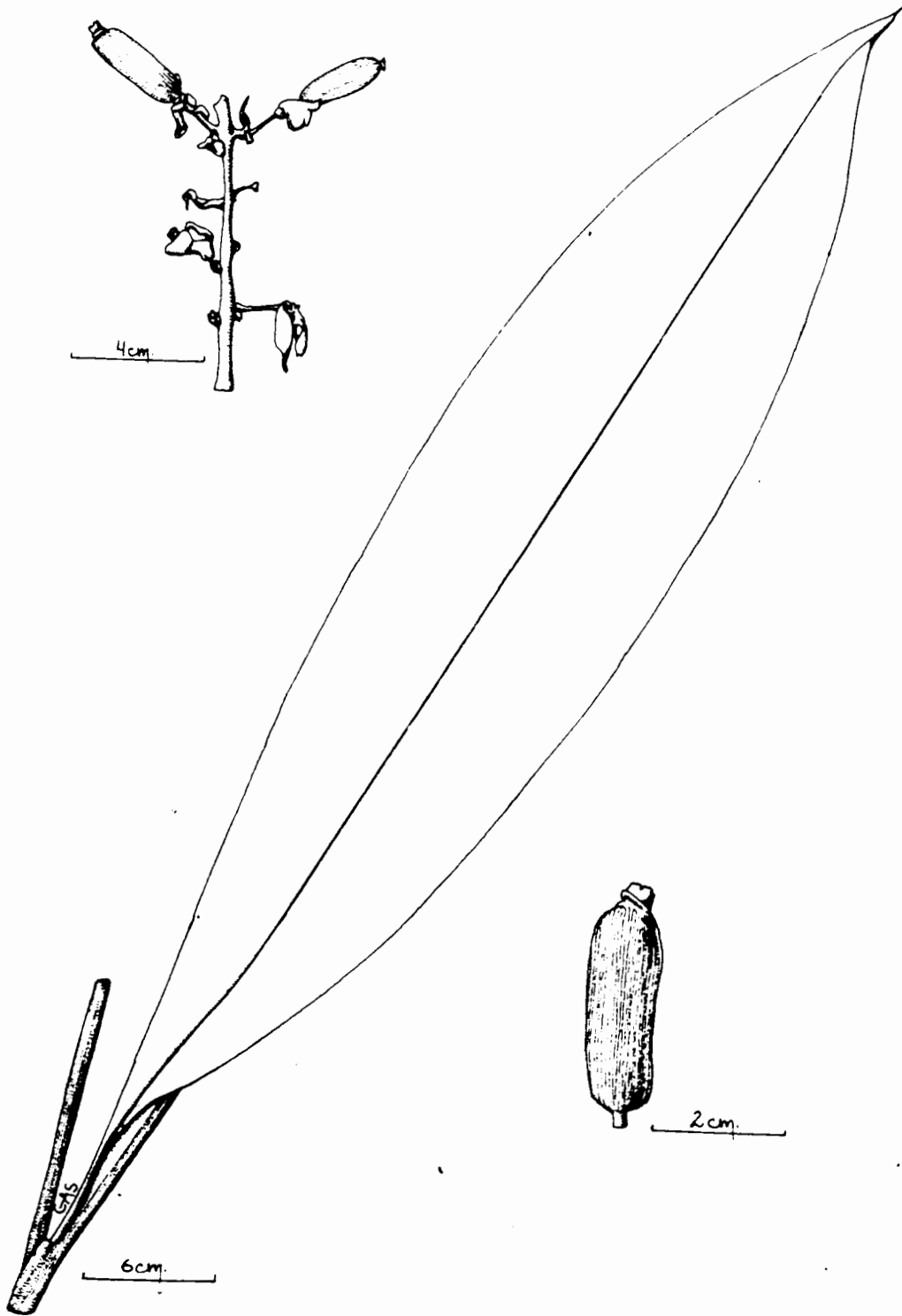
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Robyns, A. 1965. Malvaceae. In Flora of Panama, Annals of Missouri Botanical Garden 52(4):497-578.

APPENDIX E - 246

ILLUSTRATIONS FOR THE MANUAL

APPENDIX E - 247



3493

Zingiberaceae
Renealmia

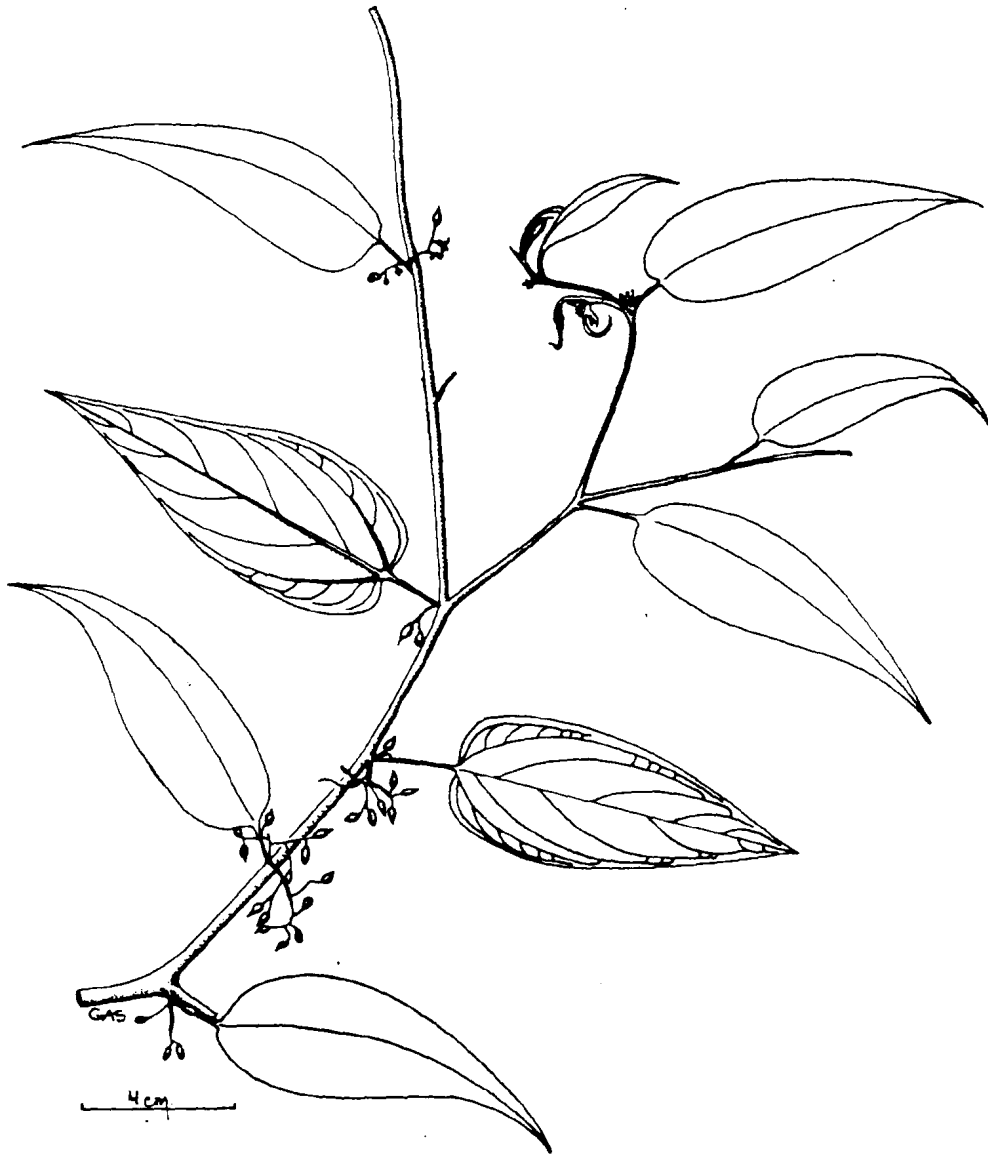
(4)



BCB 3450

Plantaginaceae
Plantago sp

2

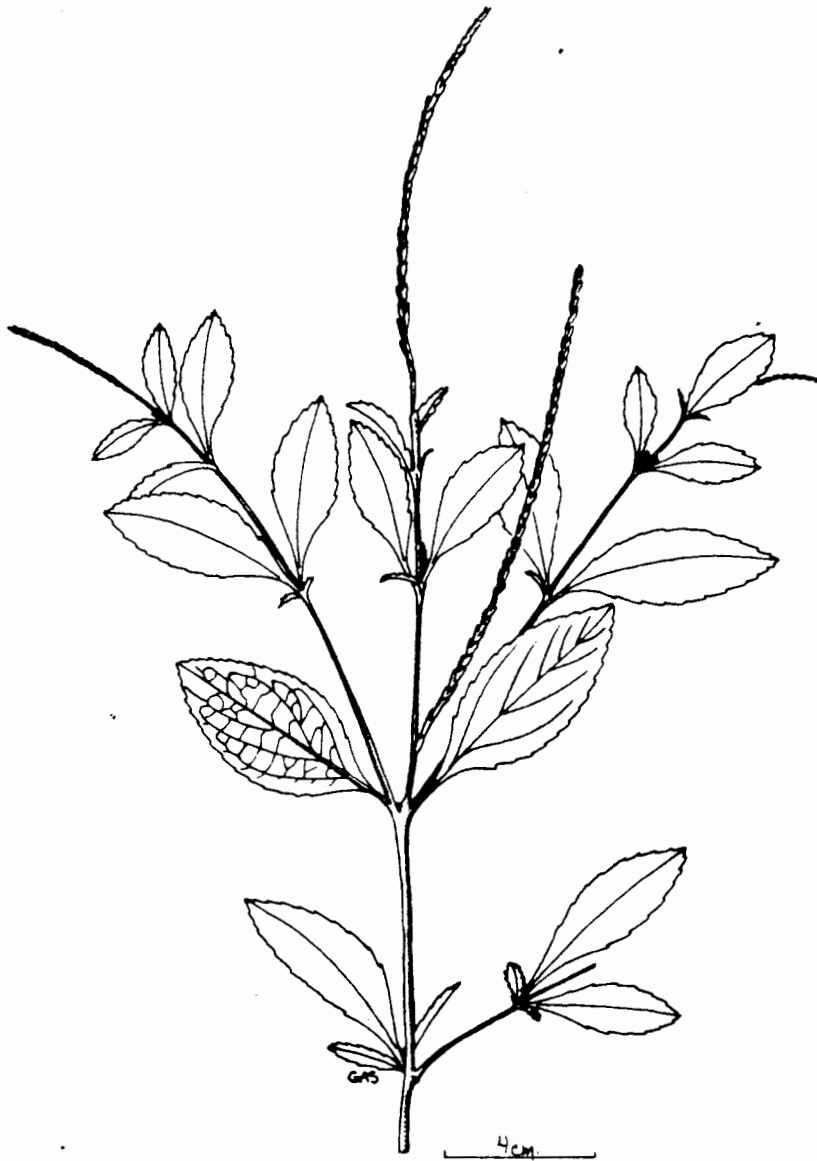


BCB 3446

Urticaceae
Trema micrantha (L.) Blum.

③

APPENDIX E - 250



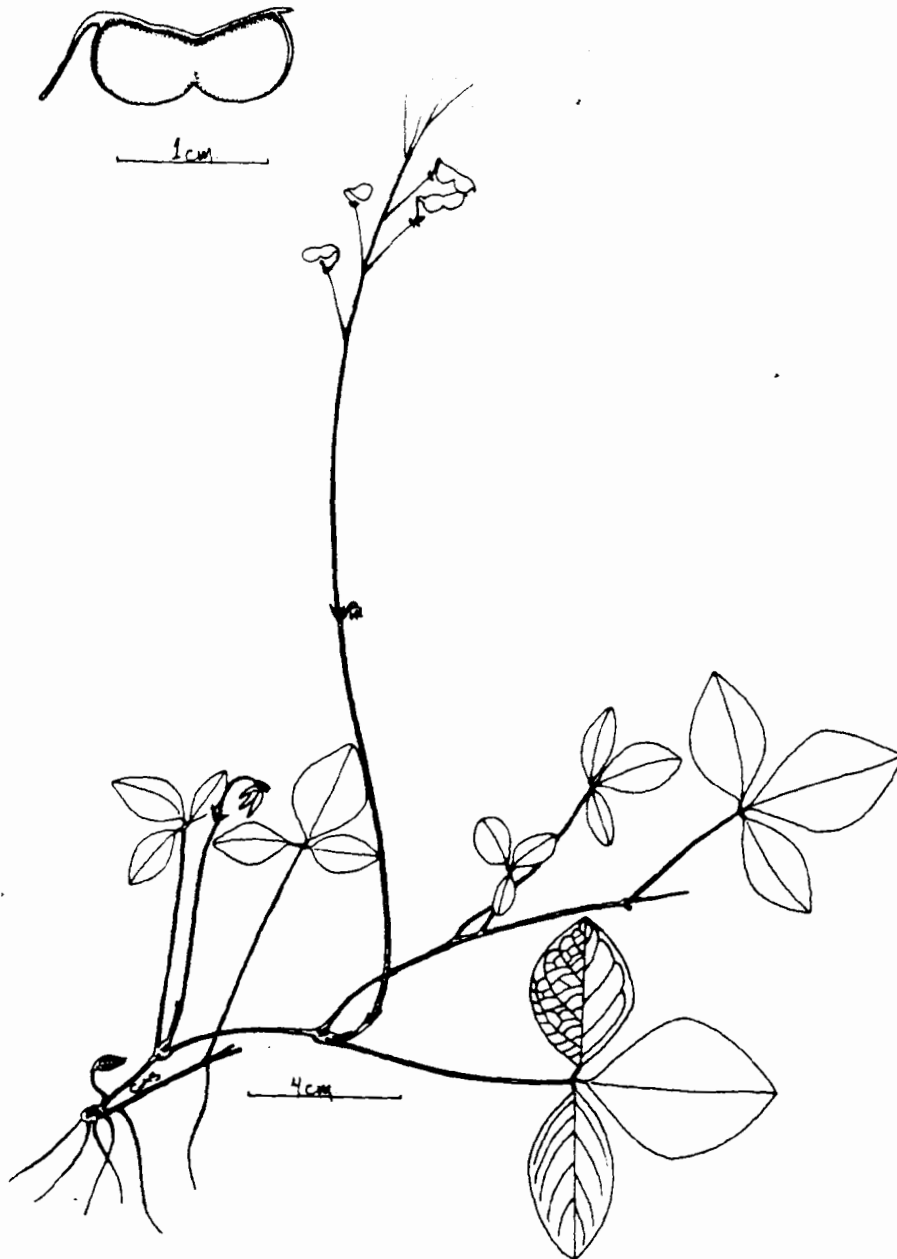
BCB 3301

Verbenaceae

Stachytarpheta cayennensis (L. Rich) Vahl.

(4)

APPENDIX E - 251



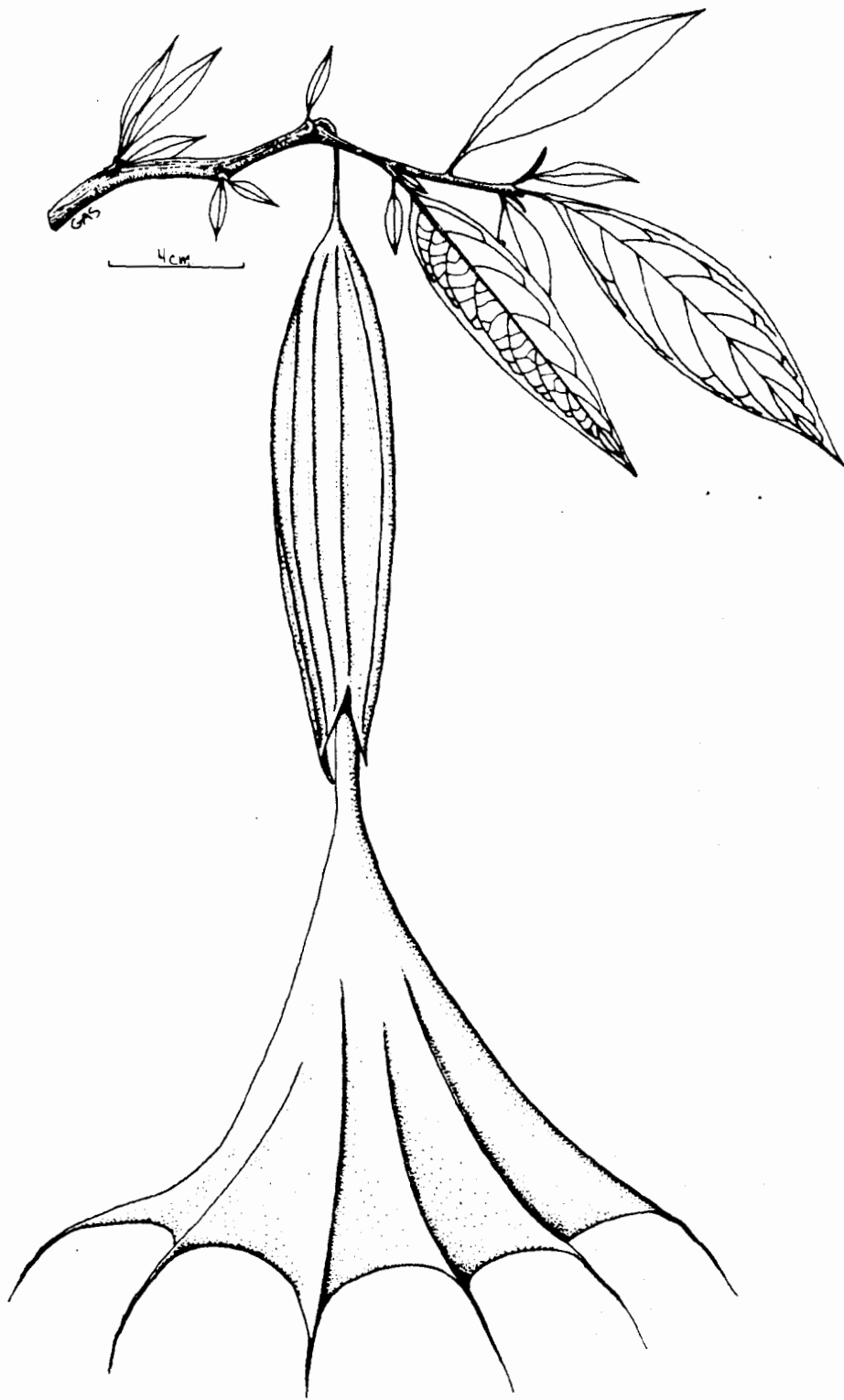
BCB 3310

Fabaceae

Desmodium aff axillare

(Sw.) DC

5



BCB 33.12 · Solanaceae

Brugmansia aff. *sauveolens*
(L'Herp. ex Willd.) D. Don + G. Don

APPENDIX E - 253



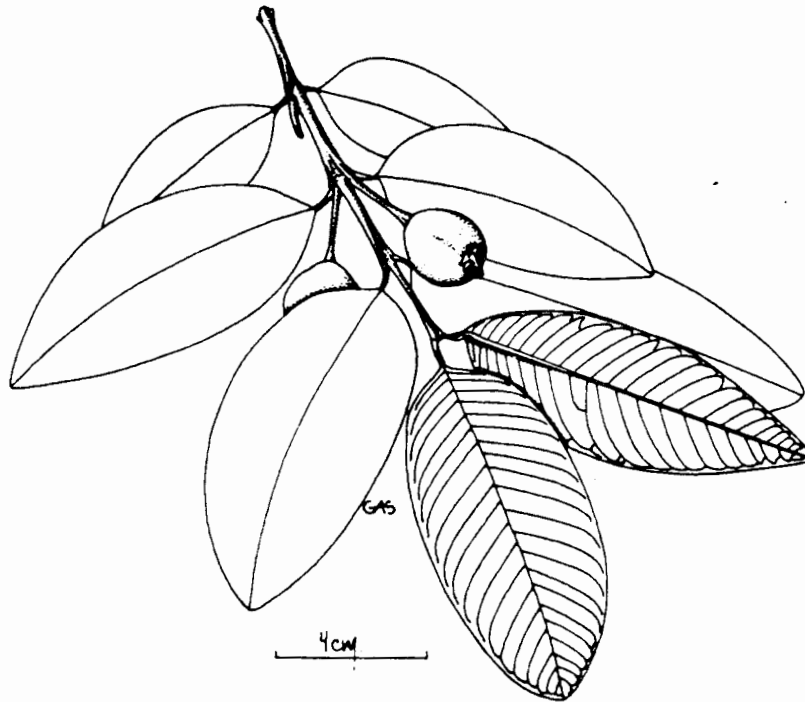
BCB 3320

Euphorbiaceae

Manihot esculenta Crantz

7

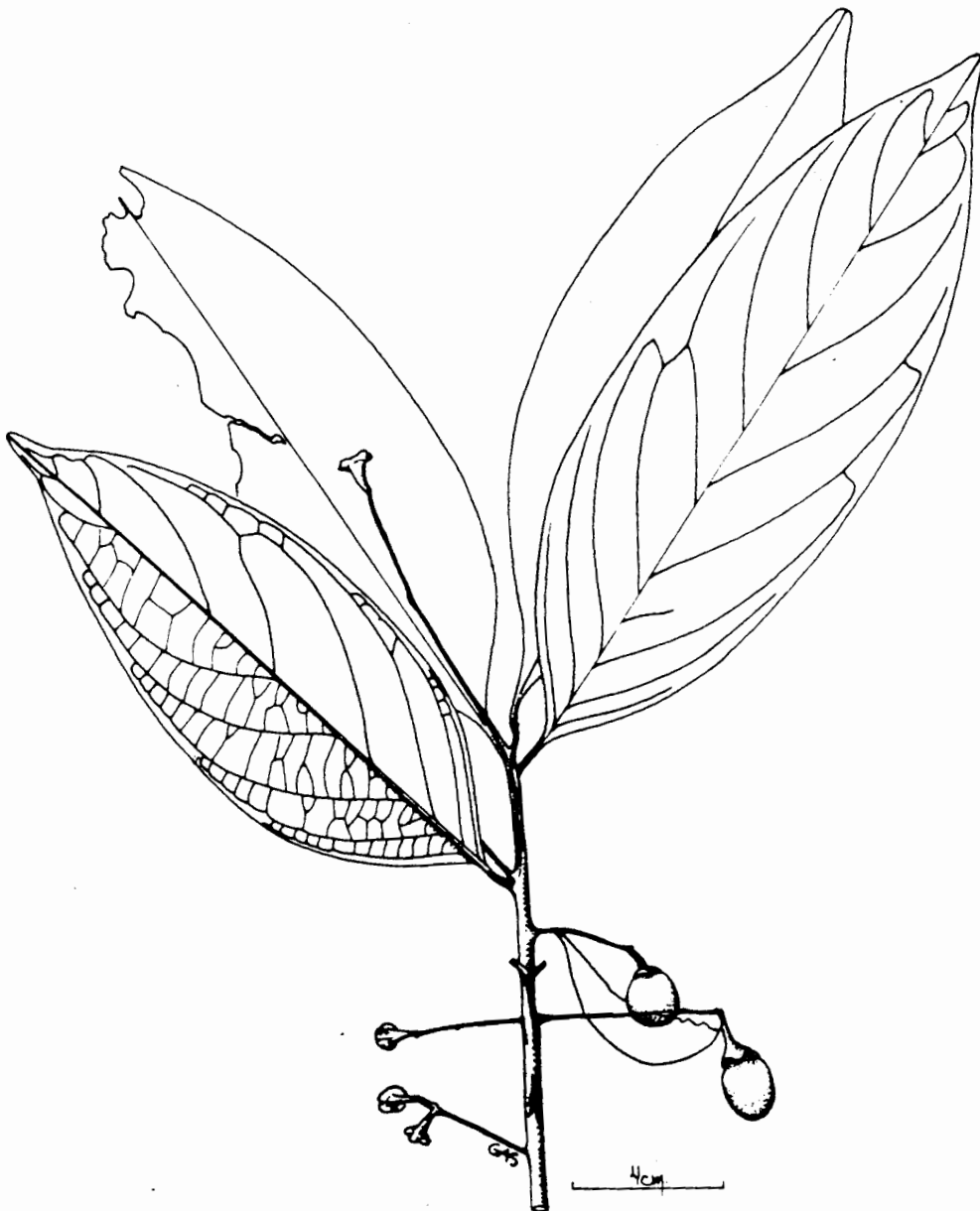
APPENDIX E - 254



BCB 3326 Myrtaceae
Psidium guava L.

9

APPENDIX E - 255



BCB 3328

Lauraceae

Ocotea sp

10

APPENDIX E - 256



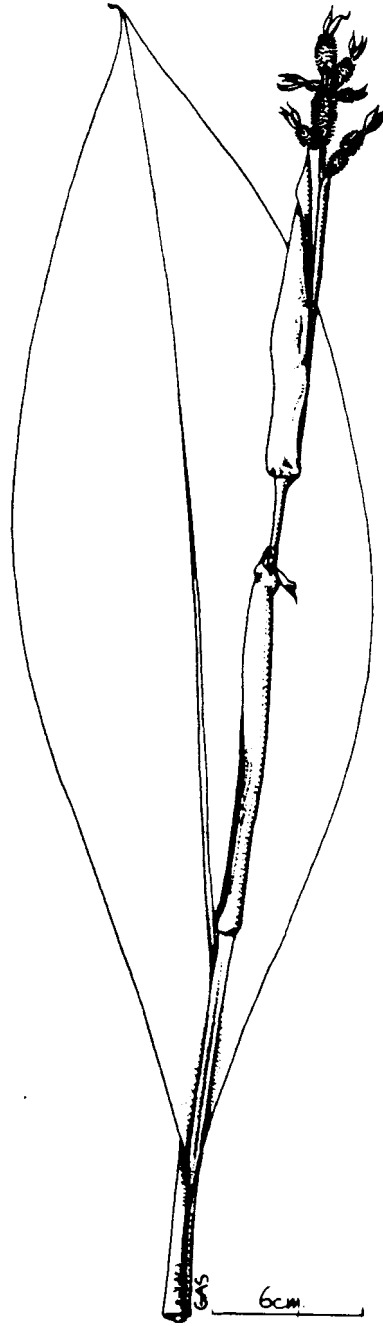
BCB 3334

Poaceae

Coix lacryma-jobi L.

(11)

APPENDIX E - 257



BCB 3336

Cannaceae
Canna sp.

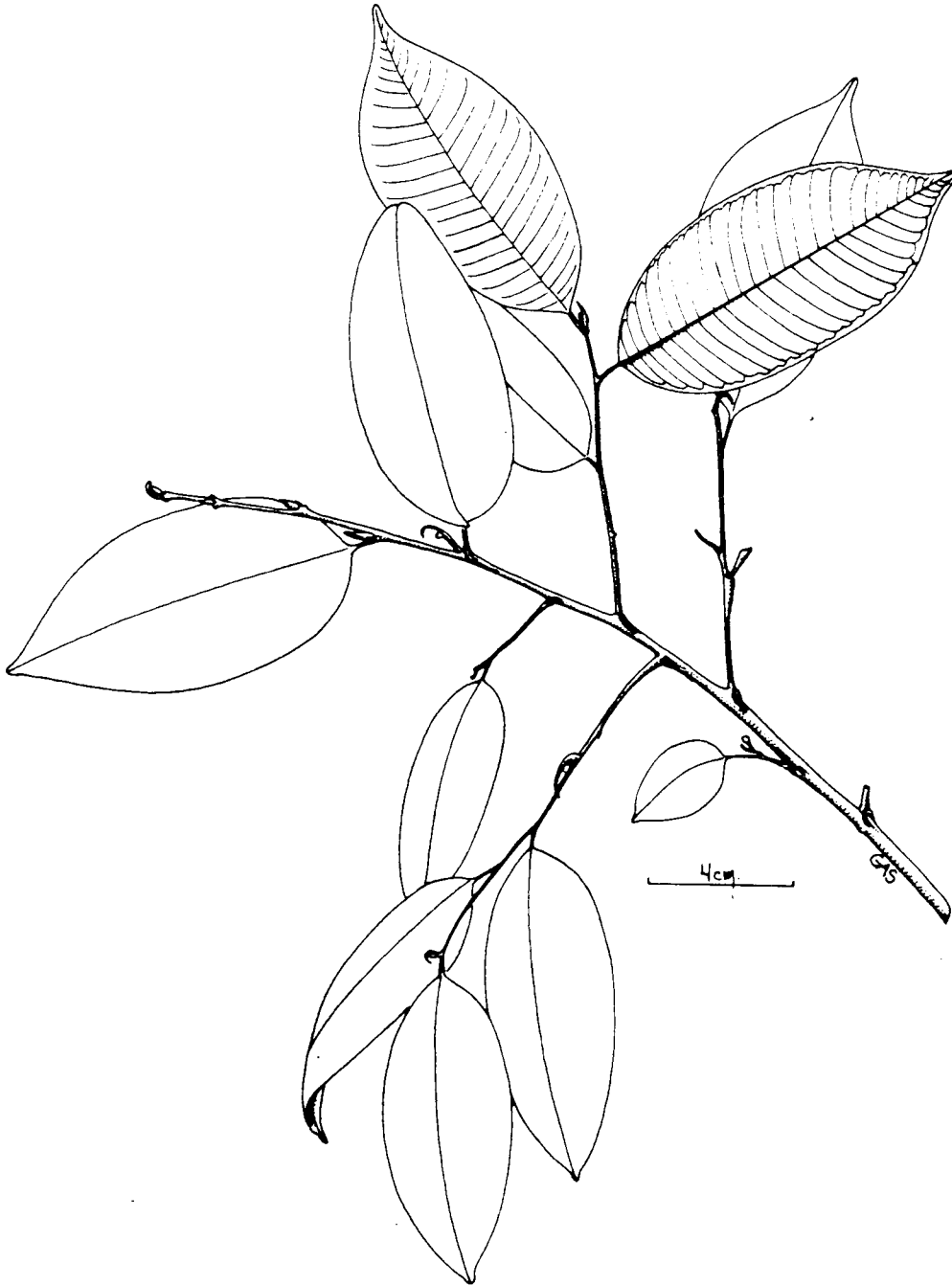
12



BCB 3384

Asteriaceae
Vernonia sp.

(14)



BCB 3387

Sapotaceae
Chrysophyllum aff. aureum

(15)

APPENDIX E - 260



BCB 3389

Asclepiadaceae
Motacis circularis Woodson

(6)

APPENDIX E - 261

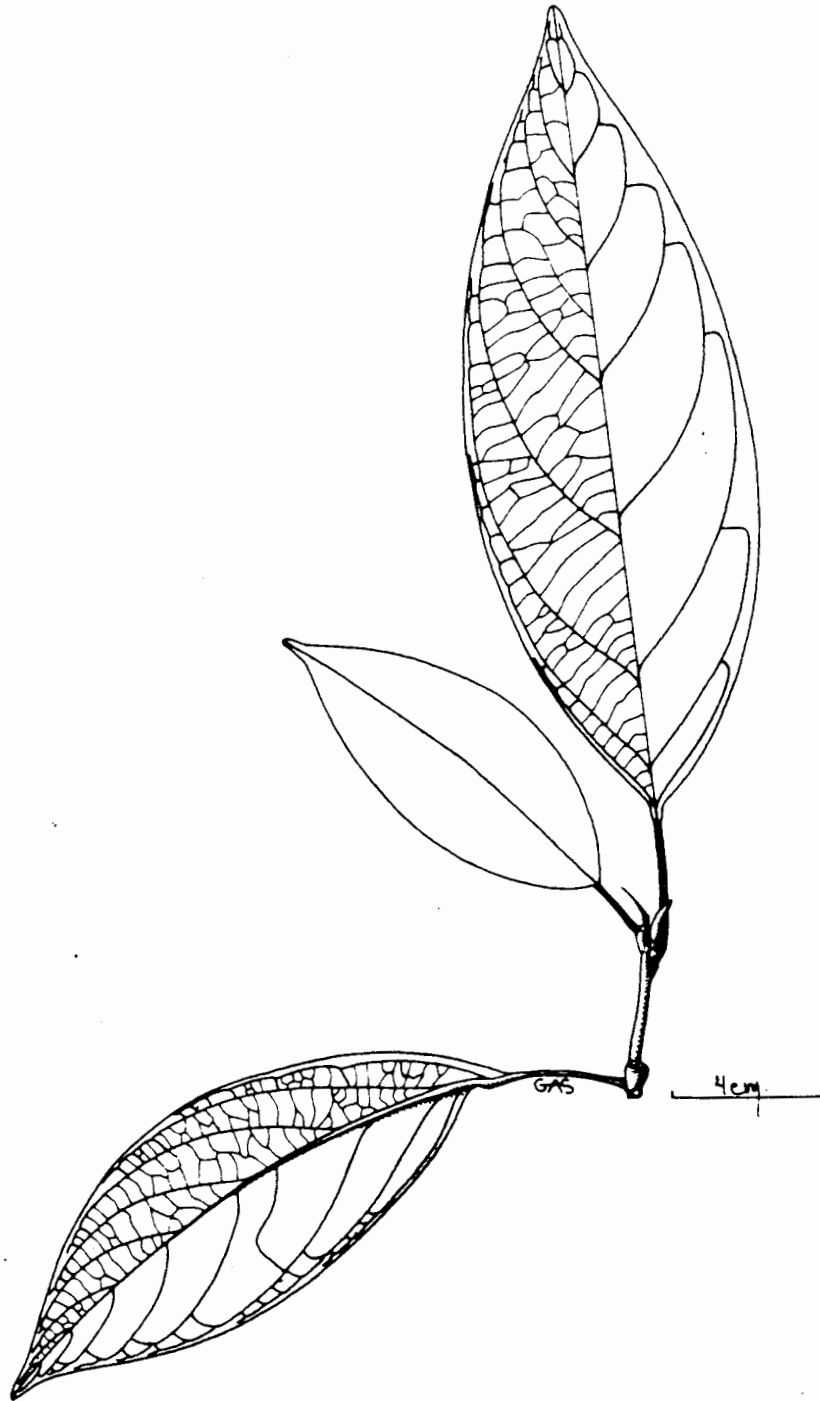


BCB 3418 Scrophulariaceae
Scoparia dulcis L.

(18)



BCB 3427 · Asclepiadaceae
Asclepias curassavica L.



BCB 3430

Euphorbiaceae

Caryodendron arinocense Karsten

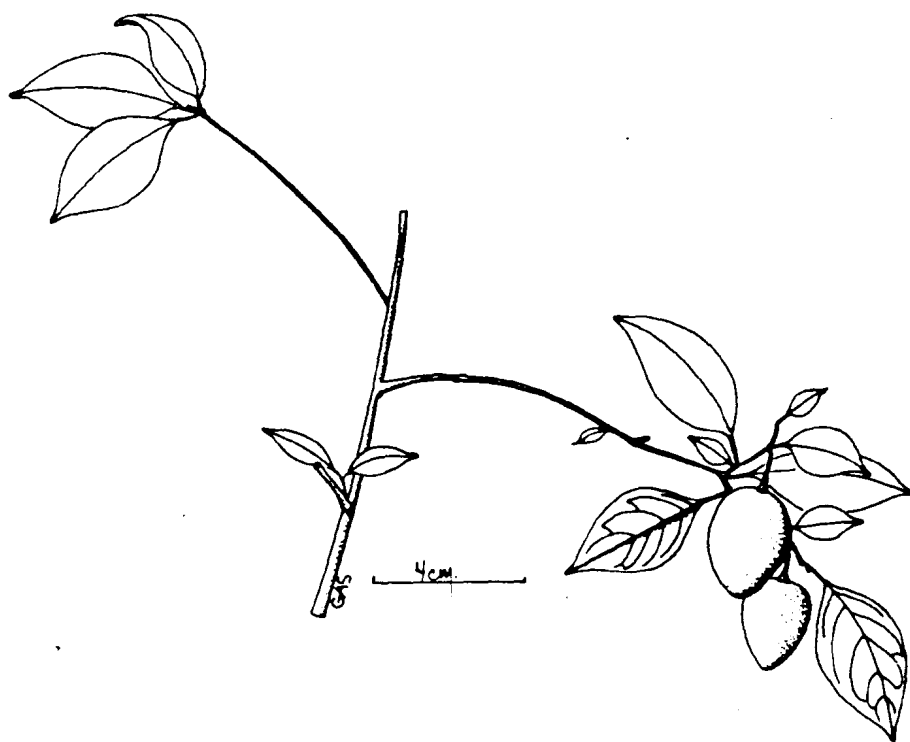
(20)



BCB 3431 Rubiaceae
Coffea arabica L.

(21)

APPENDIX E - 265

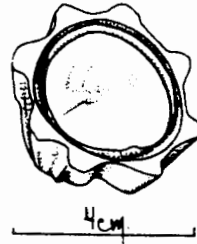
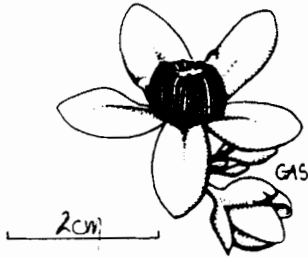


BCB 3441

Solanaceae

Capsicum annuum L.

APPENDIX E - 266



BCB 3455 Lecythidaceae
Grias sp.

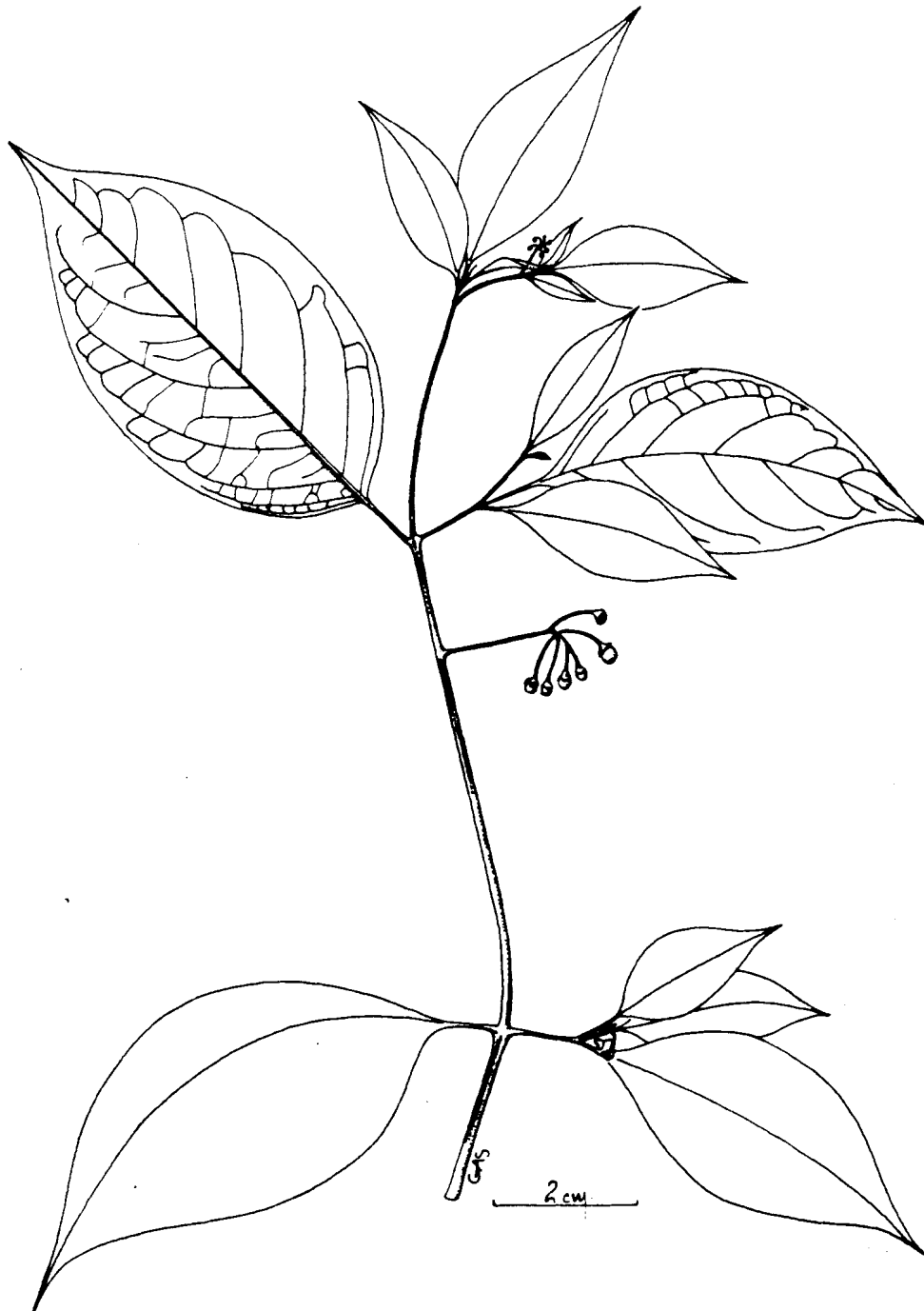
APPENDIX E - 267



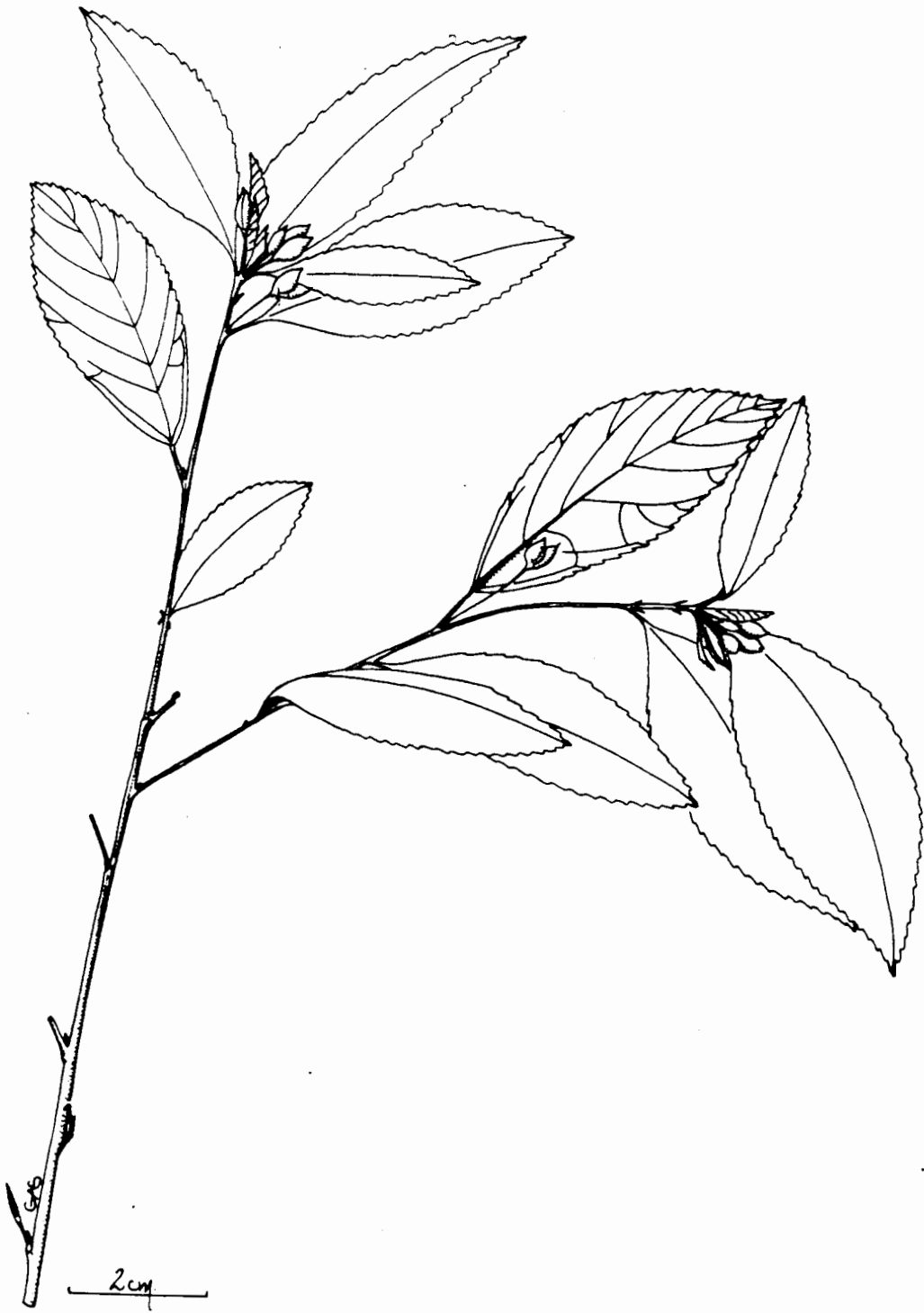
BCB 3457 Sapotaceae
Pouteria sp.

(24)

APPENDIX E - 268



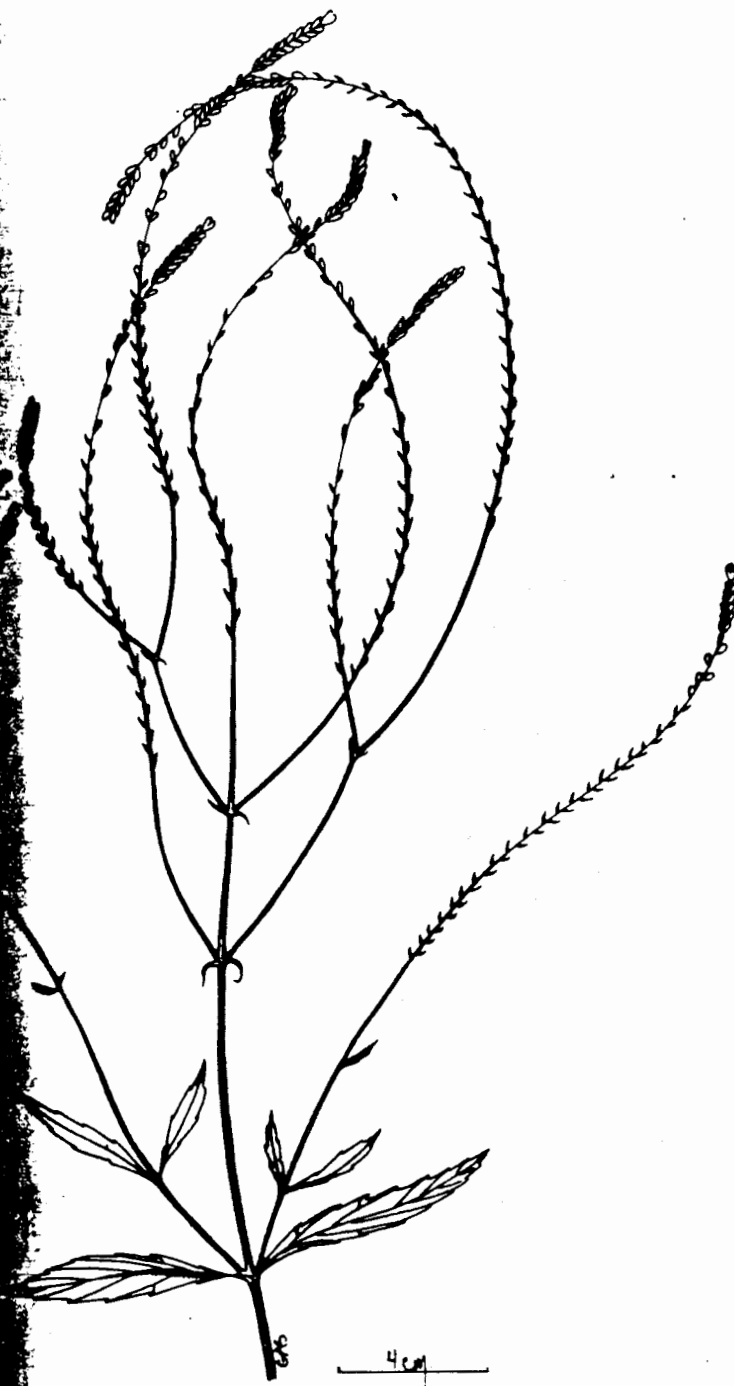
BCB 3484 Solanaceae
Solanum aff. americanum Mill. (25)



BCB 3487.

Malvaceae
Sida acuta Burm.f

APPENDIX E - 270



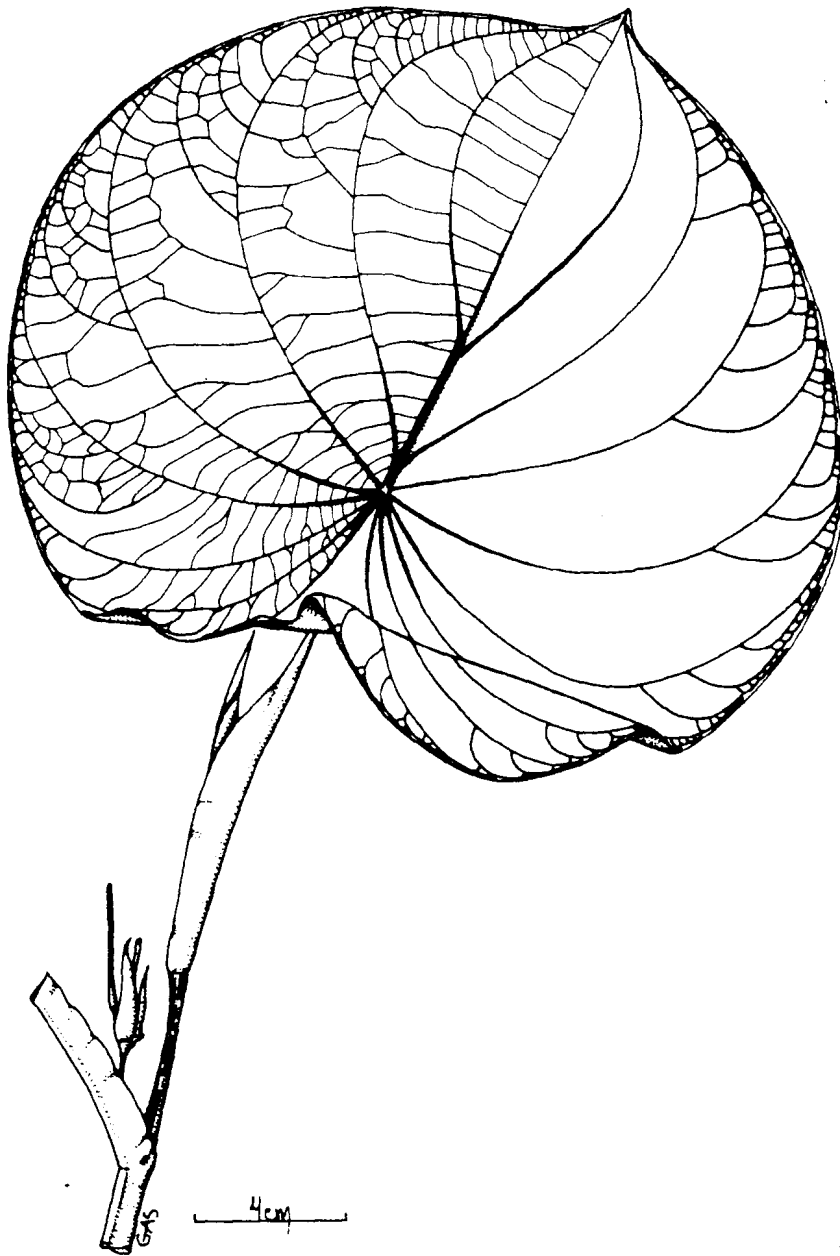
489 Verbenaceae
Verbena littoralis Kunth

(27)

BEST AVAILABLE



BCB 3521 *Phytolacca*aceae (28)
Phytolacca rivinoides Kunth & Boche



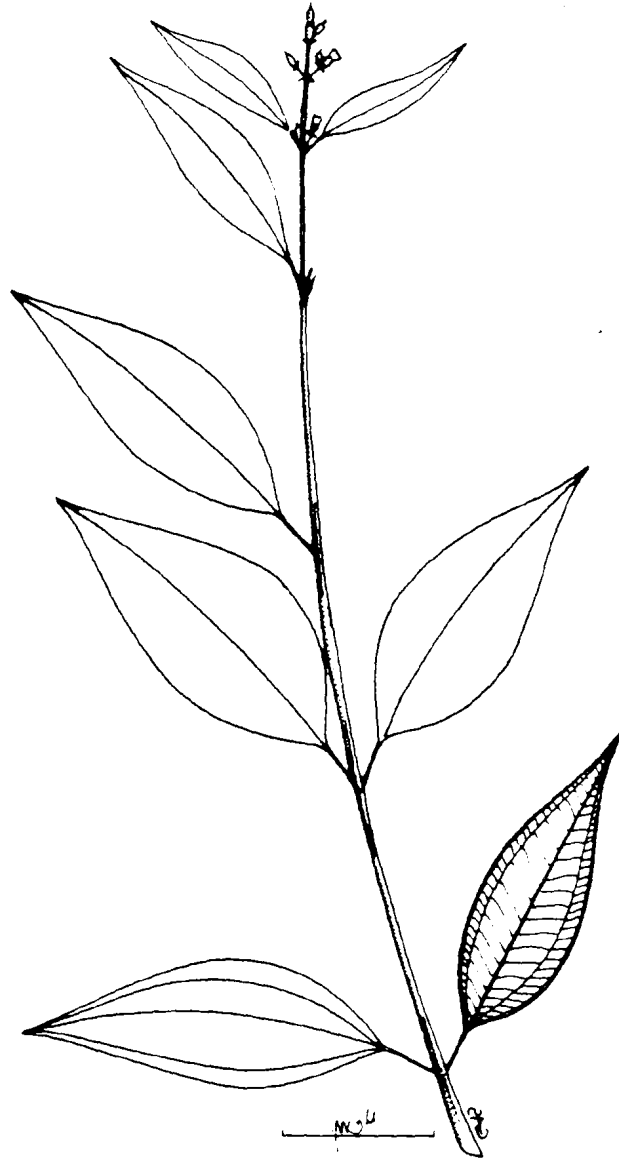
BcB 3451

Piperaceae

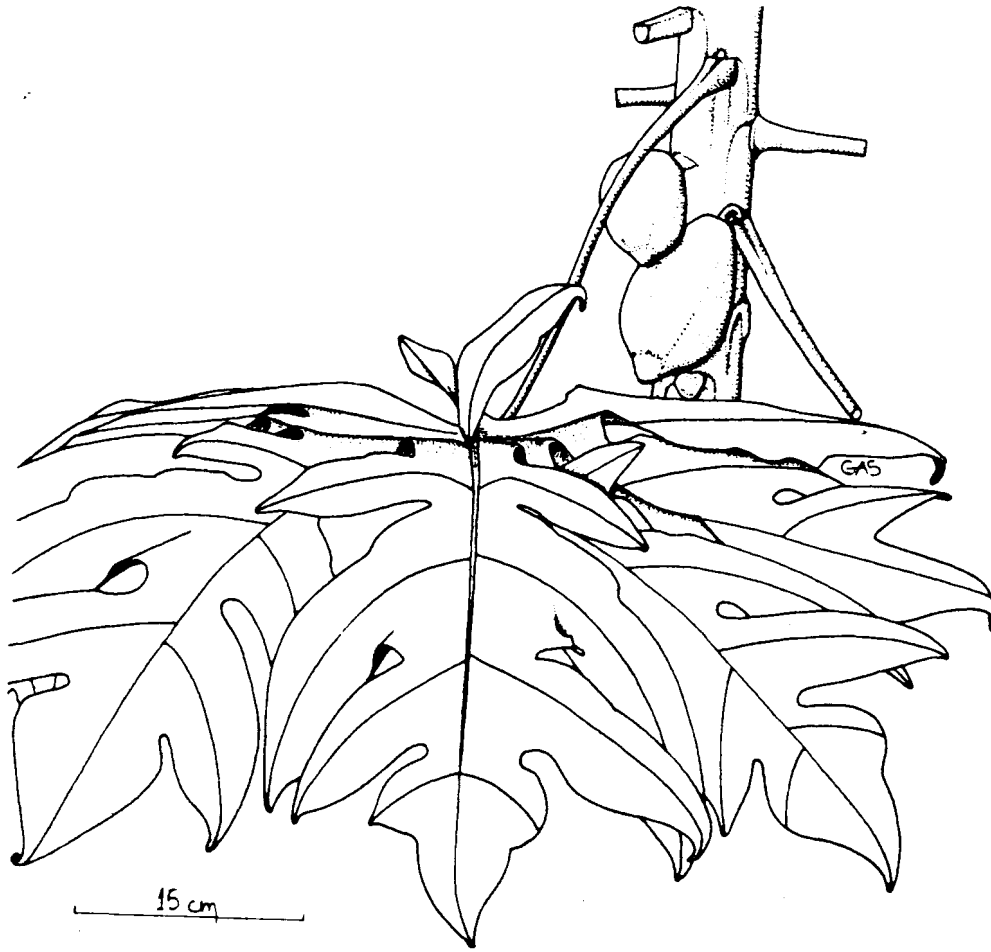
Pothomorphe aff. peltata (L.) Miq.

(29)

APPENDIX E - 273



BCB 3519 Melastomataceae
-P.



BCB 3495

Caricaceae
Carica papaya L.

(31)



P.G 531

Scrophulariaceae

Alonsoa meridionalis (L.f.) Kuntz

(32)

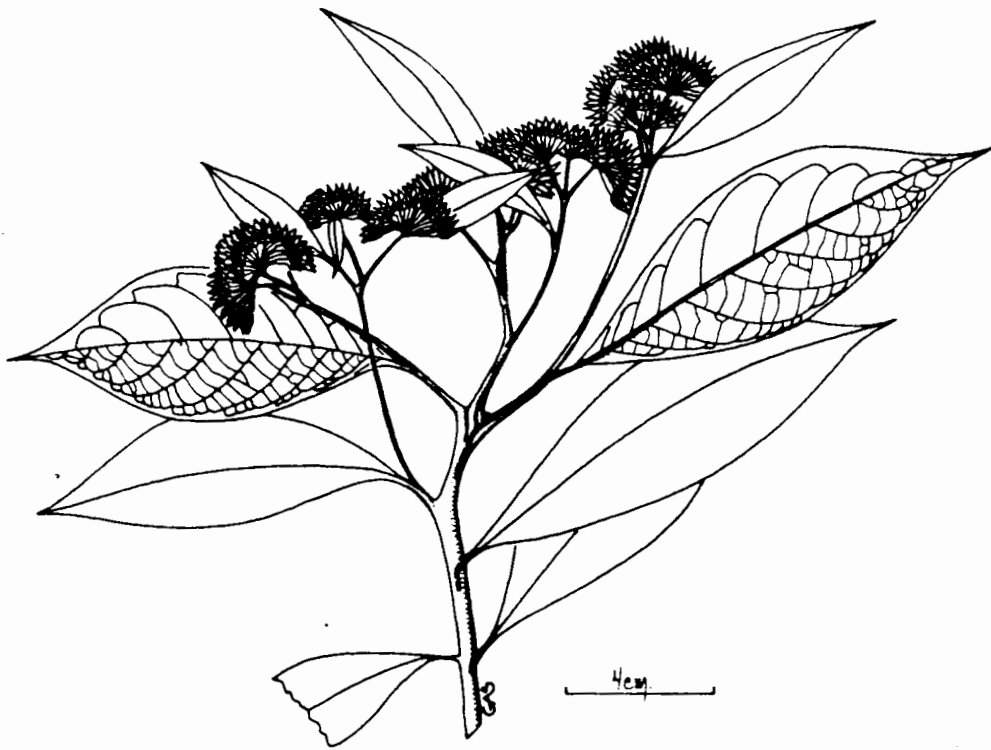


P.G. 576.

Myrtaceae

Eugenia stipitata McVaugh

(33)



P.G 573 Asteraceae
Pollalesta kurstenii (Sch. Bip) Aris. (34)



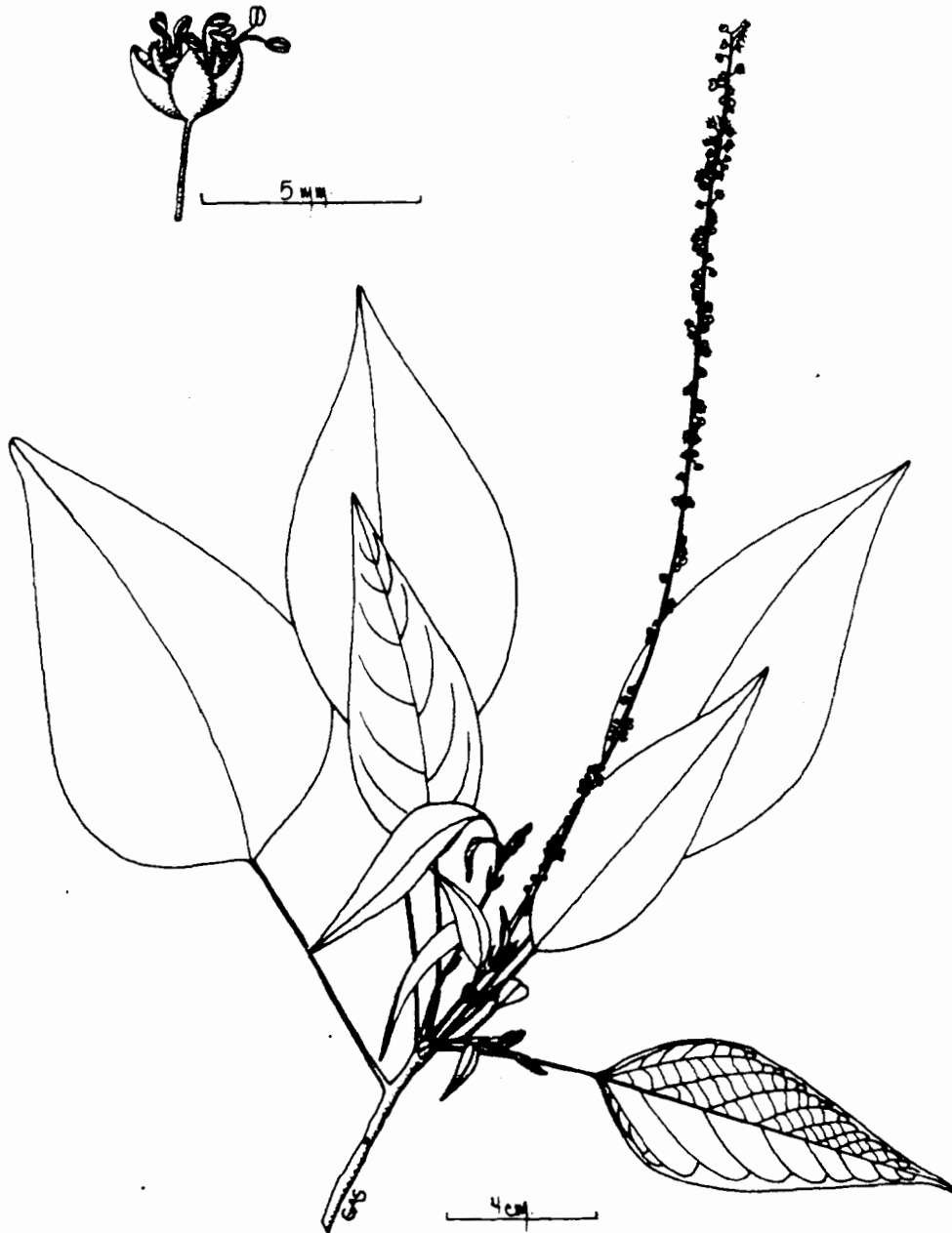
P. G 572

Myrtaceae

Eugenia cf. mirtomimeta Diels

(35)

APPENDIX E - 279



P.G. 564

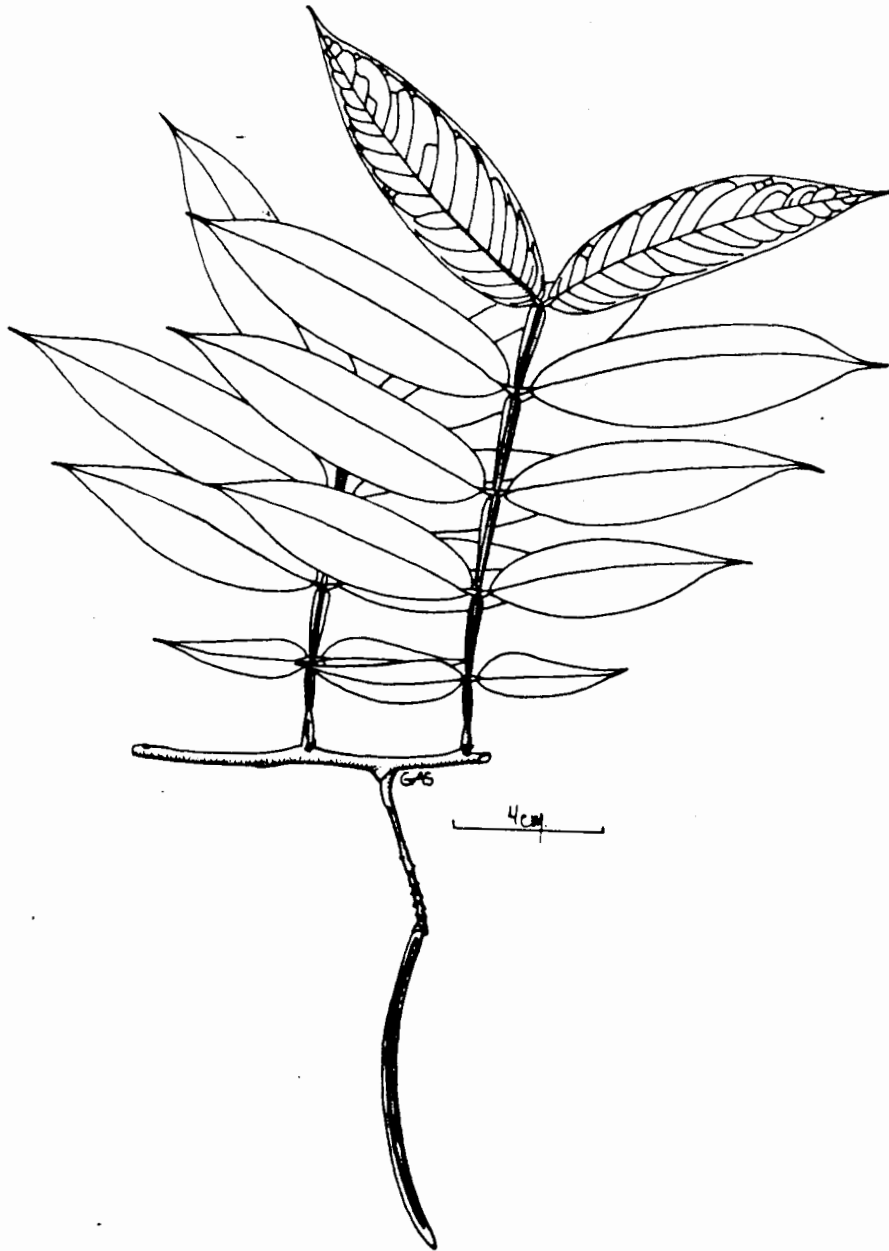
Euphorbiaceae
Croton cf. lechleri Muell. Arg.

(36)

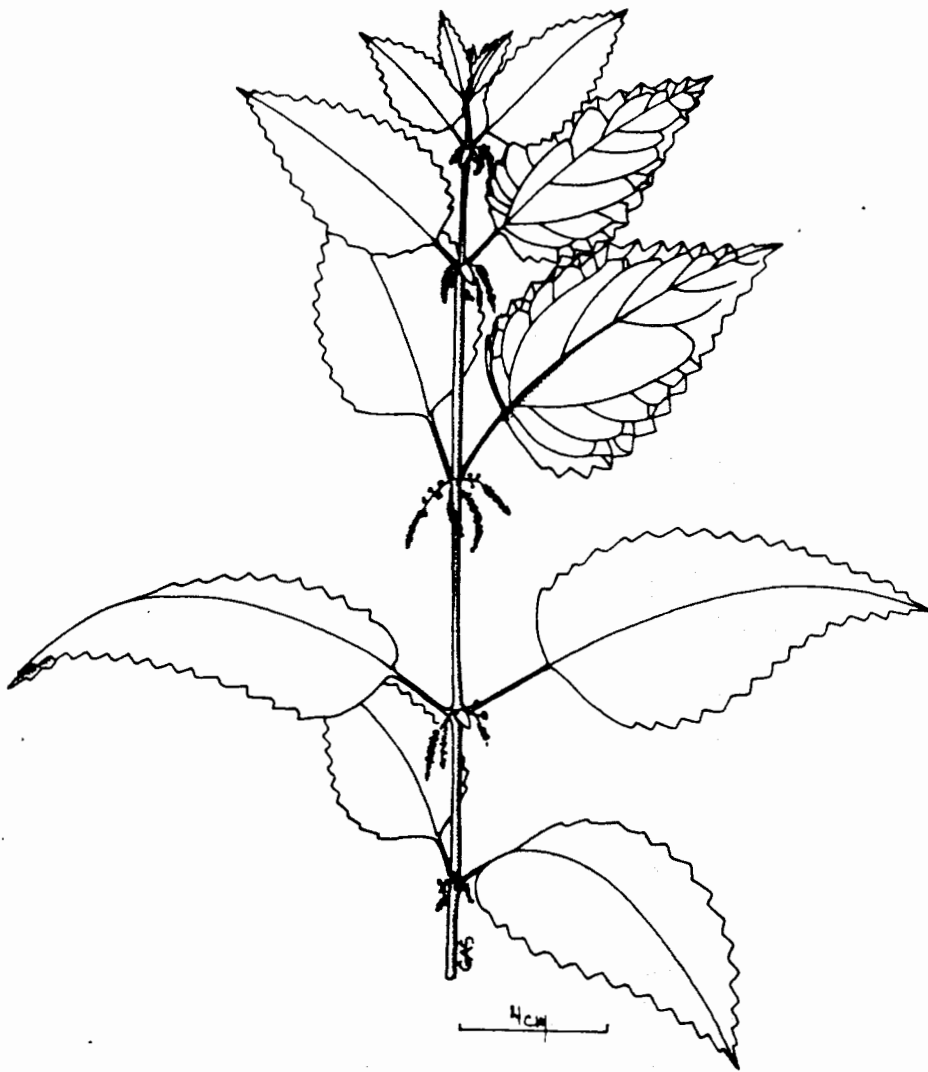


P.G. 562 Cecropiaceae
Pourouma guianensis Aubl.

APPENDIX E - 281



P.G 544 Fabaceae
Inga spectabilis (Ahl.) Willd. 38



P.G. 530

Urticaceae
Urtica urens



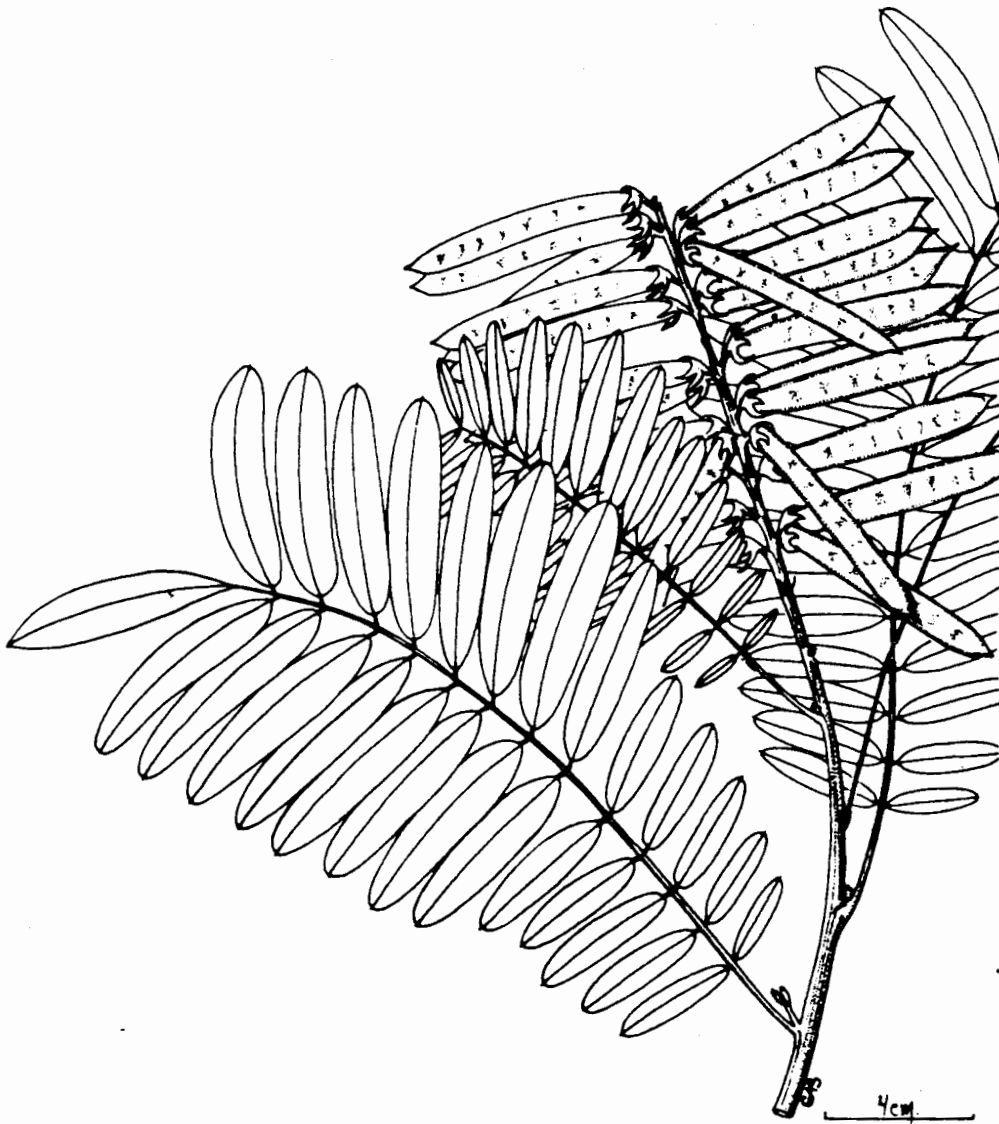
P.G. 525 Apiaceae
Eryngium foetidum L.

(40)



P. G. 489 Lamiaceae
Ocimum micranthum Nild

(41)



P.G. 487 Fabaceae (Papilionoideae)
Tephrosia sp.



P.G. 469 Asteraceae
Epilanthès sp.

APPENDIX E - 287



P.G. 466 Fabaceae (Papilionoideae)
Crotalaria cf. nitens H.B.K.

(44)

APPENDIX E - 288



PG 443 Fabaceae (Papilionoideae)
Cajanus cajan (L.) Hutch

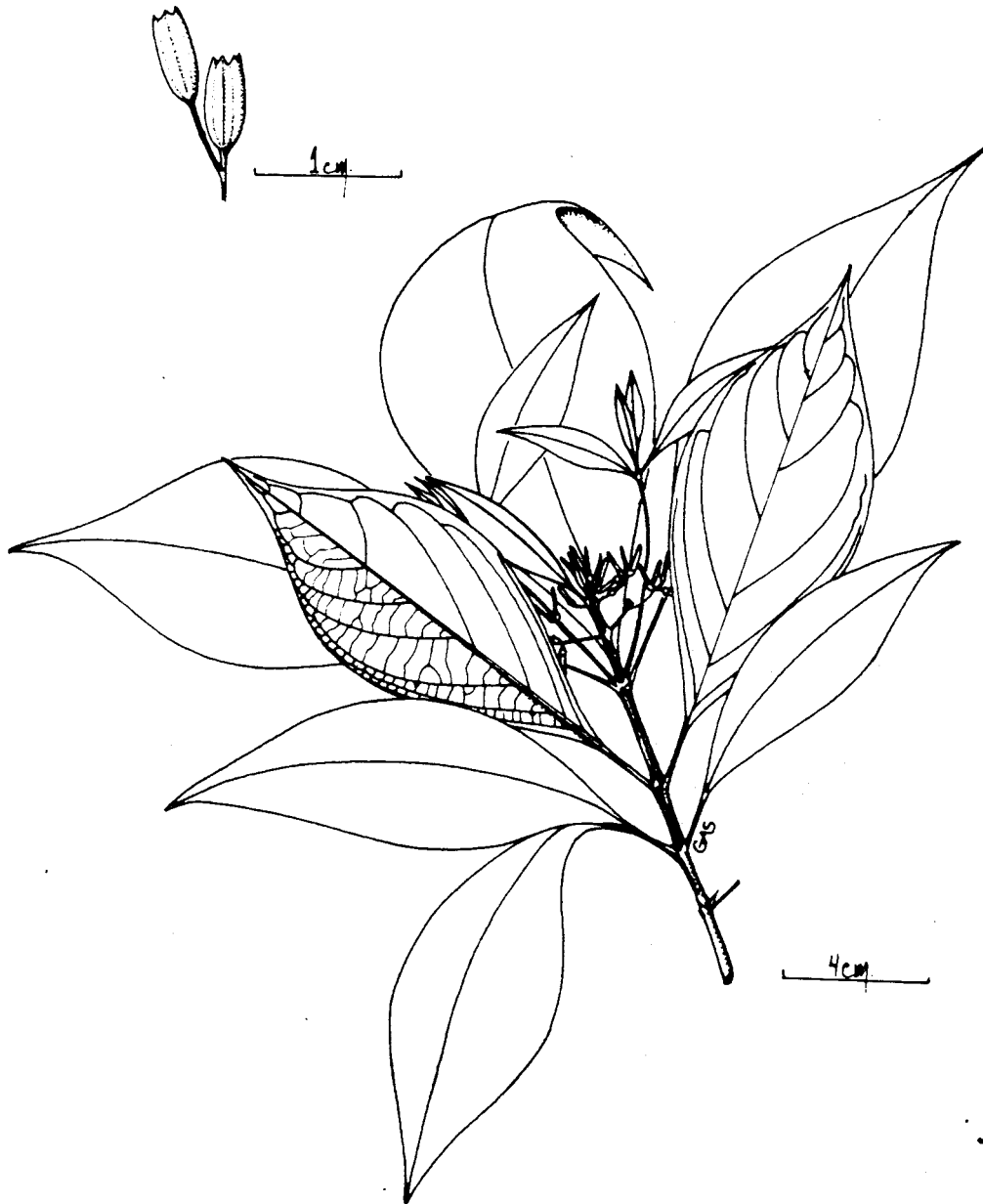


P.G. 442

Asteraceae
Clibadium sp.

(46)

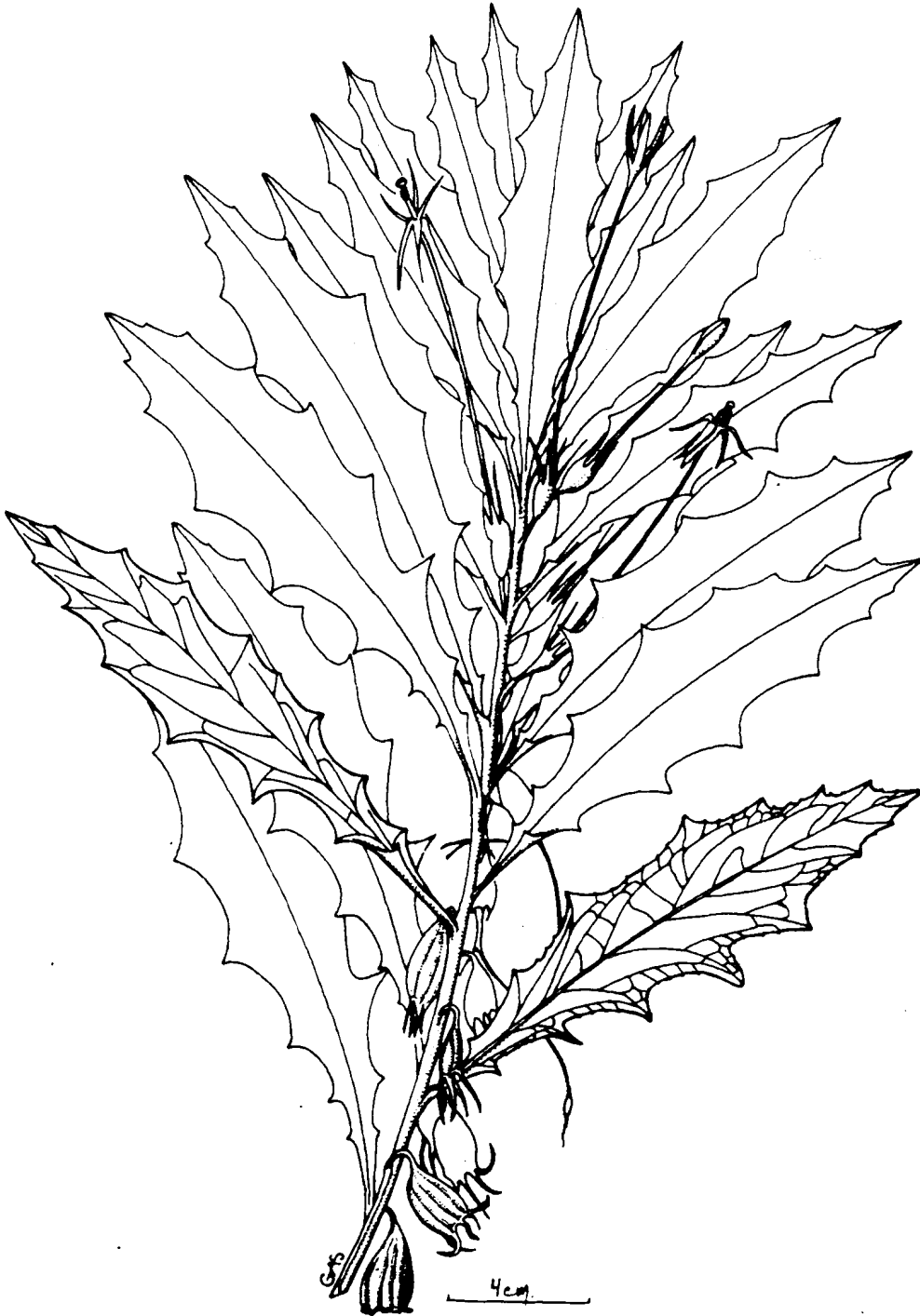
APPENDIX E - 290



P.G. 496 Rubiaceae
Hamelia patens Jacq

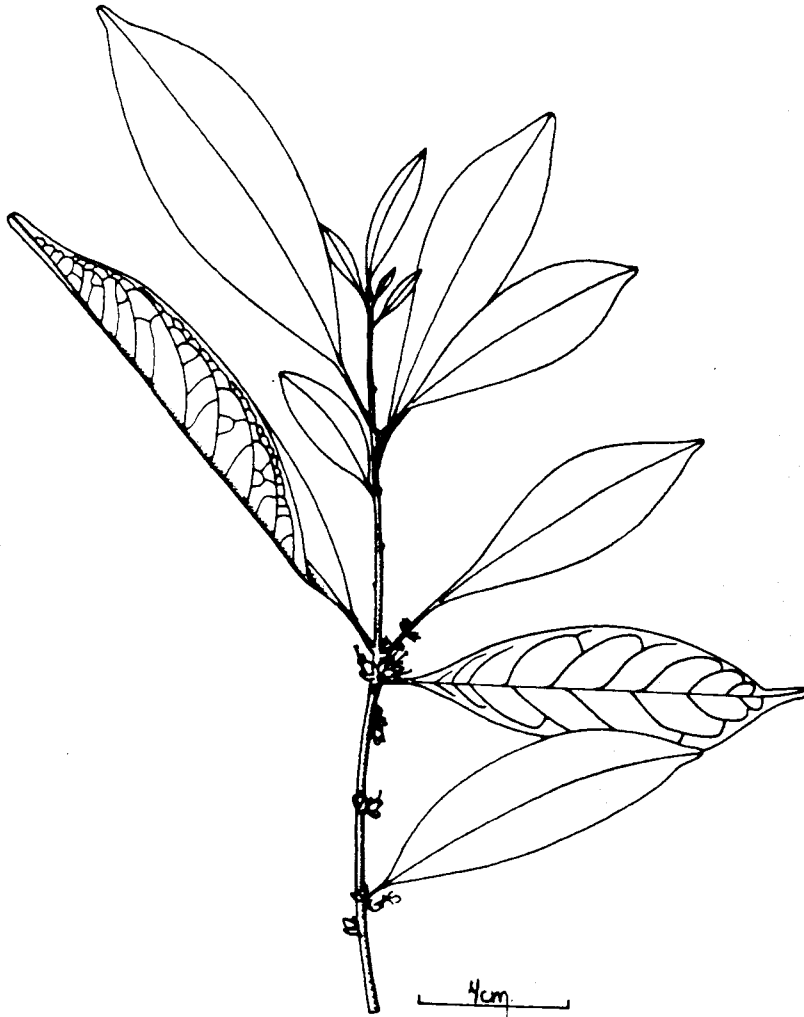
1.

47



P.G. 401 Campanulaceae
Hippobroma longiflora (L.) G. Donf. (49)

APPENDIX E - 292



DI 159 Sapotaceae
Pouteria caimito (R & P.) Radlk.

(51)



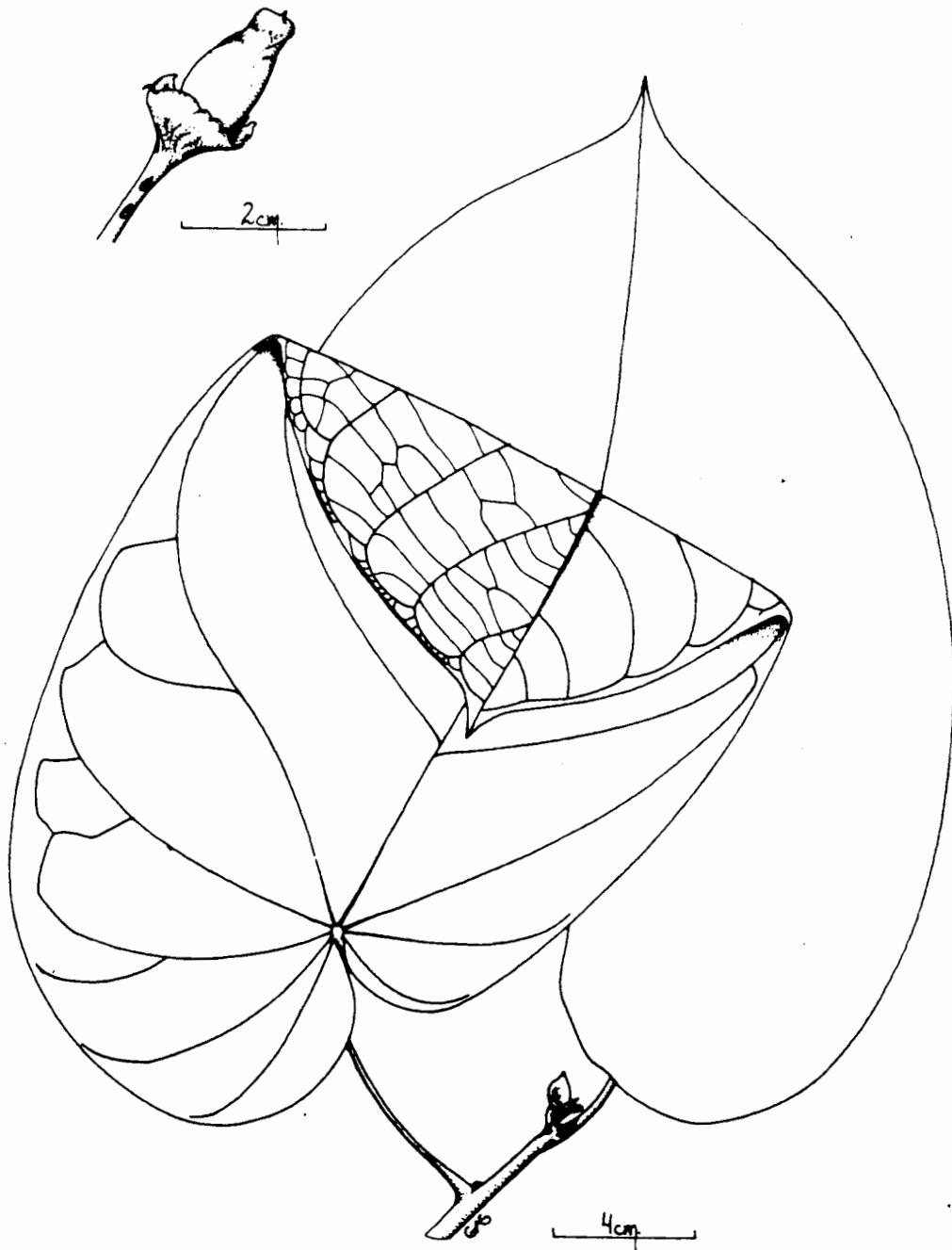
R. M. 53 Lamiaceae
Hyptis pectinota (L.) Poit. (52)



DI 219 Solanaceae
Physalis angulata L.

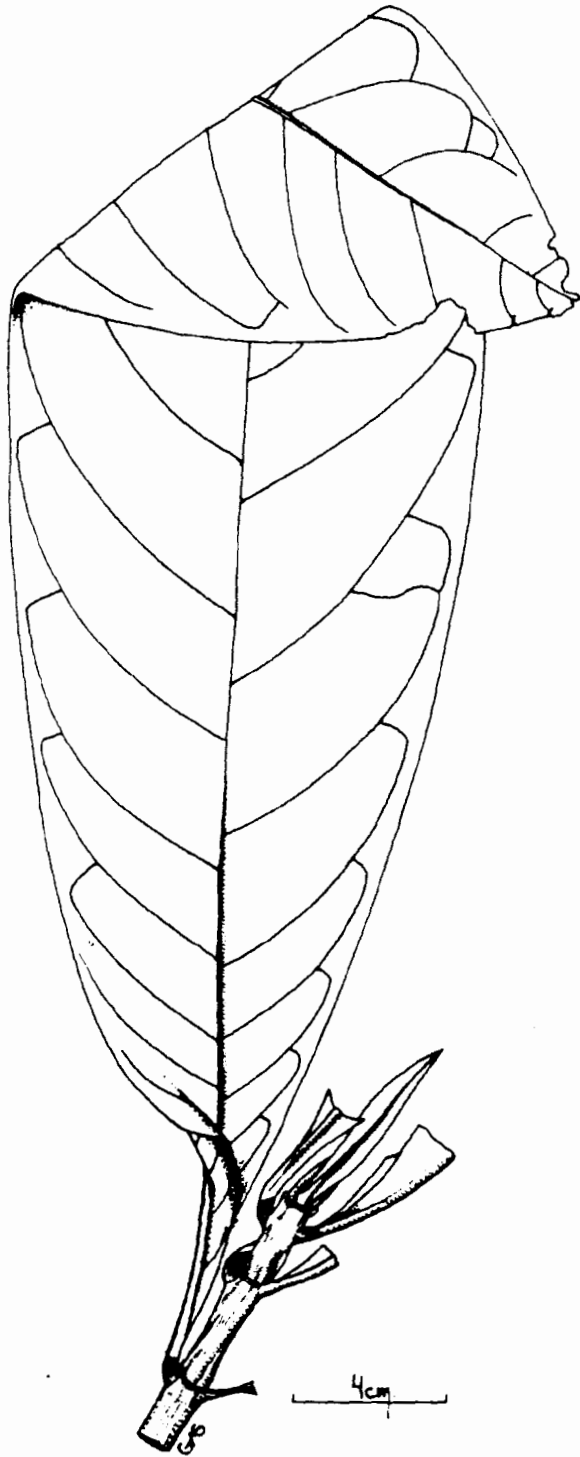
(53)

APPENDIX E - 295



DI 559 Bombacaceae
Quararibea obliquifolia

(54)



JZ 486

Rubiaceae

Genipa americana L.

55

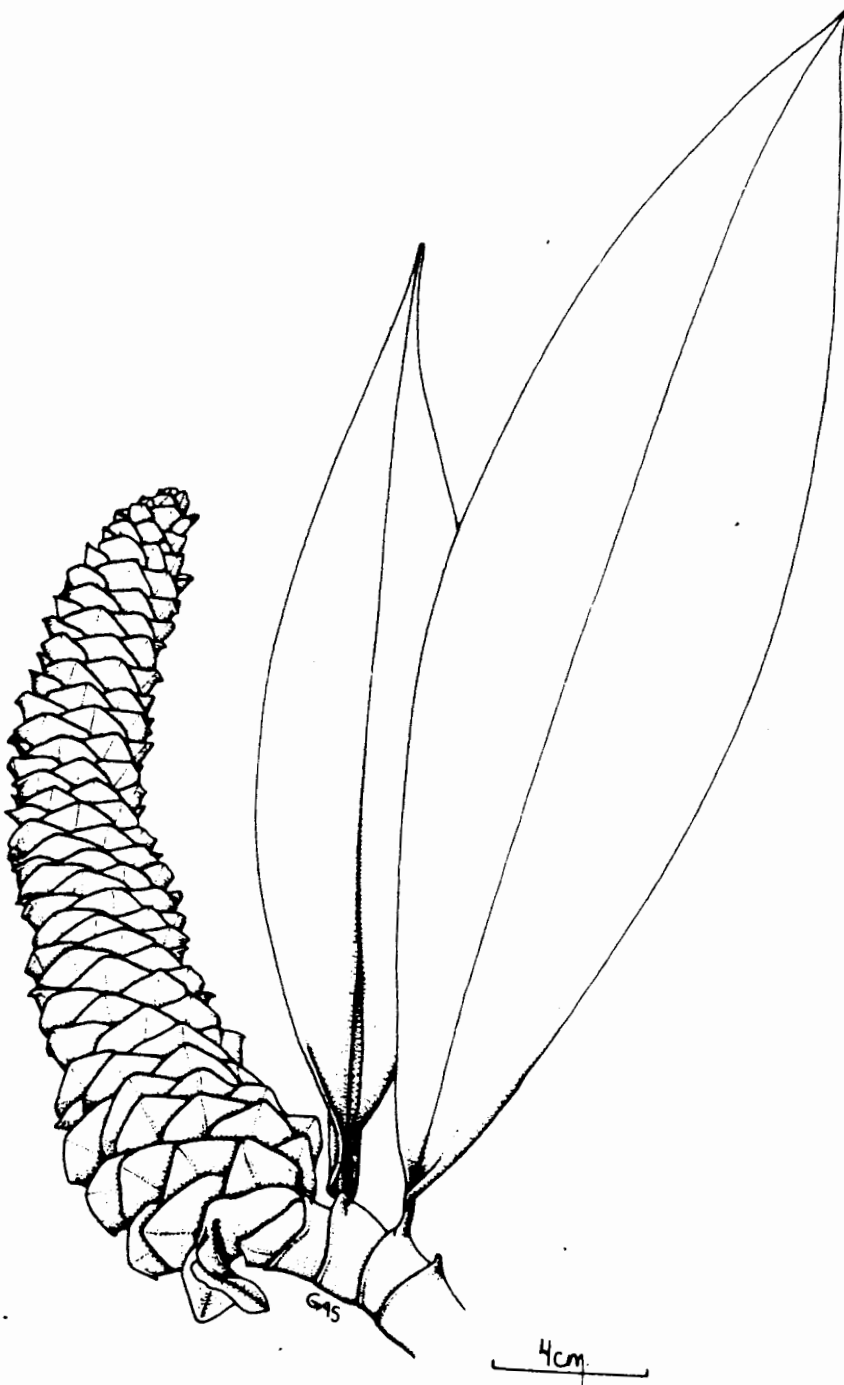
APPENDIX E - 297



HB 2976 Poaceae
Oryza. sativa L.

56

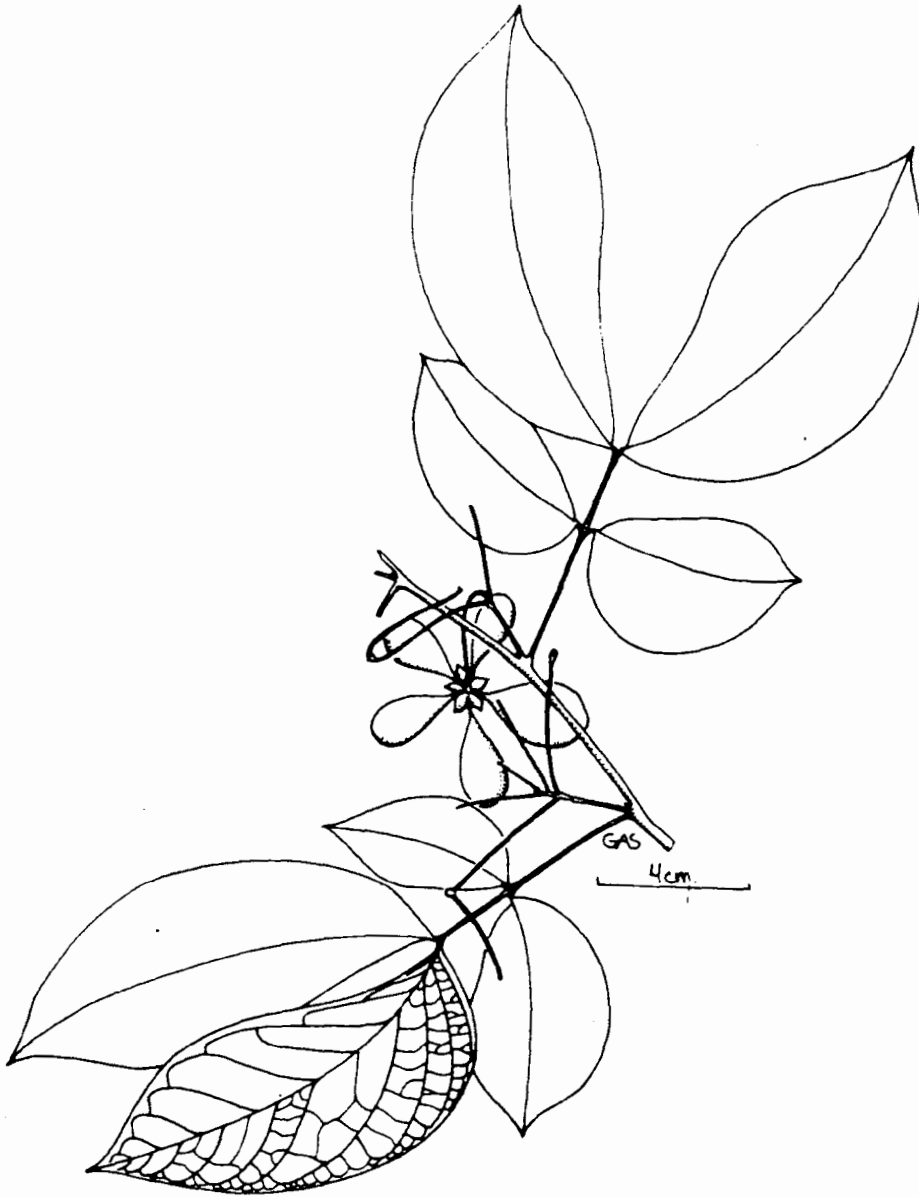
APPENDIX E - 298



Miller 2320 Zingiberaceae
Costus sp.

57

APPENDIX E - 299

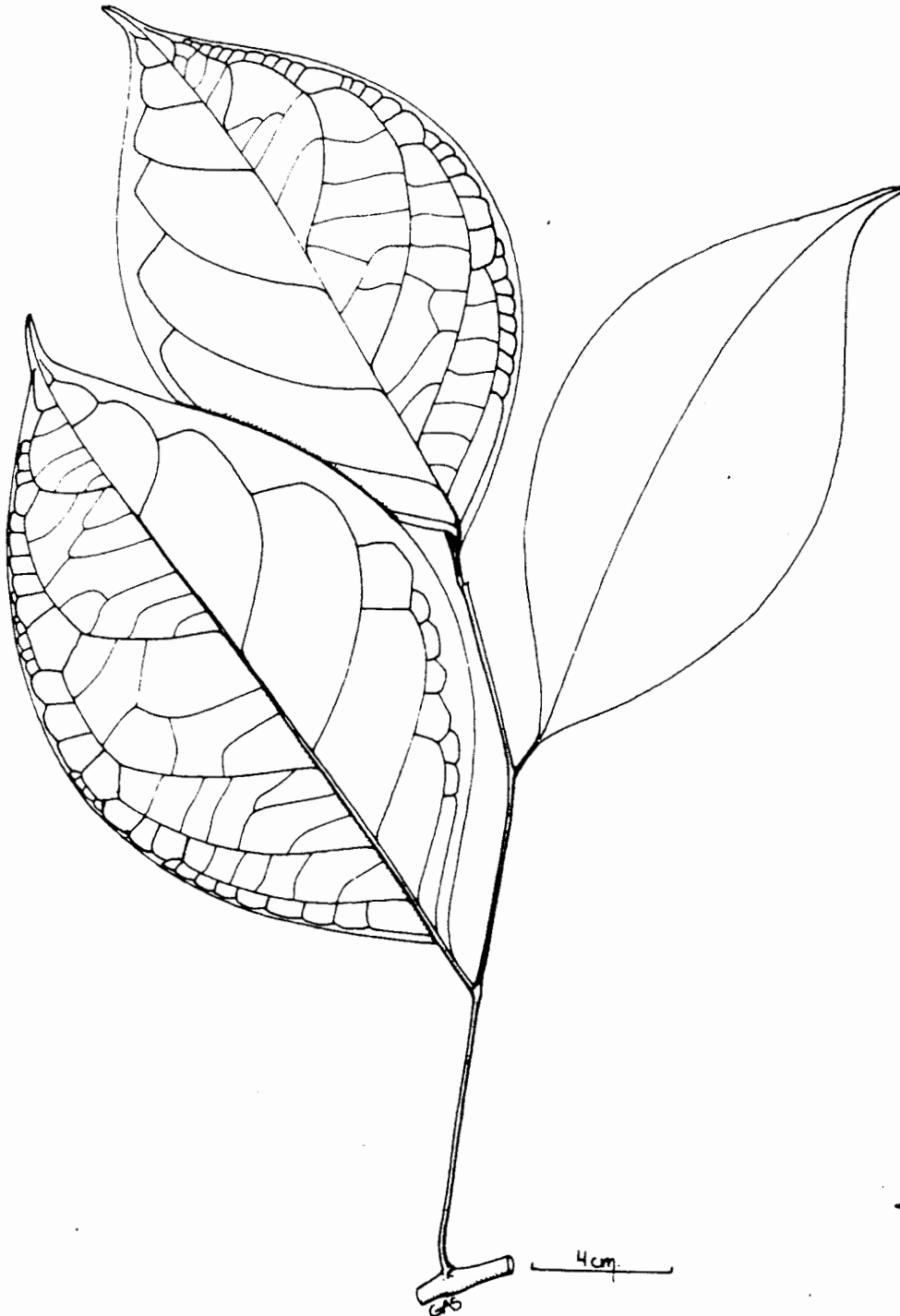


DI_ 857 Fabaceae

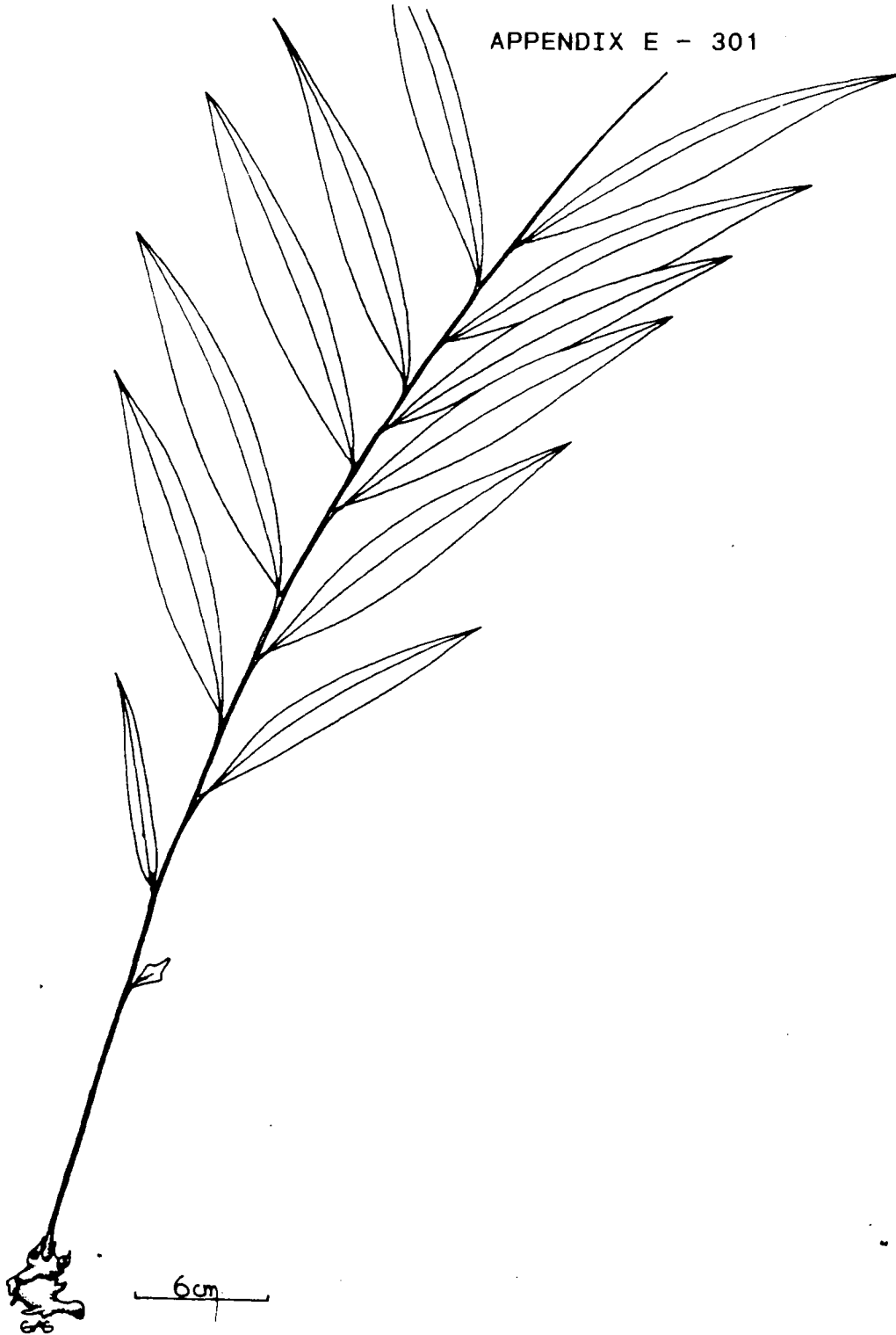
Senna bacillaris L.f. var benthamiana (Macbr.)
Irwin & Barneby

(58)

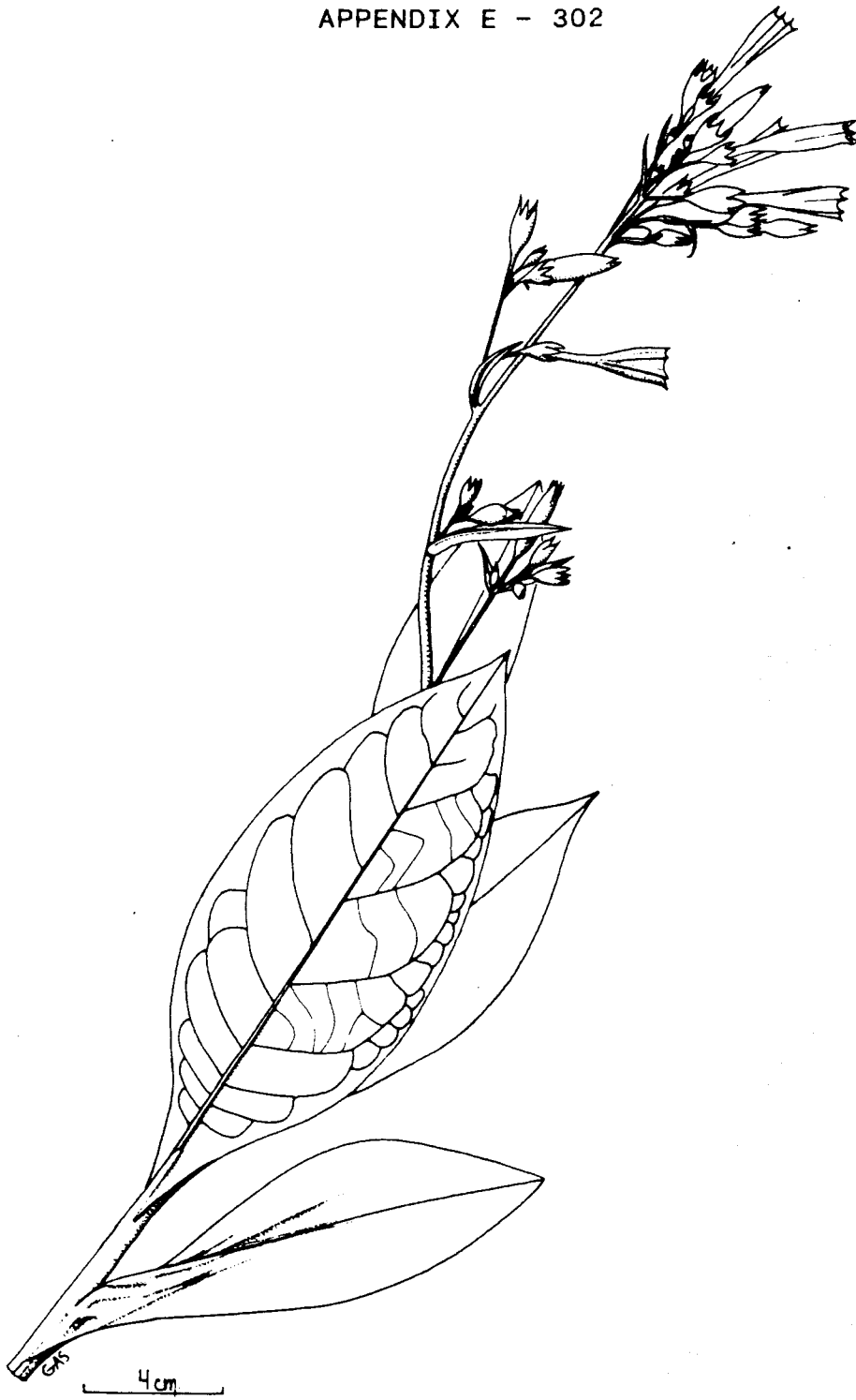
APPENDIX E - 300



CC 268: not *Banisteriopsis* fide ... (59)
may be *Brosimum utile*



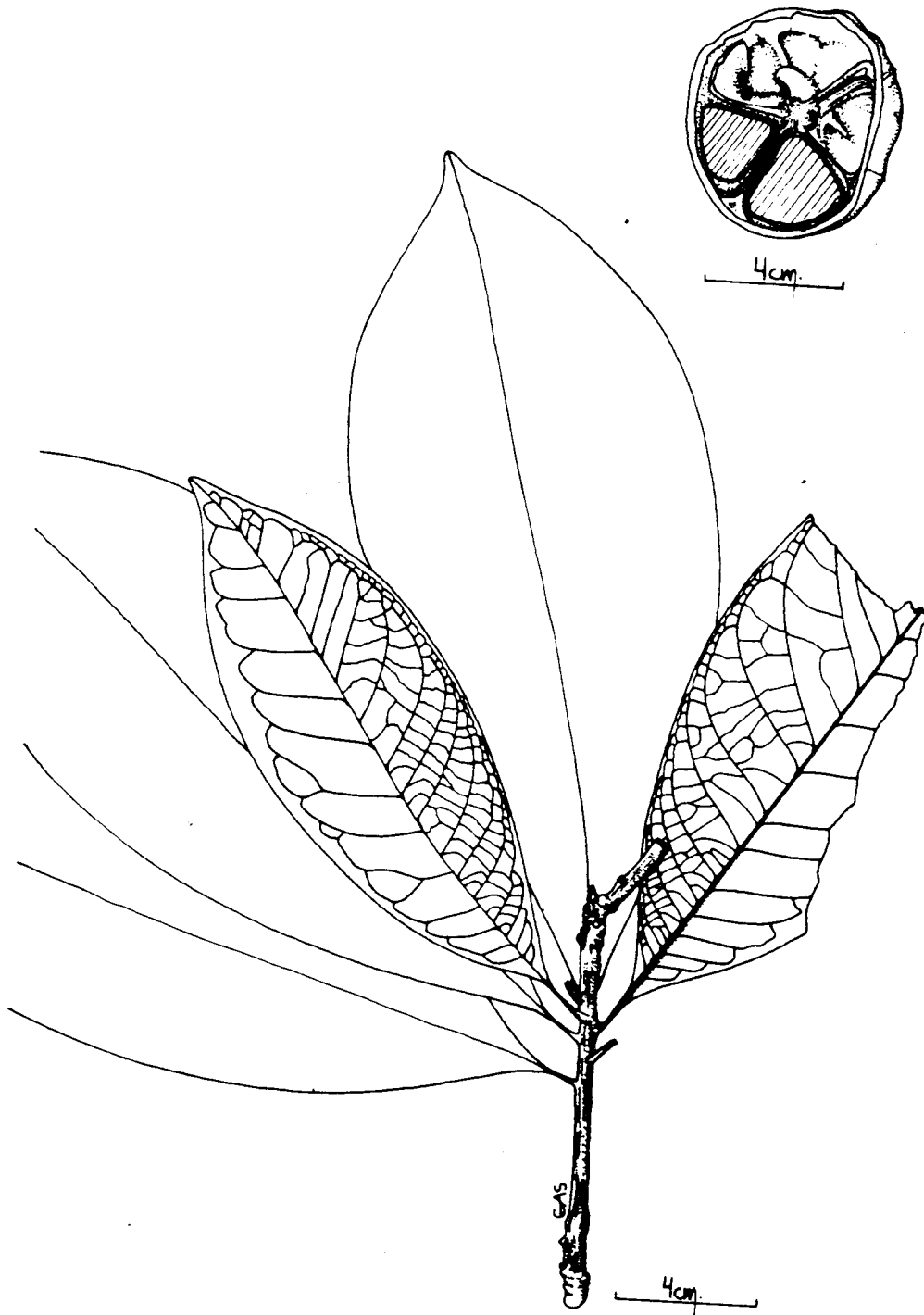
CC 325 Zingiberaceae
Zingiber officinale (60)
Roscoe



Cc 374 Solanaceae
Nicotiana glauca L.

(61)

APPENDIX E - 303



J.Z. 460

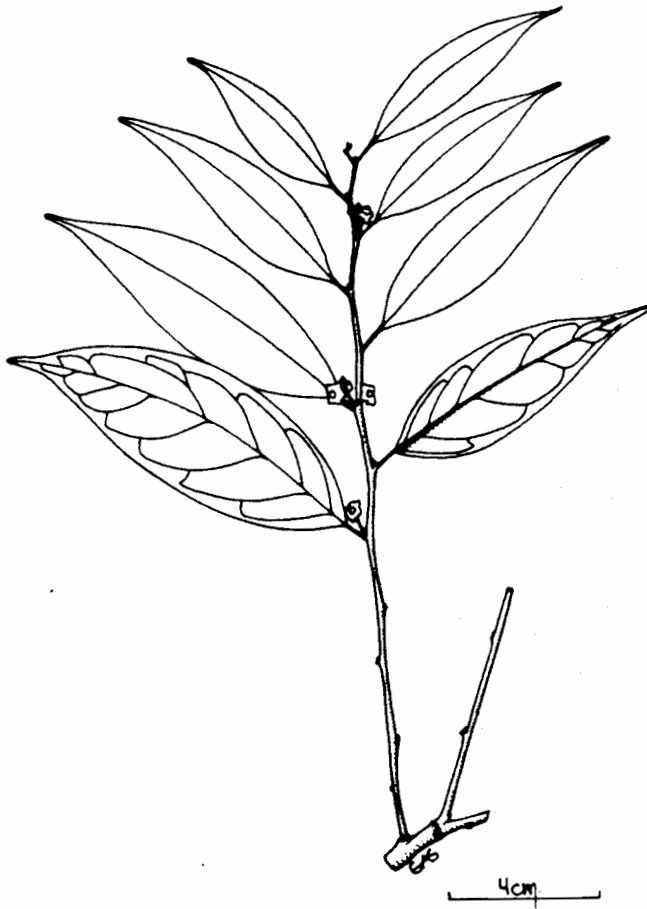
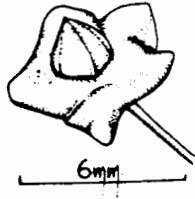
Lecythidaceae

Bastardia peruviana

of ...

(62)

APPENDIX E - 304

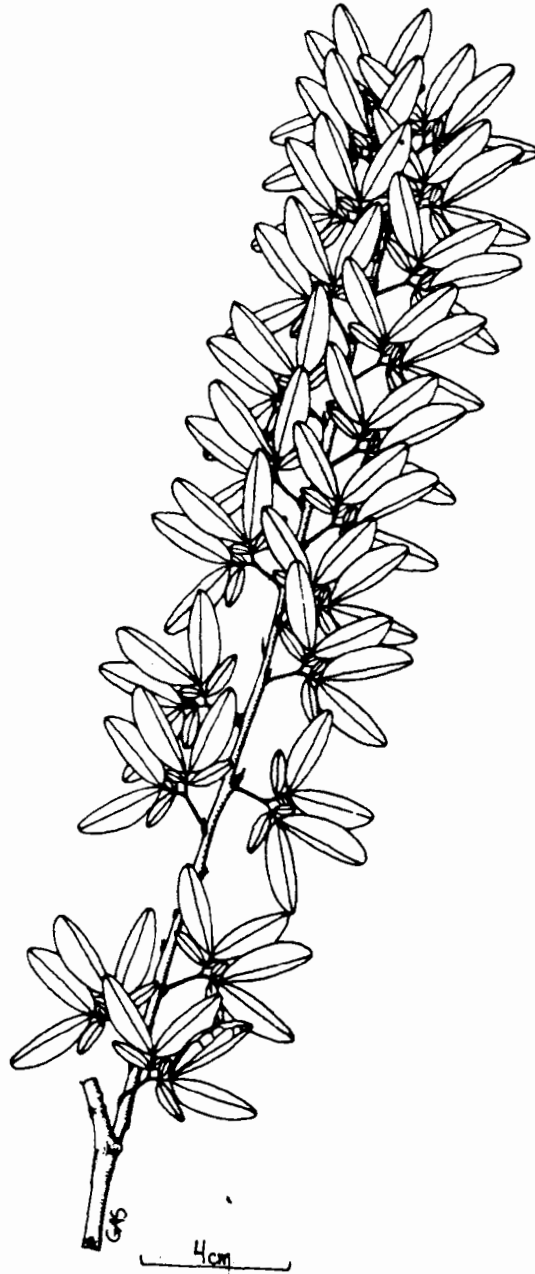


CC 174

Olacaceae
Heisteria nitida

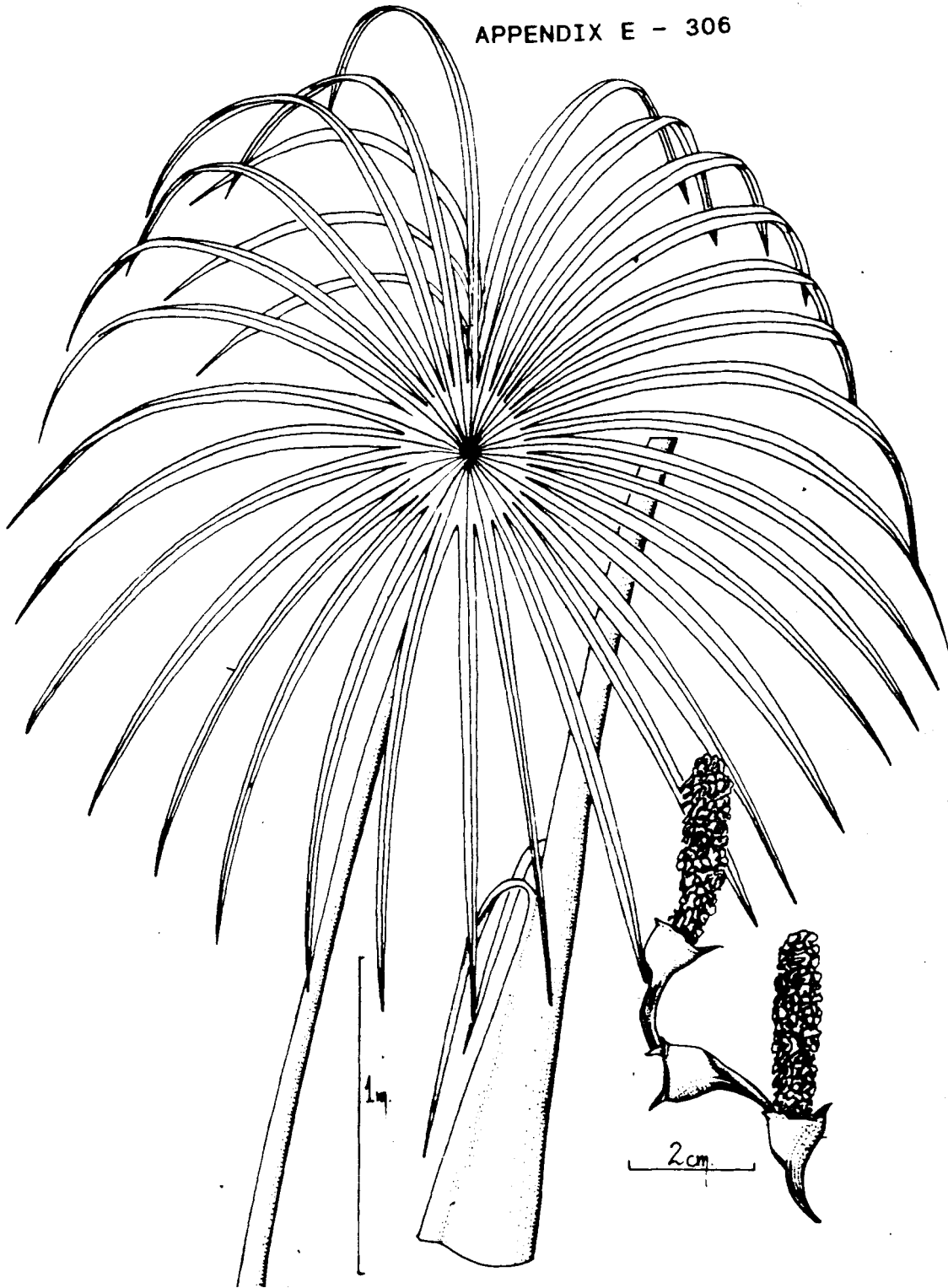
63

Spruce ex Engl.



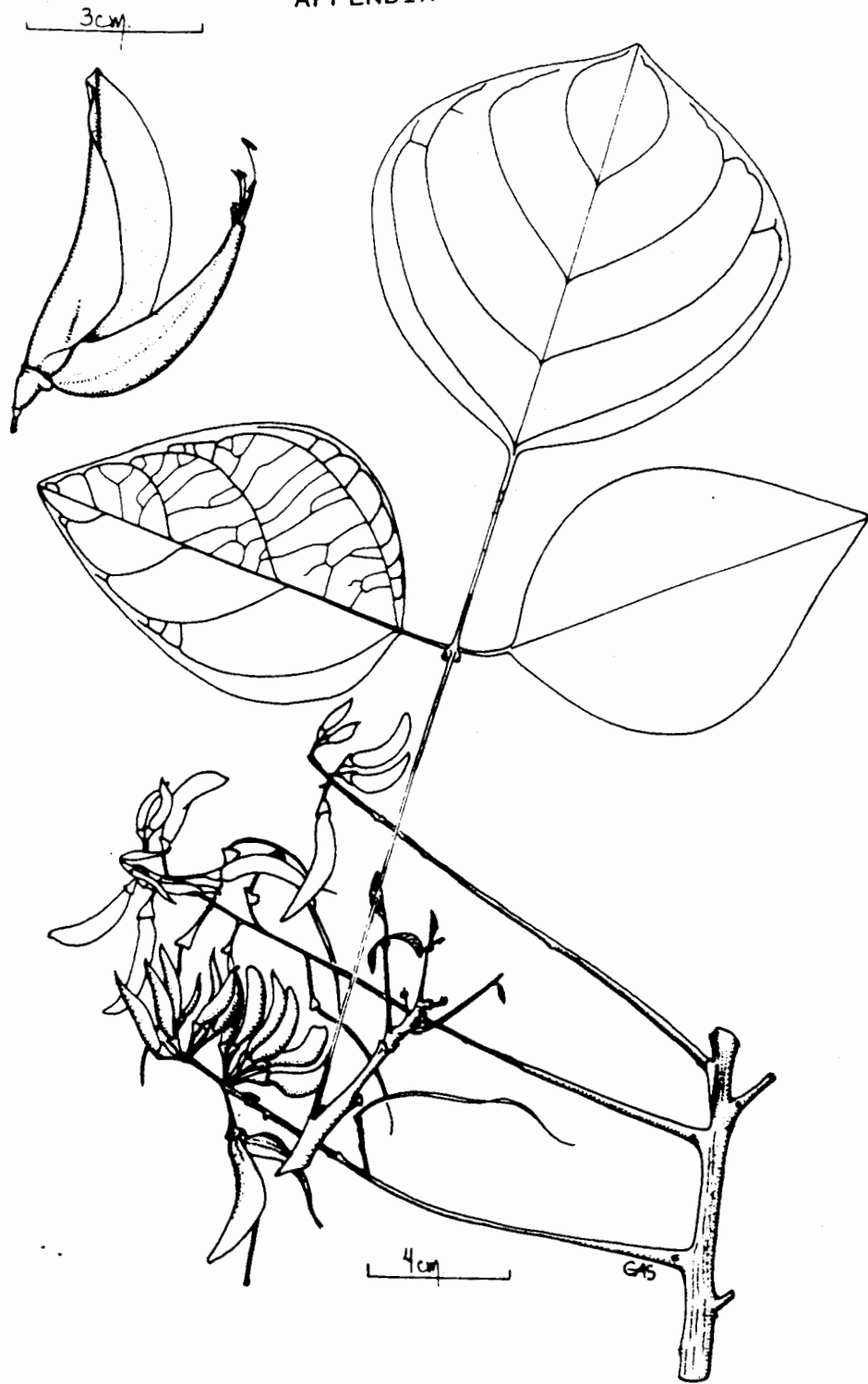
CC 124 Fabaceae (Mimosoideae)
Pithecellobium angustifolia

(64)
Spruce



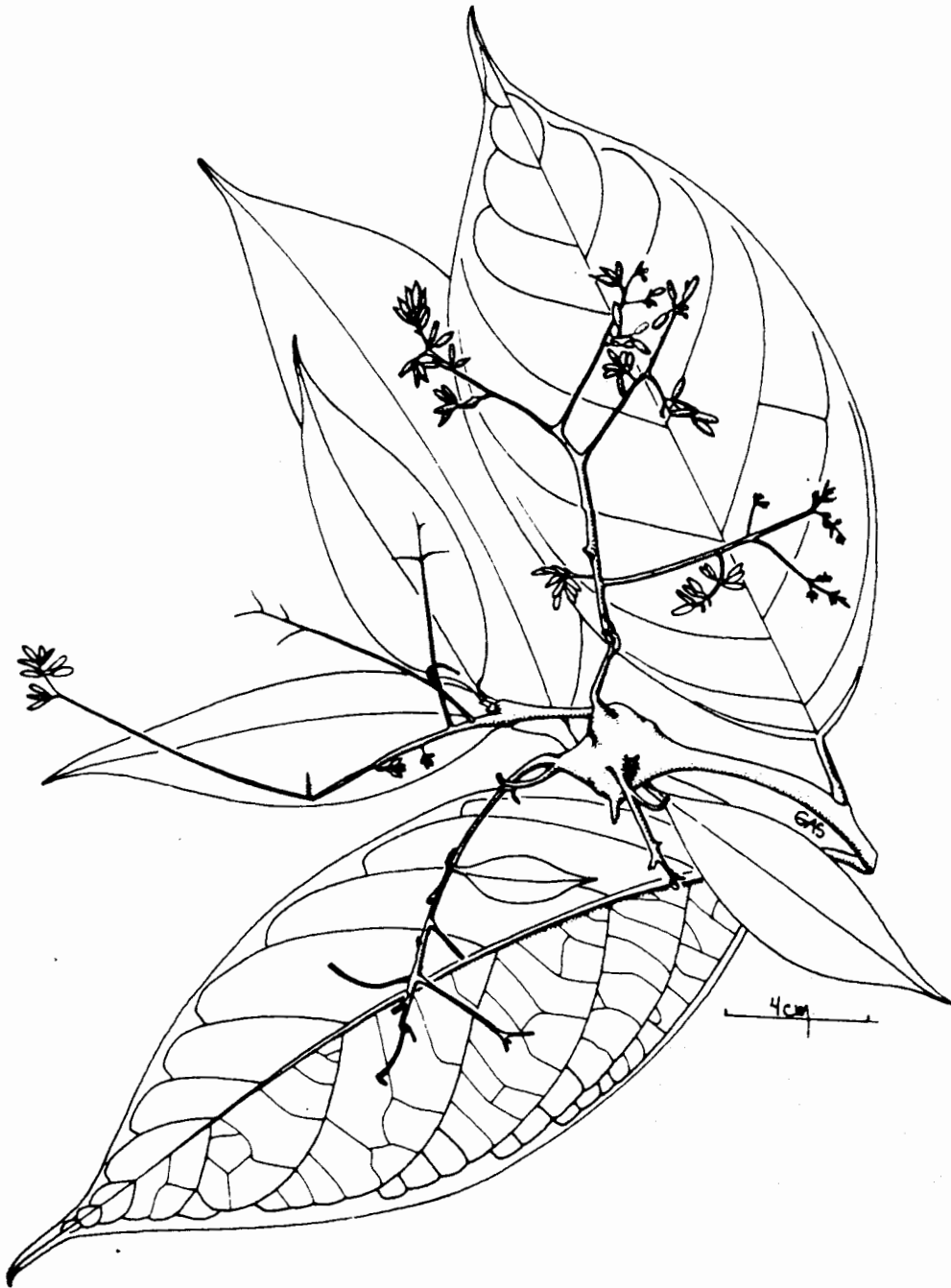
CC 403 Arecaceae
Mauritia flexuosa Lf.

APPENDIX E - 307



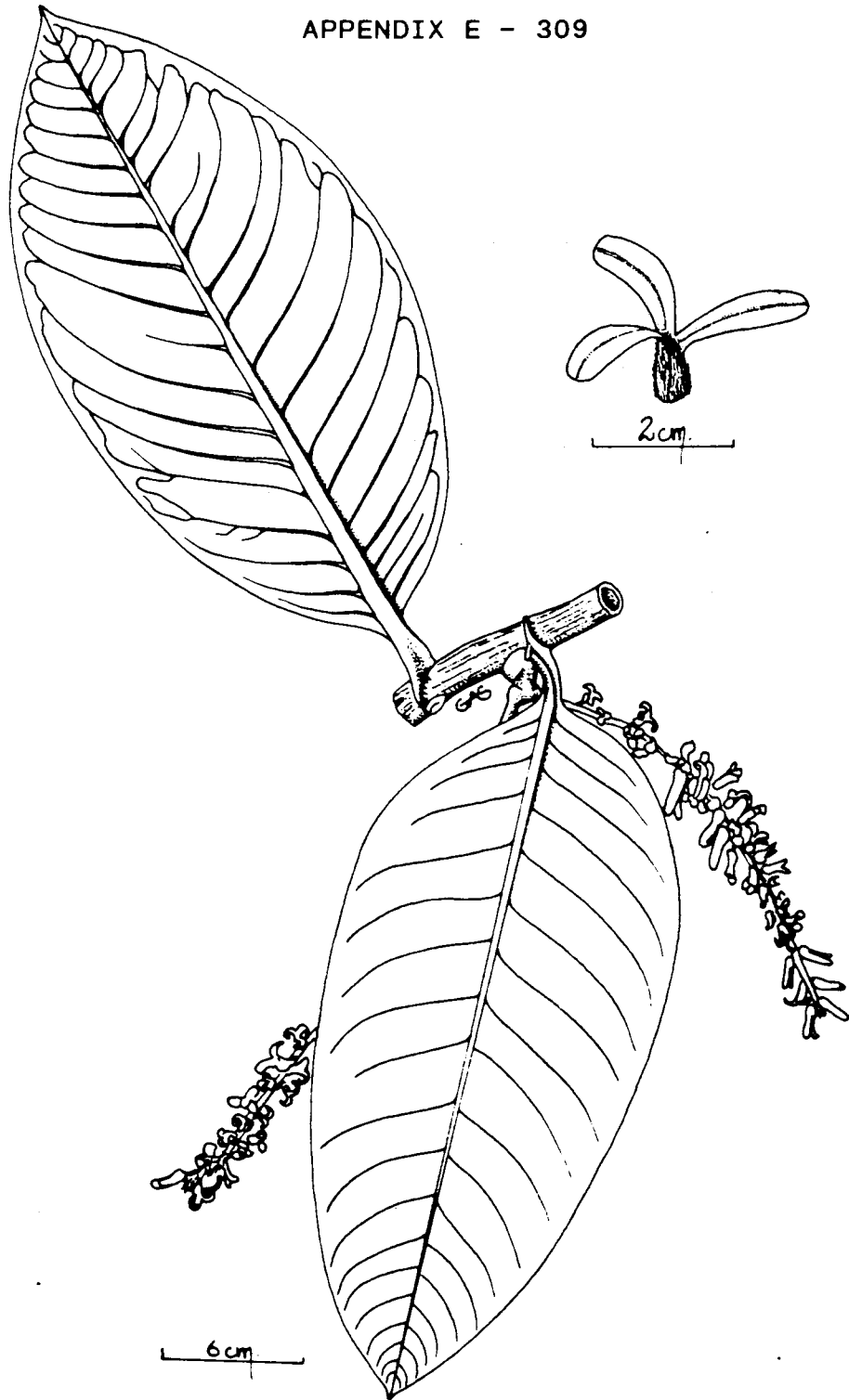
DN 7481 Fabaceae (Papilionoideae)
Erythrina poeppingiana (Walpers) O.F. Cook 66)

APPENDIX E - 308

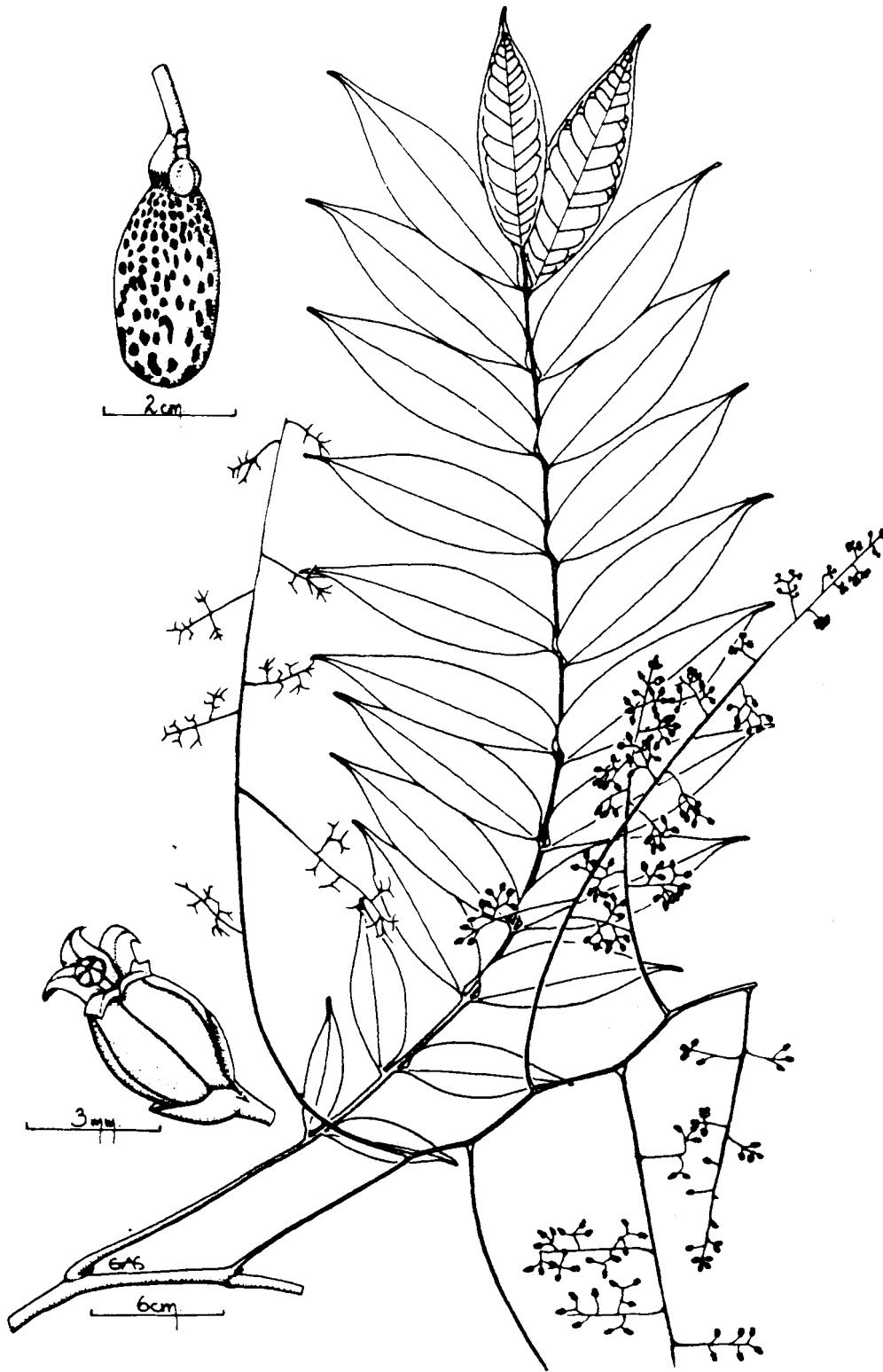


DI 161 Boraginaceae
Cordia alliodora (R. & P.) Oken

APPENDIX E - 309



DI 725 Polygonaceae
Triplaris americana L



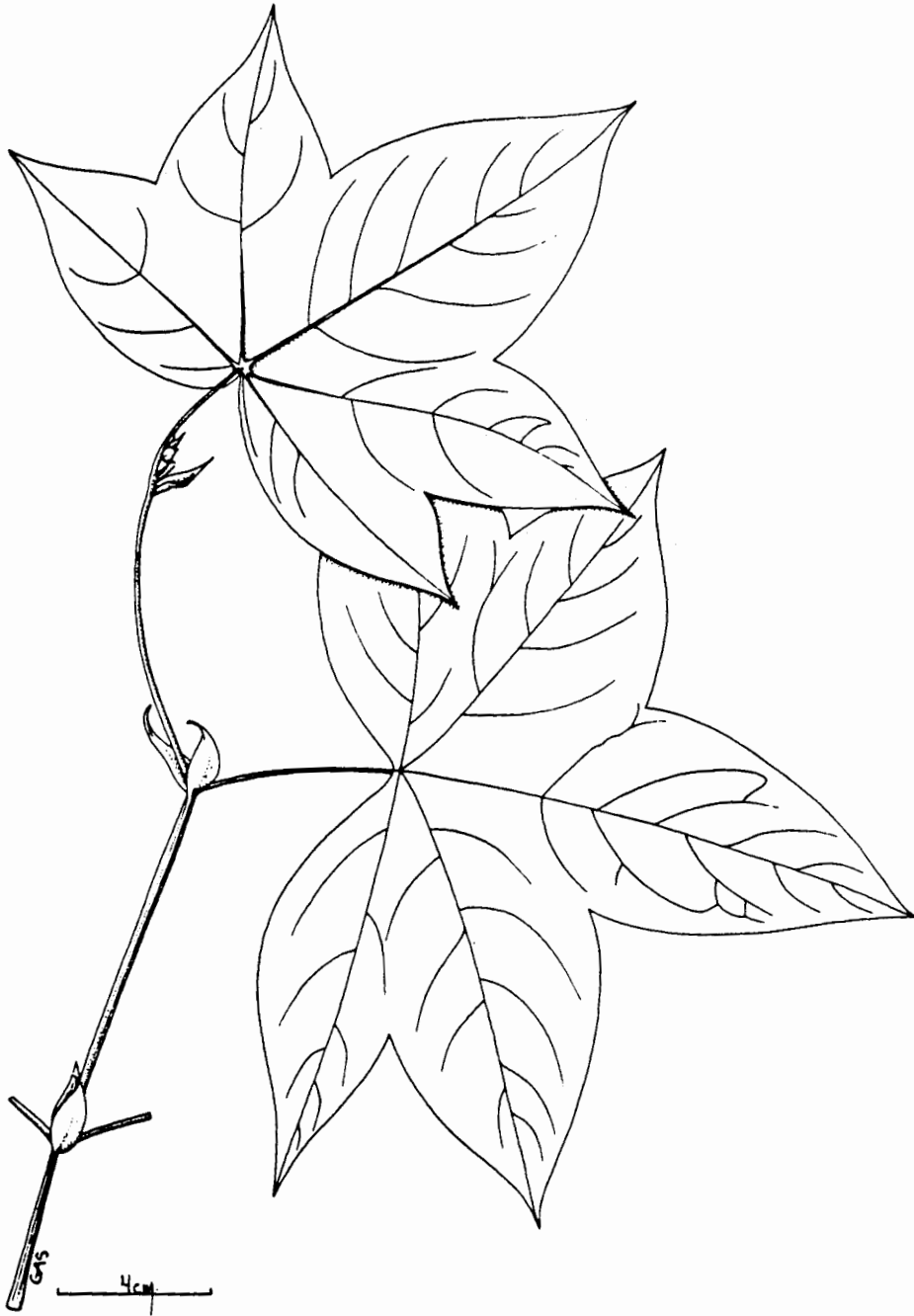
(69)

CC 425 Meliaceae
Cedrelinga odorata L.



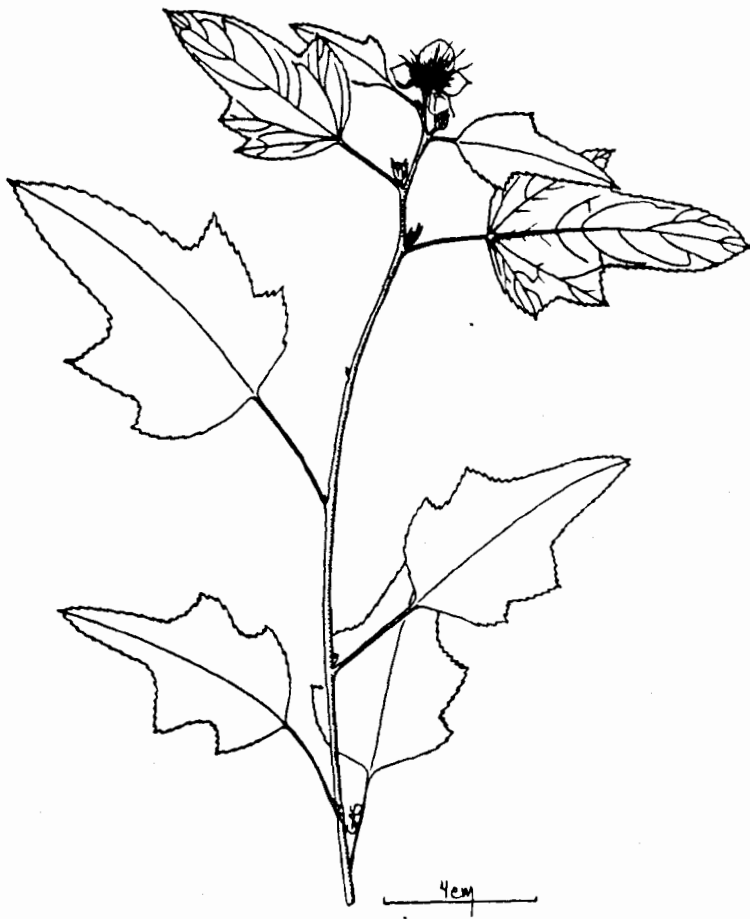
APPENDIX E - 312





13013 3115

APPENDIX E - 314



515 2/58



CLASSIFICATION OF USEFUL PLANTS
MAJOR CATEGORIES

1. CONSTRUCTION

- A. BEAMS AND POSTS
- B. CANOES
- C. FENCES
- D. FLOOR JOISTS
- E. FLOORING
- F. FURNITURE
- G. LASHING MATERIAL
- H. RAFTS
- I. RAFTERS
- J. TEMPORARY SHELTERS
- K. THATCH
- L. WALLS
- M. OTHER

2. CRAFTS

- A. ADHESIVES
- B. BAGS
- C. BASKETS
- D. HAMMOCKS
- E. JEWELRY
- F. MUSICAL INSTRUMENT
- G. TOYS
- H. OTHER

3. DRUGS - NONMEDICINAL

- A. ADDITIVES
- B. HALLUCINOGENS
- C. STIMULANTS
- D. OTHER

4. DYE/PAINT

- A. DYE
- B. PAINT
- C. OTHER

5. FIBERS

- A. CLOTHES
- B. CORDAGE
- C. OTHER

4. FISHING

- A. BAIT
- B. NETS
- C. POISONS
- D. TRAPS
- E. SPEARS
- F. OTHER

- 6. **FOOD**
 - A. BEVERAGE
 - B. CONDIMENTS
 - C. FRUIT
 - D. NUTS
 - E. OIL
 - F. SNACK
 - G. STARCH
 - H. VEGETABLE
 - I. OTHER

- 7. **FOOD PROCESSING**
 - A. COOKING IMPLEMENTS
 - B. STORAGE
 - C. UTENSILS
 - D. OTHER
 - E. OTHER

- 8. **FORAGE, FERTILIZER, INSECTICIDES**
 - A. ANIMAL FEED
 - B. FERTILIZER
 - C. INSECTICIDE
 - D. PASTURE FORAGE
 - E. WILD FORAGE
 - F. OTHER

- 9. **FUEL**
 - A. FIRE STICKS
 - B. NONWOOD FUEL
 - C. WOOD
 - D. OTHER

- 10. **HUNTING**
 - A. ARROW POISONS
 - B. BLOWGUNS
 - C. CONTAINERS
 - D. DARTS
 - E. QUIVERS
 - F. SPEARS
 - G. TRAPS
 - H. WADDING
 - I. OTHER

11. MEDICINE

A. CONDITION

1. ABDOMINAL PAIN
2. ABSCESS
3. ALLERGY
4. AMENORRHEA
5. ANEMIA
6. ANGINA
7. ANIMAL BITE
8. BLOODY NOSE
9. BOILS
10. BRONCHITIS
11. BURNS
12. CARIES
13. CHILD BIRTH
14. CHILL
15. COLD
16. COLIC
17. CONTUSION
18. COUGH
19. CYSTITIS
20. DANDRUFF
21. DIARRHEA
23. DOUCHE
24. DYSENTERY
25. EAR ACHE
26. FRACTURES
27. HEADACHE
28. HEART PAIN
29. HEMATOMA
30. HEMORRHOIDS
31. HERNIA
32. HERPES
33. INFLAMMATION
34. INFLUENZA
35. INSECT STING
36. LICE
37. LIVER PAIN
38. MANGE
39. MARASMUS
40. MEASLES
41. MEMORY
42. MENSTRUAL PAIN
43. NAUSEA
44. PALENESS
45. RHEUMATISM
46. SKIN INFECTION
47. SNAKE BITE
48. SOAR THROAT
49. SPLEEN PAIN
50. SPRAIN
51. STOMACH PAIN
52. SWELLING
53. THRUSH

11. MEDICINE

A. CONDITION (continued)

54. TOOTH ACHE
55. TUMEFACTION
56. TUMOR - SKIN
57. TUMOR - SUBCUTANEOUS
58. ULCER
59. UROGENITAL INFECTION
60. WARTS
61. WOUNDS

B. MEDICATION TYPE

1. ANTIINFECTIVE
2. ANTIINFLAMMATORY
3. ANALGESIC
4. ANTHELMINTIC
5. ANTIANEMIC
6. ANTIARTHRITIC
7. ANTICARCINOGEN
8. ANTICARICIDE - MITE
9. ANTIDIABETIC
10. ANTIDOTE - POISONING
11. ANTIDYSENTARY
12. ANTIDYSMENORRHEAL
13. ANTIDYSPEPTIC
14. ANTIFUNGAL
15. ANTIHELMINTHIC
16. ANTIHEMORHAGIC
17. ANTIICTERIC - JAUNDICE
18. ANTIMALARIAL
19. ANTIMENORRHAGIC
20. ANTIMYCOTIC - FUNGICIDE
21. ANTIPRURITIC
22. ANTIPYRETIC - FEBRIFUGE
23. ANTIPYROTIC
24. ANTIRHEUMATIC
25. ANTISEPTIC
26. ANTISIALIC
27. ANTISPASMODIC
28. ANTISYPHILITIC
29. ANTIULCEROGENIC
30. ANTIVIRAL
31. ANTIVOMITORY
32. APHRODISIAC
33. APPETITE STIMULANT
34. ASTRINGENT
35. CARMINATIVE
36. CAUTERANT
37. CLEANSER BLOOD
38. COAGULENT
39. COLLYRIUM - EYEWASH
40. COMPONENT OF HERBAL MIXTURE
41. CONTRACEPTIVE
42. CURATIVE

11. MEDICINE

B. MEDICATION TYPE (continued)

43. DECONGESTANT
44. DEMULCENT
45. DENTRIFICE
46. DEPURATIVE
47. DEPURATIVE
48. DERMITIVE
49. DETUMESCENT
50. DIAPHORETIC
51. DISINFECTANT
52. DIURETIC
53. DRESSING
54. ELEMENT OF
55. EMETIC
56. EMMENAGOGUE
57. EMOLLIENT
58. EXPECTORANT
59. EYE WASH
60. FACTOR OF
61. FERTILITY DRUG
62. FUNGICIDE
63. GALACTAGOGUE
64. HALLUCINOGEN
65. HELMINTHICIDE
66. HYPNOTIC
67. INSECTICIDE
68. LAXATIVE
69. MASSAGE
70. MEDICAMENT
71. MENDER - BROKEN BONES
72. MOUTH WASH
73. NARCOTIC
74. PARTURIFACIENT
75. PARASITICIDE
76. PROPHYLACTIC
77. REDUCER FOR
78. RELAXANT
79. RESTORATIVE
80. SCABICIDE
81. SEDATIVE
82. SOMNIFACIENT
83. STERILENT
84. STIMULANT
85. SUPPRESSANT
86. TONIC
87. TRANQUILIZER
88. VERMIFUGE
89. VITAMIN
90. VULNERARY

12. ORNAMENTAL

13. PERSONAL

- A. BODY ORNAMENTS
- B. COMBS
- C. INSECT REPELLANT
- D. PERFUMES
- E. SOAP
- F. TOOTH BRUSHES
- G. WASH CLOTHES
- H. OTHER

14. POISONS

15. RITUAL/MYTHICAL

- A. AYAHUASCA CEREMONIES
- B. MAGIC
- C. MYTHS
- D. OTHER

16. TOOLS

17. VETERINARY

18. MISCELLANEOUS

VARIATION IN COMMON PLANT NAMES AND THEIR USAGE AMONG THE
SHUAR IN ECUADOR.

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Museo Ecuatoriano de Ciencias Naturales, Quito, Ecuador.

Ecuador's Shuar Indians live predominantly in the Province of Morona-Santiago in the southern Oriente. With about 25,000 people they and the lowland Quichuas or Runa are Ecuador's largest, lowland indigenous groups. Previously known as Jivaros, a pejorative name derived from a Spanish word meaning wild or savage, the Shuar are known best as the head shrinkers of the Amazon. Ethnological studies of this group including those by Stirling (1928), Up de Graff (1923), Karsten (1935) and Harner (1972). Though not conquered by the Incas or the Spanish the Shuar have been influenced by Catholic missionaries. Acculturation continues as westernization displaces their indigenous practices.

As part of an U.S. A.I.D. funded study of plant resources in Amazonian Ecuador, we decided to focus on the Shuar for several reasons. First there are several fine studies of other lowland groups in the Oriente. Pinkley (1973) studied the Kofans for his doctoral dissertation and Cerón (1989) recently completed a dissertation on the

Kofans. Neither of these works have been published yet. Davis and Yost (1983) published a report on the Waoranis use of plants. Vickers and Plowman (1984) did the same with the Siona-Secoya. Alarcón (1988) and Irvine (1987) studied lowland Quichuas. Marles et al. (1988) examined Quichua medical plants. Neill and Palacios (1989) recently published a list of tree species from the region that includes the common names for many species.

To date there are no published studies on the Shuar or Achuar although Lewis has published on Jívaroan groups in Peru (e.g. Lewis and Elvin-Lewis 1984). We therefore, thought it most prudent to work with the Shuar. Moreover, the previously cited studies were based almost entirely in Napo and Pastaza. Studies in Morona-Santiago are few. Preliminary results from our study reveal significant variation in common names used by the Shuar people of Yukutais. In this paper we examine this variation and discuss several factors that account for the differences in plant names.

METHODS AND MATERIALS

After obtaining a convenio from the Shuar Federation, we began work in Yukutais, a Shuar Centro 8 km S of Sucua. Two families dominate the community and we established relationships with both. Before the project began we decided not to pay informants for information. Instead we worked within the community, provided books and supplies for

the school, and donated equipment to families.

We used what Boom (1987) referred to as artefact and inventory interview techniques. Sometimes we asked the name of plants used in items or consumed in Shuar homes. This is the artefact technique. It begins with a product and then establishes a connection with a plant. Other times we collected plants and then asked informants the common names and uses of these - the inventory technique. Informants usually conferred and reached a consensus before giving us information.

Our most successful technique was to collect plants in the field, prepare voucher specimens, and number one extra specimen. We then took the numbered specimens to informants houses. Using this method we could question more than one group of informants about the same plant. Interviewing after meals was especially successful as most family members were at home and talkative at this time. Independent informants often gave the same name and use but in 20-30% of the cases they gave different information for the same plant.

RESULTS

Of the 700 hundred plants collected in Yukutais, 95 have data from two or more groups of informants. Forty-eight plants had only Shuar names but were known by 2 or more informant groups. Ten plants had one Shuar name but were unknown by the other informants. Two plants bore Shuar

and Quichua names and 35 had Shuar and Spanish names (Table 1). Informant groups reported different uses for 17-60% of these plants. Some plants, such as Spananthe paniculata Jacq., lacked common names. We will not discuss these here.

Brunella comocladifolia H. & B. and Bauhinia tarapotensis Benth. were among the plants bearing only Shuar names (Appendix, Example 1). Bauhinia tarapotensis's common name "itsanaik" refers to its mythological relationship with "itsa," the Shuar name for the sun. Bambusa sp. also was in this group but it had Shuar names. This species is called "kinki chiniap" when found in the wild. After splitting the stem and hammering it into sheets the Shuar call the plant "peák." When used for walls or floors it is called "tenish."

Ten species including Melothria pendula L. and Cardiospermum halicacabum L. were known by one informant group but not by the other (Appendix, Example 2). Ilex gauyusa Loes. and Bactris gassipaes Kunth had both Spanish and Quichua names (Appendix, Example 3). Other common species such as Banisteriopsis caapi (Spruce ex Griseb.) Morton and Brunfelsia grandiflora D. Don. also belong to this group. We've not collected vouchers for these and do not include them in the analysis.

Thirty five plants (Appendix, Example 4) including Carica papaya L. and Gossypium barbadense L. had both Spanish and common names. Malachra ruderalis Gurke is

another plant from this group. A few plants bore only non-Shuar names. These were mostly recent introductions or plants cultivated as ornamentals or for food such as Malvaviscus penduliflorus DC (peregrina) or Quararibea sp. (sapote). Scoparia dulcis L., commonly used by lowland Quichuas also is in this group.

Of the 48 plants with only Shuar names six, including Inga edulis Mart. and Margaritaria nobilis (L.f.) Muell.Arg. bore a single name (Appendix, Example 5). Grias peruviana Miers was also in this group. Among those with a single name, different uses were reported in 33% of the cases (Table 2). Informants reported different uses for 26.2% of the remaining 42 plants.

DISCUSSION

About 10% of the plants collected were known by one group of informants but not by the other. These plants were mostly small herbs or understory shrubs. Some were common but none were dominant members of the vegetation.

Thirty-seven plants bore one Shuar and one non-Shuar name (35 Shuar-Spanish; 2 Shuar-Quichua). Most of these plants are either cultivated (e.g., Manihot esculenta Crantz) or are used by many groups (e.g., Eryngium foetidum L.) in the western Amazon. Besides the two species collected in Yukutais several carry both Shuar and Quichua names. Interestingly, most of the stimulants and hallucinogens are in this group. The Quichua (guayusa) and

Shuar (wais) common names for Ilex guayusa suggest a common derivation. For other common names the relationship is more obvious. The Shuar name for B. grandiflora is "chirikiasip," an unequivocal derivation from the Quichua "chiri caspi" which means fever bark or fever tree. These shared common names and uses indicate a wide exchange of common names and uses (and perhaps plant material among native Amazonian people.

Forty-two of the 48 plants bearing only Shuar names had more than one common name. In 22 cases the names were structurally different and in 19 cases the differences were due to modifications. One species represented both types of differences (Table 3). Reasons for the modifications are:

1. Orthographic differences - e.g.. Bellucia weberbaueri Cogn. "tunjia and tunkia"
2. Incomplete identification - e.g.. Struthanthus orbicularis (HBK) Blume "iwianchmer" and "uniwianchmer"
3. Tautonymy - e.g.. Matalea rivularis Woodson "tsimtsim" and "tsime"
4. Different taxonomic systems - e.g.. Miconia sp. "chinchak and "tsere chinchak"

The orthographic differences are not very interesting nor surprising considering the lack of formalized scientific vocabulary. The incomplete identification may represent different levels of knowledge among the informants. For example, let's suppose that we ask a layman, a farmer, and

an agronomist the common name of Elaeis guineensis Jacq. The layman might say that the tree was a "palm." The farmer would say that it was an "African oil palm" and the agronomist could respond that it was the "dura" variety of the "African oil palm." Though there is variation in the responses these three informants basically would agree.

Tautonymy or repetition of the same epithet may also account for name differences. Informants called Matalea rivularis "tsimtsim" or "tsime." They called Bidens bipinnata L. var. cyanipiifolia (HBK) Maza "vichivichink" or "vichi." In other cases, however, tautonymy is used to distinguish plant species. Ipomoea batatas (L.) Lam. is called "inchi" in Shuar. Other Ipomoea species, white-flowered Convolvulaceae (e.g., Merremia macrocalyx (R. & P.) O'Donnell, or Mikania sp. (a white-flowered vine) were called "inchi-inchi". The Shuar name for Clibadium sylvestre (Aublet) Baillon is "massu" while the tautonym "massu-massu" or "massu-mass" is used for white-flowered, shrubby Asteraceae other than C. sylvestre.

The differences in common names among Miconia species may represent different taxonomic systems used. There is general agreement that Miconia is "chinchak" but some informants used modifying epithets to distinguish some species. The variation in Miconia spp. common names also could be due to misidentification or incomplete identifications.

Twenty two plants bore two Shuar names that were

structurally different. Reasons for these structural differences are:

1. Misidentification - e.g., Picramnia sp. "mandunim" and "setur"
2. Synonymy - e.g., Erythrina sp. "shuke" and "itse"
3. Different taxonomic system - e.g., Gurania "yapaipa" and "yuwich" or Marcgravia sp. "tseem" or "uwe"

The reference to Picramnia sp. as "setur" is most certainly a misidentification. "Setur" is the Shuar name for Cedrela odorata L. and other Meliaceae species. The young Picramnia is superficially similar to C. odorata so the mistake is understandable.

One informant knew three Shuar names for a species of Erythrina sp. - "itse", "shuke" and "melishu." Just as Bactris gassipaes has 20 or more scientific synonyms some species have an extensive synonymy of common names. Seedlings often have different names than the adult plants.

The Siona have one name (petó) for the fruit of an Astrocaryum sp. and another (nyûkwa) for the entire (Vickers and Plowman 1984). Bambusa sp. mentioned earlier has three names depending on where it is found or how it is being used. The Waorani call Ceiba pentandra (L.) Gaertn. "bobewe" but call the seed fibers "co" (Davis and Yost 1983).

Just as with modifications the use of different taxonomic systems may explain structural name differences. One group of informants used the term "uwe" for woody

parasites and hemiepiphytes including a species of Marcgravia. The other informant group consistently used the word "tseem" for many of the same plants especially epiphytes or parasites with succulent leaves. In the same manner Manihot esculenta Crantz is called "yucca" in some regions and "manioc" in others.

SUMMARY

Of the 95 plants for which we have data from 2 or more informant groups twenty-seven percent have different uses and 23% have different names. Differences between communities are likely to be even greater. Only by interviewing several informants within a community can we gain a complete understanding of the indigenous taxonomy. Researchers should be especially careful to distinguish common names used for different life stages or different parts of the same species. This applies also to different names for different uses of the same plant such as the Bambusa example mentioned. Linguistic analysis may help identify plants that have been introduced from neighboring tribes in Amazonia. The use of more rigorous methodology will help ethnobotany become a stronger science.

APPENDIX G - 331

ACKNOWLEDGMENTS

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TABLE 1. TYPES OF PLANT NAMES USED BY THE SHUAR. (DU = NUMBER OF PLANTS WITH DIFFERENT USES, % DU = PERCENT OF PLANTS WITH DIFFERENT USES).

TYPE OF COMMON NAME	NUMBER	DU	% DU
SHUAR	48	13	27.1%
SHUAR/NONE	10	6	60.0%
SHUAR/QUICHUA	2	1	50.0%
SHUAR/SPANISH	35	6	17.1%
SPANISH	0	0	-
TOTAL	95	26	27.4%

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TABLE 2. PLANTS WITH ONLY SHUAR NAMES AND DIFFERENCES IN USE (DU) REPORTED BY INFORMANTS.

# OF NAMES	CASES	DU	% DU
1	6	2	33.3%
>1	42	11	26.2%
TOTAL	48	13	27.1%

TABLE 3. TYPES OF VARIABILITY IN COMMON NAMES OF PLANTS WITH MORE THAN ONE SHUAR NAME.

NUMBER	TYPE OF VARIABILITY
22	STRUCTURAL MISIDENTIFICATION SYNONYMS DIFFERENT TAXONOMIC SYSTEMS
19	MODIFICATION ORTHOGRAPHIC/DIALECTAL MISIDENTIFICATION OR INCOMPLETE IDENTIFICATION TAUTONYMS DIFFERENT TAXONOMIC SYSTEMS
1	STRUCTURAL/MODIFICATION

APPENDIX

EXAMPLE 1. PLANTS WITH ONLY SHUAR COMMON NAMES.

Brunellia comocladifolia H. & B.

Centro Yukutais. Small tree growing in chacra.

CHURUMI - Bennett 3650; Informant: MK & RN.

SUNTUCH - Bennett 3650; Informant: GS & DA & AA.

Construction, Forage. Source of wood (MK & RN). Armadillos eat fruits (GS & DA & AA).

Bauhinia tarapotensis Benth.

Centro Yukutais. Small tree in open areas.

ITSANAİK - Bennett 3795; Informant: MK & RN; DA

Ritual. Itsa visits earth. Iwia (bird) flies and tells people that Iwi wants to eat squirrel. Itsa uses tree as a ladder.

EXAMPLE 2. PLANTS WITH ONE SHUAR NAME BUT UNKNOWN BY OTHER INFORMANTS.

Melothria pendula L.

Centro Yukutais. Occasional vine in disturbed, wet sites.

CHINCHINCAS - Bennett 3777; Informant: MK.

NAME UNKNOWN - Bennett 3777; Informant: DA & CCH.

Food. Fruits edible.

Cardiospermum halicacabum L.

Centro Yukutais. Vine of disturbed sites.

CHICHI WIAMBIAK - Bennett 3784; Informant: DA.

NAME UNKNOWN - Bennett 3784; Informant: MK & RN.

Craft. Seeds are used in necklaces.

EXAMPLE 3. PLANTS WITH ONE SHUAR AND ONE QUICHUA NAME.

Ilex quayusa Loes.

Centro Yukutais. Medium tree growing in chacras.

WAIS - Bennett 3659; Informant: GS, DA&AA, MK&RN.

GUAYUSA - Bennett 3659; Informant: GS, DA&AA, MK&RN.

Drug, Food, Medicine. Tea made from leaves is used to treat headaches, stomach aches, dizzy spells and pain (MK & RN). Previously used like coffee (GS & DA & AA).

Bactris gasipaes Kunth

Centro Tiink, Tuutin Entsa. Commonly cultivated palm.

UWI - Jimpikit BAE2037; Informant: HJM.

CHONTA - Jimpikit BAE2037; Informant: HJM.

Construction, Food. Trunk used in house construction. Heart and fruits are eaten.

EXAMPLE 4. PLANTS WITH ONE SHUAR AND ONE SPANISH NAME.

Carica papaya L.

Misión Salesiano Bomboiza; Centros Tuutin Entsa, Yukutais. Commonly cultivated small, tree.

WAPAI - Bennett 3495; Informant: JA.

PAPAYA (Spanish) - Bennett 3495; Informant: JA.

Food, Medicine. Fruit edible. The root and plant juice are mixed with other medicines, cooked well, and used in a herb bath to treat diarrhea.

EXAMPLE 4. PLANTS WITH ONE SHUAR AND ONE SPANISH NAME (CONTINUED).

Gossypium barbadense L.

Centros Pampants, Tuutin Entsa, Chiar Entsa, Yukutais.
Shrub to 3 m cultivated around homestites.

URUCH - Bennett 3415; Informant: JA.

ALGODON (Spanish)- Bennett 3415; Informant: JA.

Fiber, Medicine. Cultivated for seed fibers. Cotton placed on the finger is wetted and mixed with achiote and hot pepper. This is applied in the mouth to relieve cough and sore throat (NJM).

EXAMPLE 5. PLANTS WITH ONLY ONE SHUAR NAME.

Inga edulis Mart.

Centro Yukutais. Medium tree to 12 m found in chacras.

WAMPA - Bennett 3658; Informant: MK&RN; GS, DA&AA

Food. Cultivated for edible fruit.

Margaritaria nobilis (L.f.) Muell.Arg.

Centro Yukutais. Occasional tree to 10 m.

YANTSA - Bennett 3743; Informant: MK; DA & CCH..

Construction, Forage. Source of wood. Birds eat the fruits.

ECONOMIC AND SOCIOLOGICAL ASPECTS OF ETHNOBOTANY

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By its very nature ethnobotany is an interdisciplinary science, combining the study of people (ethno) and plants (botany). The merger of botany and anthropology, however, is seldom thorough. Schmidt (1974) expresses this when he writes, "It is unfortunate but true that most anthropologists know little, if anything, of botany, and few know very much about agriculture. At present, trained ethnobotanists are so rare as to be almost curiosities." When Christine Padoch, an anthropologist, began working for the New York Botanical Garden, the botanists jokingly told her, "just remember, the green things are plants."

Anthropologists may know little about plants but botanists know less about culture, especially indigenous ones. Padoch could have told the plant taxonomists, "and just remember the things with legs are people." Schmidt condemns the plant scientists as well. "Few professional botanists are either willing or able to take time from their

own research to accompany an anthropologist in the field, and it is frequently impossible for the ethnographer to transport specimens to the botanist for study."

Two pioneering Amazon botanists illustrate this disregard for native people. Dr. Richard Schultes asked Adolpho Ducke, who he considered "the modern master of Amazon flora," to review a manuscript on the indigenous uses of Hevea seeds (cited in Schultes 1983). Ducke replied "I am incompetent in matters of primitive Indians with whom I've never been in contact." B.A. Krukoff told Schultes, "an Indian is of no interest to me; I consider him an impediment to my work." These attitudes among two important botanists are not exceptional. The same feeling exists today.

It is therefore of little surprise that ethnobotany has faltered. Outsiders consider it an archaic discipline. Insiders have approached it from only one perspective, ignoring the dependency on both anthropology and botany.

Since its publication in 1984 Vickers and Plowman's "Useful plant of the Siona and Secoya Indians of Eastern Ecuador" has served as a model for other ethnobotanical studies. While breaking no new theoretical grounds, this paper presented excellent botanical and ethnographic data in a concise, accurate manner. The methods employed are well-documented. Not coincidentally, this was an interdisciplinary effort. Vickers is an anthropologist who

spent several years with the Siona-Secoya. The late Timothy Plowman provided a sound botanical perspective. Another well-documented study shows the teamwork approach - Davis and Yost's (1983) study of the Waorani. Yost, who worked as a Summer Institute of Linguistics missionary, lived with the Waorani for several years. Davis helped collect and identify plant specimens.

Founded in 1981, New York Botanical Garden's (NYBG) Institute of Economic Botany (IEB) has been a leading institution in the study of economically important plants. IEB's success also is due to its interdisciplinary approach. The IEB staff includes anthropologists, economic botanists, ecologists, and systematists. These scientists can address complex problems of lowland tropics from many perspectives. Two other factors help the IEB. One factor is NYBG's taxonomic expertise. Ethnobotanical research in the species-rich tropics demands the collaboration of systematists. Collaboration with our Latin American colleagues is the other. We thank those of you in Ecuador who have made it possible for us to work here and we thank those who have worked with us. No doubt there are others here who have helped IEB in other Latin American Countries.

The purpose of this panel discussion is to address the economic potential of Amazonian plant resources not to discuss the IEB. I mention the IEB because it is the organization with which I'm most familiar. Its success, or

that of any ethnobotanical institution, requires an interdisciplinary approach, sound taxonomy, and international cooperation.

Most of you, no doubt, will agree that tropical forest destruction is no longer a matter of ignorance - it is a problem of poverty or greed. Botanists can identify new species of great import but we cannot change the social structure and economic fabric of a country. Our interdisciplinary approach must extend beyond the traditional, academic boundaries. We must cooperate with economists, sociologists, politicians and businessmen.

What then is the future of economic botany in Ecuador? Unless changes are made quickly I am not optimistic. Forest conversion in the Andean-Amazon region is rampant. Lowland forests are less-threatened but that quickly could change. We lose an estimated 20-40 hectares of rainforest every minute (Gradwohl and Greenberg 1988). At the present rate of destruction Ecuador's forests will be gone in 30-40 years. Moreover, much of the present use of Ecuador's forests is unsustainable. Many view the forests as obstacles to development rather than resources of great potential.

What can we do to improve the future of economic botany in Ecuador (and the future of Ecuador itself)? First, we must identify the native plant resources within the country. The inventory, in fact, will never be complete but we must

continue the race against the destruction of this vast, tropical treasure. We also must continue to document the names and uses of plants by the indigenous people of Ecuador. We've found uses for more than 1500 of Ecuador's lowland plant species. This represents about half the known species for the region. The Amazon basin has about 50,000 vascular plant species or perhaps 25,000 useful plants. Considering that we obtain about 85% of our food from only 20 plant species and 60% from only 3 (Raven 1987) the Amazon's potential is truly incredible.

Conservationists have publicized the rapid destruction of tropical rainforests but lowland cultures are disappearing even more rapidly than the forests (Plotkin 1988). This was made clear to me last summer. When Rocío Alarcón and I brought an old Quichua woman to the Jatun Sacha Biological Preserve she acted like a child in a candy store. As we walked through the forest she covertly grabbed bark, roots and latex, thinking that she shouldn't collect in a preserve. When her 40 year old daughter asked the name of a plant the old woman began scolding her in Quichua. "Didn't you listen when you were young? What were you doing in the forest? No wonder your children don't know the forest!" Then she began teaching her daughter and grandchildren about the plants unknown to them. Not only must we preserve the forests and the cultures - we must bring them together. As Taylor (1988) eloquently writes, "When we speak of the preservation of tropical forests we

must make clear, explicitly and emphatically, that we mean the preservation of the forests' flora and fauna and their indigenous human inhabitants."

We need to learn to use the land more efficiently. Data collected with my students last summer suggest that lowland Quichuas live on smaller plots of land for longer periods than do the recent colonists. Why is this so? Are they more efficient farmers? Researchers are destroying the myth that land is cultivated for a short time then abandoned. Posey (1984) states that Kayapó fields "continue to bear domesticated plant products for many years (sweet potatoes for four to five years, yams and taro for five to six years, manioc for four to six years, and papaya for 5 or more years). Some banana varieties continue to bear fruit for 15 to 20 years, 'urucú' (Bixa orellana) for 25 years, and 'cupá' (Cissus gongylodes) for 40 years." Irvine (1989) found that managed Quichua fallows were more diverse than non-managed ones. Balée and Gély (1989) found that 24%-50% of the species in swiddens had been planted. Moreover, "abandoned fields" may be actively managed for 10 years or more after planting ceases and they may be harvested for 50 years (Denevan and Padoch 1987). Old fallows produce firewood, medicines, fruits, and timber.

Ecuador's indigenous people have much to offer. We should continue studies such as the ones previously cited. The answers will not be simple. We must combine the

knowledge of the forest's indigenous people, with improved crops, new species, modern agroforestry techniques and business sense.

We should evaluate the economic potential of forests and promote the marketing of nonforest products. Dr. Charles Peters and collaborators (Peters et al. 1989) recently showed that the net present value (NPV) of nonwood forest products exceeded that of logging, timber production, or cattle ranching. Peters and his colleagues add that the NPV of their Peruvian study plot would be higher if they included medicinal plants, lianas, and small palms. These types of studies should be expanded.

The economic well-being of tropical countries, indeed that of the whole world ultimately depends on the health of tropical forests. But there are other reasons for our concern. Philip Fearnside (1989) says, ". . . monetary value is often cited as a principal reason for not destroying the Amazon forest, good reasons would exist for saving it even if the forests were not financially valuable. . . . Some have argued that substantial tracts of natural ecosystems should be preserved just because there is so much about the forest that is not yet understood. Humility should motivate at least some preservation."

Though it often seems hopeless changes are evident. Ecuador's Ministry of Agriculture and Ministry of Foreign Relations are interested in native plant resources as an

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alternative to exotic, monocultures. U.S. A.I.D. currently is funding several studies of economic plants in Ecuador. I look forward to learning more about Ecuador's lowland forests and forests in other Amazonian countries. I also look forward to working with some of you. I hope that what we discuss here will be heeded by those who implement and control policy.

In the tropical forest, when quietly walking along the shady pathways, and admiring each successive view. I wished to find some language to express my ideas. Epithet after epithet was found too weak to convey to those who have not visited the intertropical regions the sensation of delight which the mind express." Let us hope that we will have the rain forest to delight our children and grandchildren just as it delighted Charles Robert Darwin 150 years ago.

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EXTRACTIVE RESERVES IN ECUADOR

PROJECT DESCRIPTION

DEVELOPING EXTRACTIVE RESERVES IN AMAZONIAN ECUADOR

A. BACKGROUND

Rainforest destruction is an economic problem not just a biological one. Extractive reserves offer sustainable, ecological and economic alternatives to timber harvesting, single-species agriculture, and cattle-ranching in the lowland tropics. Recently Brazil established 6 extractive reserves in the state of Acre. Others are proposed for Rondônia, Amazonas, and Amapá (Fearnside 1989). Rubber trappers will harvest latex and other natural occurring products from these reserves. More than 500,000 Brazilians make a living by extracting forest resources (Clay 1988). Dr. Douglas Daly, of the New York Botanical Garden (NYBG) began a collaborative study of extractive reserves in Acre in 1989.

Like agroforestry and resource management, sustainable extraction is not a new idea. The Amazon's indigenous people have extracted non-timber forest products for hundreds of years (e.g. Alcorn 1984; Anderson and Posey 1989; Balée and Gély 1989; Boom 1987; Denevan and Treacy 1988; Irvine 1989; Posey 1984). Only recently have biologists, conservationists, developers and government officials considered the potential of these reserves. In Peru, NYBG researcher Dr. Charles Peters and his colleagues

showed that economic return produced by the sustainable extraction of forest products exceeded that of destructive forest uses (Peters et al. 1989).

Though extractive reserves are not the only way to prevent tropical deforestation they may be part of a larger solution. Peters et al. (1989) argue that the higher economic return from extractable products justifies tropical forest conservation. But they caution that additional studies are needed. Other forests may not have the same market value. Fearnside (1989) is even more cautious, while advocating extractive reserves he warns, "good reasons would exist for saving it [the rainforest] even if the forest were not financially valuable." Extractivism is not a panacea but it should be considered for other Amazonian sites.

B. RELATION TO EXISTING PROJECT

U.S. A.I.D. currently is funding New York Botanical Garden's research in Ecuador. We've identified more than 1500 useful plants from Amazonian Ecuador and are preparing publications on ethnobotany of the Shuar people and a manual on useful plants of Amazonian Ecuador. Though our list of useful plants is extensive we've not exhausted the knowledge of Ecuador's indigenous people. We will continue the inventory but we also want to develop and implement solutions to the problems of rainforest destruction.

How can our data benefit Ecuador? One possibility is to consider extractive reserves for Ecuador. These

reserves are not the only answer to Amazonian destruction but mixed-management strategies including extractive reserves, agroforestry, ecotourism, park management, controlled timber harvesting and forest restoration may succeed. Ecotourism, for example, is among the top 5 industries in several countries including Ecuador and produces more foreign income than wood exports (Gradwohl and Greenberg 1988). It also is compatible with extractive reserves.

C. LOCATION

Ecuador and its neighbors of Peru and Colombia have the most diverse flora and fauna in the world. These three countries house half of Latin America's plant species and 1/6 of the world's total (Raven 1987; Myers 1984). Considering its small size Ecuador's diversity is even more remarkable. One reason for western Latin America's enormous species richness countries is its physiographic diversity - notably the Andes and the Amazon. The area between these two major landforms is particularly diverse. It is also very threatened. Myers considers the western Amazon-Andean region to be one of the world's environmental hotspots. Indigenous cultures and their knowledge of useful plants and resource management are disappearing even more rapidly (Plotkin 1988). Shuar and Quichua children learn little of the traditional knowledge of their cultures. Other Ecuadorian groups are smaller and more threatened with extinction or cultural assimilation. As Taylor (1988)

eloquently states, "When we speak of the preservation of tropical forests we must make clear, explicitly and emphatically, that we mean the preservation of the forests' flora and fauna and their indigenous human inhabitants."

D. PURPOSE OF THE PROJECT

Extractive reserves may alleviate some of Ecuador's ecological problems. We are gradually accumulating a significant database on Ecuador's useful plants. Forest trees, especially in the Napo Province are the best documented plant resource (Neill and Palacio 1990) though researchers discover new species almost weekly. Herbaceous vegetation and the flora of Morona-Santiago are less well-known. At present there are no Ecuadorian-based studies on sustainable extraction. Moreover, most quantitative studies of useful plants are based on single plots.

We propose to study the abundance and economic potential of useful plants found within permanent one hectare plots in Amazonian Ecuador. While ethnobotanists have admirably begun using standardized plot size and methodologies most recent studies are based on single plots. Without multiple plots within a site it is statistically impossible to determine within site variation in abundance or to compare sites. Specifically, we will address the following questions.

1. What is the mean percentage of useful plants in each sample site?

2. What is the market value of extractable products from these plots?
3. What is the value of non-market products?
4. What are the effects of extraction on the reproductive biology of economic species?

We will work with already established hectare plots in Napo and work with Quichua informants. We also will establish permanent plots in Morona-Santiago and work with Shuar informants (Fig. 1). We have established working relationships with both Quichuas and Shuars and have a convenio with the Shuar Federation in Sucua. With the assistance of UNOCAL and other petroleum companies we may work with Waorani as well.

Within each 100m x 100m plot we will identify all woody species with a DBH greater than 10 cm and determine the indigenous usage and names for these species. We also will use smaller plots to sample shrubs, herbaceous understory vegetation and epiphytes for their economic potential. We will estimate production of non-timber forest products with the help of informants.

We will determine the market value of products, costs of collection and transport to markets. Perhaps more important is the consideration of non-market resources. Palm leaves for thatch and bark for medicine are readily available to most indigenous people but not colonists usually lack these resources. They must convert the forest

to pasture or agriculture in order to buy these products in the market.

E. PROJECT INPUTS

1. General - We will continue collaboration with Ecuadorian and U.S. institutions. Besides the immediate goals we hope to create long-term relationships with Ecuadorian institutions.
2. Museum of Natural History - The National Herbarium of Ecuador's Museum of Natural History will provide space and equipment for processing specimens. They will secure necessary permits and cooperation of other Ecuadorian agencies. MECN recently named NYBG's Dr. Bradley C. Bennett an honorary research associate.
3. The New York Botanical Garden - NYBG's Institute of Economic Botany will support a researcher with grant funds. This person will direct the project's work in the U.S. and Ecuador. Grant funds also may be used for travel and fieldwork costs of short-term botanical specialists and to visit extractive reserves elsewhere in the Amazon. NYBG will contract Ecuadorians for field and herbarium work.
4. Ecuadorian Universities - Catholic and Central Universities of Quito, and Universities in Loja, Esmeraldas, and Guayaquil may participate. We will ask individuals to collaborate specific subprojects and will provide field and herbarium training for students. An economic botany course, taught by one NYBG investigator,

provides scholarship assistance for Ecuadorian students. If there is sufficient demand we can offer a similar course for other Ecuadorians.

5. Shuar Federation - The Shuar Federation in Sucua granted a convenio to work with Shuar communities. We will continue working with them and identifying plants with economic potential from their region.
6. Ministry of Foreign Relations and Ministry of Agriculture - We will help these two Ecuadorian ministries identify plant resources for use in sustainable development projects in the Amazon and determine the economic potential of these plants. Both agencies have recently requested our assistance in developing sustainable resource projects in Ecuador.

F. PROJECT OUTPUTS

The project will do the following:

1. Collect useful plants from permanent, one-hectare plots in lowland Ecuador.
2. Prepare voucher specimens and distribute these to U.S., Ecuadorian, and foreign herbaria.
3. Identify and describe specimens.
4. Assess the economic potential of individual species.
5. Compare the economic potential of sustainable extraction and consumptive forest uses in Amazonian Ecuador.
6. Provide field and herbarium training for national scientists and students.
7. Promote and collaborative research between Ecuadorian

and foreign scientists.

We will train university, government, and Museum personnel in economic botany, field botany and herbarium management. We will bring Ecuadorians to the U.S. for training in plant systematics and herbarium management. The New York Botanical Garden's Institute of Economic Botany is presently the only U.S. organization offering comprehensive, economic botany training in Latin America.

We will help Ecuadorian herbaria process specimens collected by project personnel. The budget includes funds for mounting and maintaining plant collections in Ecuador. We also will help establish a collection of Ecuador's useful plants in the National Herbarium. This collection should simplify identification of beneficial plants by non-botanists.

We will collect eight duplicates of each specimen when possible and distribute them as follows:

Sample 1. Ecuadorian Museum of Natural Science

Sample 2. Taxonomic specialist

Sample 3. New York Botanical Garden

Sample 4. U.S. herbarium

Sample 5. Herbarium at Catholic University, Quito

Sample 6. U.S. herbarium

Sample 7. U.S. herbarium

Sample 8. Ecuadorian herbarium

G. SUMMARY

Our project promotes U.S. A.I.D./Quito's Natural Resource Management Plan. It will add to the present knowledge of natural resources. It also will provide data necessary for developing extractive reserves. For hundred of years indigenous people showed that some types of agriculture and forest utilization are sustainable. Using native plant products is not only ecologically sound but economically astute and could help conserve Ecuador's diverse rainforest.

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PROJECT DESCRIPTION

RESOURCE MANAGEMENT AND NATIVE PLANT UTILIZATION AMONG
QUICHUAS AND COLONISTS IN NAPO

A. BACKGROUND

In his classic book, "The Tropical Rain Forest," Paul Richards lists shifting cultivation as the major cause of tropical deforestation (Richards 1952). More recently Kricher (1989) writes, "The typical time sequence for swidden agriculture is to farm the plot for seven to ten years (often less) and then abandon it for at least 20 years." Both writers present an inaccurate view of indigenous, tropical agriculture. Other erroneous notions abound in popular articles, textbooks and even scientific journals.

Shifting cultivation can be harmful - especially when populations become large and sedentary. But when practiced by small groups it is one of the most compatible systems of forest utilization. While working with a Quichua informant in 1989 we visited a lowland forest in Napo. The site appeared to be a selectively-cut, primary forest. The canopy was intact, understory herbs and epiphytes were abundant but we noticed chonta (Bactris gassipaes), a species known only from cultivation. When we asked, the Quichua woman replied that it had been her grandfather's chacra. He managed it so that a useful forest regenerated in 30 years.

The notion expressed by Kricher that land is abandoned is equally erroneous. This stems from our temperate notions of agricultural. Posey (1984) states that Kayapó fields "continue to bear domesticated plant products for many years (sweet potatoes for four to five years, yams and taro for five to six years, manioc for four to six years, and papaya for 5 or more years). Some banana varieties continue to bear fruit for 15 to 20 years, 'urucú' (Bixa orellana) for 25 years, and 'cupá' (Cissus gongylodes) for 40 years."

Unlike a corn field in Iowa there often is no boundary between cultivated and non-cultivated land. Denevan and Padoch (1987) write, "For the Bora there is no clear transition between swidden and fallow, but rather a continuum from a swidden dominated by cultivated plants to an old fallow, with few or no cultivated plants, 35 years or more later." Tropical agriculturist plant and care for some species such as papaya and coffee. They plant and tend others such as chonta and barbasco for a few years. Grias peruviana and Cedrela odorata are protected when clearing fields. Fields may be enriched with wild plants. Irvine (1989) found that managed Quichua fallows were more diverse than non-managed ones. Balée and Gély (1989) found 24%-50% of the species in swiddens had been planted. Moreover, "abandoned fields" may be actively managed for 10 years or more after planting ceases and they may be harvested for 50 years (Denevan and Padoch 1987). Old fallows produce firewood, medicines, fruits, and timber.

Instead of destroying the forest, shifting cultivation or swidden agriculture, when used by small populations is inherently compatible with the rainforest. Many techniques used mimic what occurs naturally. Small plots are cleared, often similar in size to naturally occurring tree falls. Multicropping is ubiquitous and cultivated plants are structural analogs of the native pioneers.

Man's effect on the Amazon may be much greater than previously thought. Rather than an allocthonous element, researchers are beginning to document an intimate relationship between humans and the rainforest. Balée (1988) estimates that at least 11.8% of Amazonian terra firme forests are anthropogenic. Humans have and can live harmoniously within the rainforest. Indigenous agricultural practices should be considered further. As Taylor (1988) eloquently writes, "When we speak of the preservation of tropical forests we must make clear, explicitly and emphatically, that we mean the preservation of the forests' flora and fauna and their indigenous human inhabitants."

B. RELATION TO EXISTING PROJECT

U.S. A.I.D. currently is funding New York Botanical Garden's research in Ecuador. We've identified more than 1500 useful plants from Amazonian Ecuador and are preparing publications on ethnobotany of the Shuar people and a manual on useful plants of Amazonian Ecuador. Our list of useful plants is extensive but we've not exhausted the knowledge of

Ecuador's indigenous people. We will continue the inventory but the immediate, practical applications of our data interests us. What percentage of the flora do the people of Napo use? How do Ecuador's indigenous people manage their plant resources? How can these resources be better utilized?

C. LOCATION

Ecuador and its neighbors of Peru and Colombia have perhaps the most diverse flora and fauna in the world. These three countries house half of Latin America's plant species and 1/6 of the world's total (Raven 1987, Myers 1984). Considering its small size Ecuador's diversity is even more remarkable. One reason for the species richness in these western Latin American countries is the physiographic diversity, notably the Andes and the Amazon. The area between these two major landforms is particularly diverse. It is also very threatened. Myers considers the western Amazon-Andean region to be one of the world's environmental hotspots. Indigenous cultures and their knowledge of useful plants and resource management are disappearing even more rapidly. Shuar and Quichua children learn little of the traditional knowledge of their cultures. Other Ecuadorian groups are smaller and more threatened with extinction or cultural assimilation.

Ecuador's Napo Province is home to about 30,000 - 40,000 lowland Quichuas (Irvine 1989). Ecuador's fastest

growing province, Napo's population increased from 44,500 in 1973 to 115,100 in 1983 (Landázuri and Jijón 1988).

Emigration from the sierra, especially from the province of Bolivar and Loja caused most of the increase. The human influx has strained many Ecuadorian lowland forests.

D. PROJECT DESCRIPTION

Because of the substantial Quichua and colonists populations

Napo offers a perfect site for comparative studies.

Colonists bring no knowledge of the lowlands and a bias against the indigenous practices. We've interviewed colonists in the region who claim not to use "Indian plants" even though we've seen the same plants cultivated in their gardens. Many colonists use highlands cultivars that are poorly adapted for the rainforest.

We will quantitatively sample active agricultural plots and swiddens of various ages at sites along the Napo River in Ecuador. Locations will include both Quichua and colonist families. In each sample plot we will record the abundance, common name, uses, and management techniques of each species. We will estimate the amount of land cultivated by each family and its productivity. Are there differences in the cultivated and non-cultivated species used by the Quichuas and colonists? Are the plots managed differently? How long can the land be cultivated? How important are the non-cultivated plants to the family's

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economy? A sample data sheet follows.

SAMPLE DATA SHEET - 366

I. GENERAL INFORMATION

Date _____

Family _____ Community _____

Location _____

Informant _____ Interviewer _____

Ownership _____

II. INFORMATION ON CHACRAS

Landform _____ Elevation _____ Soil Sample _____

Soil description _____

Surrounding vegetation _____

Chacra dimensions _____

III. AGRICULTURAL STATUS

In Production _____ In Fallow _____ For how many years? _____

What is this stage called? _____

How did you clear the land?

Do you use insecticides? _____ What type? _____

Do you fertilize? _____ What type? _____

Previous year's cultivation _____

Present year's _____

Next year's _____

IV. EVALUATION OF PRODUCTION

LOW <-----> HIGH

1 2 3 4 5 6 7 8 9 10

Reason for high or low production _____

E. PROJECT INPUTS

1. General - We will continue our work with Ecuadorian and U.S. institutions. Besides the immediate goals we hope to strengthen relationships with Ecuadorian institutions.
2. Museum of Natural History - The National Herbarium of Ecuador's Museum of Natural History will provide space and equipment for processing specimens. They will secure necessary permits and cooperation of other Ecuadorian agencies. Dr. Bradley C. Bennett of the IEB has recently been named an honorary research associate of the MECN.
3. The New York Botanical Garden - NYBG's Institute of Economic Botany will support a researcher with grant funds. This person will direct the project's work in the U.S. and Ecuador. NYBG will contract Ecuadorians for field and herbarium work.
4. Ministry of Foreign Relations and Ministry of Agriculture - We will help these two Ecuadorian ministries identify plant resources for use in sustainable development projects in the Amazon and help determine the economic potential of these plants. Both agencies have recently requested our assistance in developing sustainable resource projects in Ecuador.

F. PROJECT OUTPUTS

The project will do the following:

1. Quantify the diversity of cultivated and non-cultivated plants in sample plots.

2. Prepare voucher specimens and distribute these to Ecuadorian, and foreign herbaria.
3. Identify and describe specimens.
4. Determine how plants are managed.
5. Compare the economic potential of Quichua and colonist agricultural practices.
6. Provide field and herbarium training for national scientists and students.
7. Promote and collaborative research between Ecuadorian and foreign scientists.

We will train university, government, and Museum personnel in economic botany and field research. The New York Botanical Garden's Institute of Economic Botany is presently the only U.S. organization offering comprehensive, economic botany training in Latin America.

We will help Ecuadorian herbaria process specimens collected by project personnel. The budget includes funds for mounting and maintaining plant collections in Ecuador. We also will help establish a collection of Ecuador's useful plants in the National Herbarium. This collection should simplify identification of beneficial plants by non-botanists.

We will collect eight duplicates of each specimen when possible and distribute them as follows:

Sample 1. Ecuadorian Museum of Natural Science

Sample 2. Taxonomic specialist

- Sample 3. New York Botanical Garden
- Sample 4. U.S. herbarium
- Sample 5. Herbarium at Catholic University, Quito
- Sample 6. U.S. herbarium
- Sample 7. U.S. herbarium
- Sample 8. Ecuadorian herbarium

G. SUMMARY

Our project promotes U.S. A.I.D./Quito's Natural Resource Management Plan. It will add to the present knowledge of natural resources and will provide data necessary for managing plant resources. Colonization poses the greatest threat to Ecuador's lowland forests. For hundred of years indigenous people showed that some types of agriculture and forest utilization are sustainable. Using native plant resources and indigenous management techniques is not only ecologically sound but economically astute and could help conserve Ecuador's diverse rainforest.

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**Biodiversity. National Academy of Sciences, Washington,
D.C.**

PROJECT DESCRIPTION

PROMOTION OF NATIVE PLANT RESOURCES IN AMAZONIAN ECUADOR

With the assistance of U.S. A.I.D., the New York Botanical Garden's Institute of Economic Botany began a study of plant resources in Amazonian Ecuador. To date we've identified more than 1500 useful plants from the Oriente and are preparing publications on ethnobotany of the Shuar people and a manual on useful plants of Amazonian Ecuador. Our list of useful plants is extensive but we've not exhausted the knowledge of Ecuador's indigenous people. We will continue the inventory but also are interested in the immediate practical applications of our data.

Recently, we met with Ramiro Davila of the Ministry of Foreign Relations and Juan Poveda of the Ministry of Agriculture. The Ecuadorian government wants to promote the use of native plants in the Oriente. Davila and Poveda requested NYBG's help in identifying suitable plant resources and in finding financial support to carry out the project.

This project may interest the Quito mission's "Sustainable use of biological resources" program. In Peru, Dr. Charles Peters, also a NYBG researcher, and his colleagues showed that economic return produced by the sustainable extraction of forest products exceeded that of destructive forest uses (Peters et al. 1989). The success of extractive reserves depends on identification of the available plant resources. Though extractive reserves are not the only way to prevent tropical

deforestation they may be part of a larger solution. We are seeking funding from A.I.D. Washington to study extractive reserves and resource management in Ecuador.

In this project we hope to determine which plants have the greatest economic potential and then initiate their use in experimental projects. Extractive reserves cannot function when there are no markets for native plant products. Markets in Iquitos, Peru sell hundreds of forest products. Many of the same plants occur in Ecuador yet there are no markets for these. Part of our study would investigate this problem.

The economic potential is considerable. More than 500,000 Brazilians make a living by extracting forest resources (Clay 1988). In a recent survey of a market in Sucua we found sapote (Matisia sp. - 50 sucres/fruit), tagua (Phytelephas macrocarpa - 50 sucres/fruit), guaba bejuco (Inga edulis - 10 sucres/fruit), guaba machetona (Inga spectabilis - 20 sucres/fruit) and guayusa (Ilex guayusa - 50 sucres/bundle).

Scores of other forest products could be sold in the market. The National Cancer Institute and several U.S. pharmaceutical companies are surveying Ecuadorian plants. If promising drug plants are found an immediate market would be created.

We would like to identify the most promising species, determine their economic and ecological potential, and help introduce them into agroforestry and swidden-fallow management systems. Peters et al. (1989) argue that the economic return

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from extractable products justifies tropical forest conservation. Our project would provide the data necessary for establishing extractive reserves and improving agroforestry programs.

PROJECT DESCRIPTION

MANAGING ECONOMIC PLANTS IN ECUADOR'S NATIONAL HERBARIUM

The National Herbarium of Ecuador's Museum of Natural Sciences (MECN) has a mandate to receive one duplicate of all plant specimens collected in the country. During the last 10 years Ecuadorian and foreign scientists have collected many useful, Ecuadorian plants. Davis and Yost collected plants used by the Waorani. Vickers and Plowman studied the Siona-Secoyas. Alarcón and Irvine examined the uses of native plants by Quichuas in the Napo Province. Cerón worked with the Kofanes. Neill and Palacios collected lowland tree species. Bennett and Gómez documented plants used by the Shuar. The New York Botanical Garden's Institute of Economic Botany working with MECN and Catholic University working with the University of Aarhus have been particularly active in collecting and identifying economically important plants.

Many of these collections can be found in the National Herbarium. MECN, however, lacks the financial and administrative capacity to curate these collections adequately. While the Museum expects to receive external funds to improve the herbarium nothing has been earmarked for economic plants. We seek A.I.D.'s assistance to help maintain these collections. We see several benefits from this. First it would assist the herbarium's planned growth. MECN could potentially become one of Ecuador's leading scientific institutions.

Second, by establishing a separate economic plant collection and training Ecuadorians, we could facilitate the identification of plant resources by non-specialists. Expert identification is always best but requires a worldwide network of taxonomic experts. The next best alternative is well-curated collection of annotated specimens. Properly-vouchered, ethnobotanical collections are more than a few dried leaves and twigs. These specimens are like books, irreplaceable ones at that.

Another benefit of this project is public display and education. We would help the museum accumulate items made from plant products, properly identify these, and develop attractive displays. Not only would this serve as a valuable repository for the scientific community but the public exhibits could educate Ecuadorians and foreigners on the importance of native, plant resources. There are hundreds of plants with considerable economic potential in Ecuador but most are unknown in the highlands and coast where the bulk of Ecuador's population resides. A museum display and demonstration of uses could help create a market for these products - a necessary step to achieve the economic potential of extractive reserves and lowland resource management techniques.

Of the three goals we present, capital improvements to the herbarium, training of Ecuadorian students and scientists, and public education. The later is perhaps the most important. No matter how significant our new discoveries might be they do no good unless the public accepts them. We believe that this would

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help A.I.D.'s "Sustainable Use of Biological Resources" program
bridge the gap between researchers and the public.