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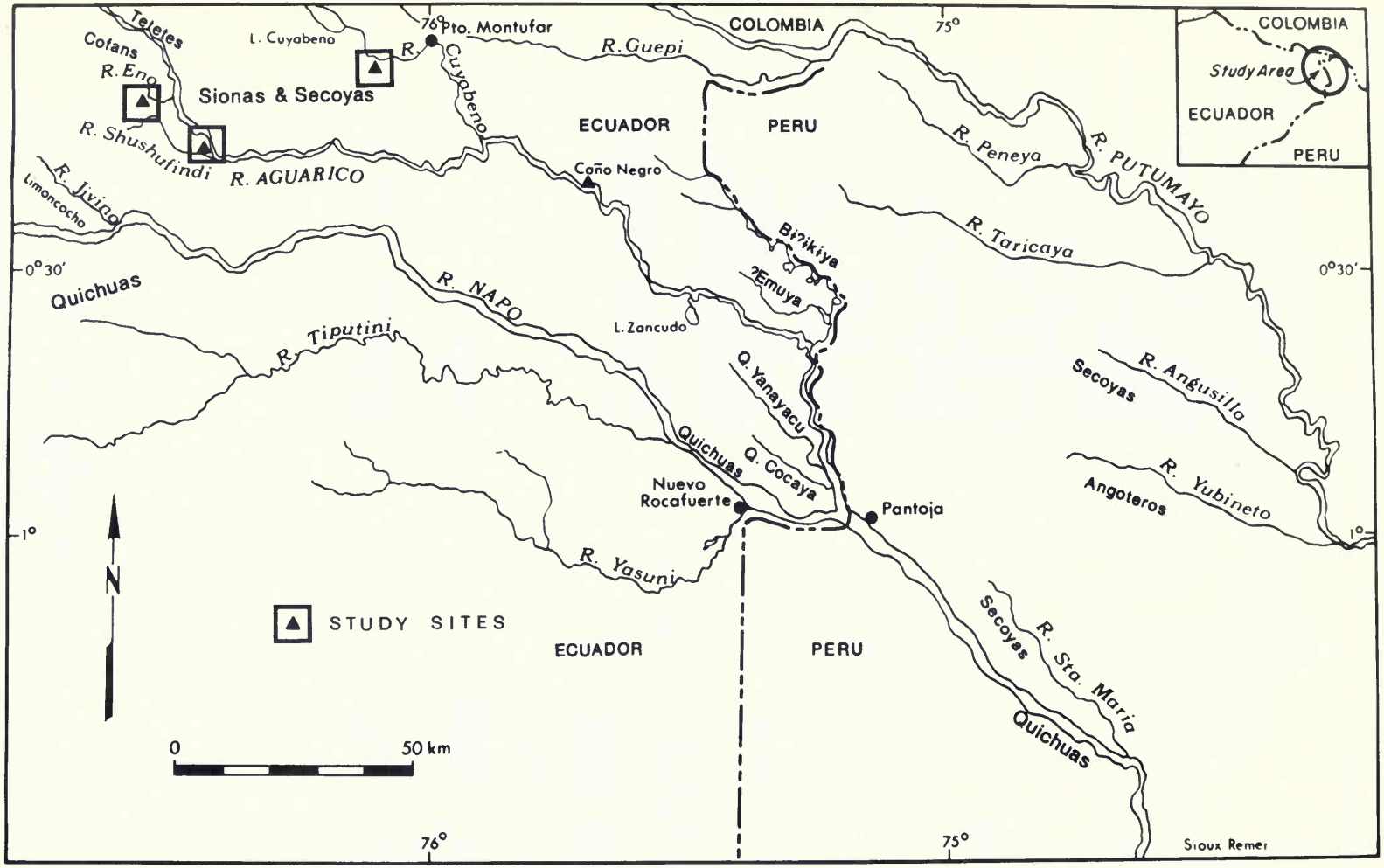

Location of study sites in Napo Province, Eastern Ecuador.

Useful Plants of the Siona and Secoya Indians of Eastern Ecuador

Abstract

The Siona and Secoya Indians of eastern Ecuador are shifting cultivators and foragers who make extensive use of both feral and domesticated plant materials in most aspects of their culture. This study fully or partially identifies approximately 224 species in 166 genera and 69 families that are in common occurrence. A wide variety of these plants are employed for foods and as materials for tools, weapons, crafts, construction, and personal adornment. The use of plants for medicinal and ritual purposes is notable, with emphasis given to hallucinogenic plants of such genera as *Banisteriopsis, Diplopterys, Brugmansia,* and *Brunfelsia.* As in a number of northwestern Amazonian societies, the use of *Banisteriopsis* is particularly significant because it is the basis of the most important rituals and is viewed as the medium through which supernatural knowledge and power are achieved. The *Banisteriopsis* cult is the conceptual cornerstone of Siona and Secoya religion, mythology, art, medicine, and warfare.

Introduction

In spite of its small area (105,685 sq mi or approximately the size of Colorado), Ecuador has a remarkably rich flora, estimated to contain at least 20,000 species of vascular plants (A. Gentry & C. H. Dodson, personal communication). Many areas of Ecuador, especially the eastern lowlands which form the western edge of the Amazon Basin, remain unexplored or poorly sampled by botanists. Superimposed on this exceptionally rich flora are a diversity of Amerindian peoples, estimated at the time of European contact to include at least 26 distinctive cultural groups, and today numbering about 50,000 people in seven surviving groups (Jivaroan, Lowland Quichua, Waorani, Siona, Secoya, Kofán, and Záparo).

Like all indigenous peoples, the Indians of Ecuador have an intimate knowledge of their surroundings. Over many millenia, an enormous corpus of information about plants and animals has been discovered, upon which these peoples continue to base their subsistence. Groups living in different geographical and ecological areas of Ecuador have specialized inventories of the useful wild plants of their areas, as well as extensive knowledge about cultivated plants, both native and introduced. Although Spanish names for plants are in general use throughout the country, more isolated Amerindian groups have developed independent systems of plant classification, and most plants have names in native languages.

The ethnobotanical study of the major cultural areas of South America, of which the Amazon Basin is an outstanding example, has scarcely begun. Research on the native uses of plants falls far behind the general floristic surveys which are now being conducted in several countries in order to document what plant species exist in each area. Many previous accounts of native plant names and/or uses in Amazonia lack scientific identifications of the species because of the difficulty in naming many groups of tropical plants and, more importantly, are not documented with preserved voucher specimens for future re-examination to confirm or refute the species identity.

For the Northwest Amazon, there are relatively few studies of indigenous uses of plants which are substantiated with voucher specimens. Outstanding among these are numerous works of R. E.

Schultes on the ethnobotany of tribes of the Colombian Amazon (Schultes, 1942, 1954, 1955, 1956, 1963, 1964a,b, 1967, 1968, 1969, 1970a,b, 1974, 1975, 1976, 1977, *inter alia*). Two dissertations have attempted to enumerate the plants of the Kofán Indians of the Colombia-Ecuador border area (Pinkley, 1973) and of the Kamsá Indians of the Sibundoy Valley in southern Colombia (Bristol, 1965), but neither of these has been published, and the studies remain largely unavailable. Davis & Yost (1983) have recently completed an ethnobotanical study of the Waorani (Auca) of eastern Ecuador. For Amazonian Peru, only a preliminary listing of the useful native plants has been prepared (Bodley, 1978). Berlin has made extensive ethnobotanical plant collections in the Alto Marañón region and, to date, has published articles on the classificatory principles of Aguaruna ethnobotany (Berlin, 1976, 1977) and the botanical aspects of Aguaruna cosmology (Berlin, 1978). King (1982) and King & Levey (1982) have made observations on the ethnopharmacology and diet, respectively, of the Angotero-Secoya Indians of northeastern Peru. For the Chocó region of western Colombia, Forero Pinto (1980) has published an ethnobotanical study of the Cuna and Wauana Indians.

During the course of conducting studies on the subsistence patterns and ethnography of the Siona and Secoya peoples in eastern Ecuador, one of us (Vickers) collected some 273 plant specimens in order to document the use of plants among these closely related groups. Various aspects of this research, including the dynamics of subsistence and the impact of frontier development, have been published elsewhere (Hames & Vickers, 1982; Vickers, 1976, 1979, 1981a,b, 1983a–c), but a compilation of all the species observed or recorded has not yet appeared. In recognition of the great dearth of published data on the useful plants of eastern Ecuador, we have prepared the present paper in which we provide a detailed listing of all of the plants collected and observed by Vickers during 1973–1975. We believe that this basic information will benefit other researchers, especially anthropologists, who are working in the Ecuadorian Amazon and in adjacent areas of Colombia and Peru where many of the same species are used.

The Setting

The Siona and Secoya Indians are aboriginal peoples of the northeastern portion of Ecuador (see map facing page 1) and speak closely related dialects belonging to the western division of the Tukanoan language family. The two groups are culturally similar, and in the Aguarico River basin (of northeastern Ecuador), they have joined to form common settlements in which they interact and intermarry with frequency. Historically the Siona were associated with the Putumayo and Aguarico rivers, whereas the Secoyas inhabited the north side of the Napo River below its confluence with the Aguarico. The Secoyas consider the Santa María River, which is within the latter area, as their traditional homeland.

The area once covered by members of the western Tukanoan linguistic branch stretched over an area of approximately 82,000 sq km (31,500 sq mi) between 1°N–4°S latitude and 73°–77°W longitude in what today constitutes parts of Ecuador, Colombia, and Peru. Steward (1949, p. 663) estimates that their population at the time of the conquest was 16,000. The present population probably does not exceed 1,000 individuals in scattered settlements in Ecuador, Colombia, and Peru.

The climate corresponds to Köppen's *Af* or tropical wet (with no month drier than 60 mm of rainfall). Data collected at Limoncocha (a former Summer Institute of Linguistics base camp on the Napo River), 32 km southwest of the Siona-Secoya settlement of Shushufindi on the Aguarico River, show a mean annual rainfall of 3,375 mm (132 inches) for the period 1971–1972. The month of least rainfall for this period was December, with a mean of 172.5 mm (6.79 inches); the month of greatest rainfall was March, with a mean of 411.2 mm (16.19 inches). Generally speaking, the "dry season," runs from December through February, and the "wet season," from March through July. The elevation of the study area is approximately 250 m (823 ft).

The mature vegetation of the Aguarico-Napo region is of the type classified by Richards (1952) as Tropical Rain Forest, and subsequently reclassified by Grubb et al. (1963) as Tropical Lowland Rain Forest. According to the Holdridge Life Zone system, the area corresponds to Tropical Wet Forest. It is characterized by trees with heights ranging from 24–45 m (80–150 ft), large woody climbers, common occurrence of epiphytes, and frequent occurrence of buttressed trees, some of which are very large. In addition to this primary growth, there are a number of other plant associations which develop under specific ecological conditions. These include the secondary growth developing from

abandoned gardens and habitation sites, associations of perennially flooded soils, and liana associations (*bejucales*), among others.

The Siona and Secoya are representative of many native Amazonian societies in that they base their subsistence on shifting cultivation, hunting and fishing, and the collecting of feral resources. The traditional settlement pattern consists of scattered households and small villages which are typically located on or near the banks of rivers or streams. Social organization is based on patrilineal descent and patrilocal residence, with a headman-shaman in each household or village settlement. These settlements are politically autonomous, and the headman-shaman exercises influence rather than authority in leading the people of his local group. Most settlement sites are abandoned after periods of habitation ranging from five to 20 years. Such movements are attributed to a wide variety of causes, including intergroup tensions, individual deaths, disease, and the depletion of local resources.

Plants play an important role in the lives of the Siona and Secoya. Most of the calories in their diet (77%) are provided by plant foods, and their inventories of tools, weapons, building supplies, crafts, clothing, body ornaments, and materia medica are heavily dependent on plant materials. Furthermore, plants play a very important role in their cosmology, symbolism, and ritual life.

At the secular level of subsistence, manioc (*Manihot esculenta* Crantz) is the most important food plant, with plantains (*Musa* × *paradisiaca* L.) and maize (*Zea mays* L.) following close behind. The Siona and Secoya grow both "bitter" (with a poisonous concentration of cyanogenic glucosides) and "sweet" varieties of manioc and use them to make a traditional flatbread or cake (*'ãõ*) and chicha (*a'so kõnõ*). Chunks of sweet manioc are also eaten boiled or included in soups and stews. As a staple, manioc offers the advantages of reliable productivity under varying soil conditions, resistance to diseases and pests, and long-term harvestability (tubers may be left in the ground for up to two or three years). Plantains and maize may be made into chicha (*noka kõnõ* and *wea kõnõ*, respectively) or be cooked in a variety of ways, including boiling, roasting, and frying. These crops, however, are not as productive as manioc, nor are they as resistant to environmental stresses. The basic staples are complemented by a wide variety of additional wild and cultivated plant foods; many of these are included in the list of plants which follows.

Within the sacred domain, Siona and Secoya culture is profoundly influenced by the ritual drinking of a beverage made from *Banisteriopsis caapi*, referred to as *yahé*, along with other hallucinogenic plants (see also Langdon, 1979a,b). Indeed, it is no exaggeration to characterize *yahé* as the key to understanding the world view of the Siona-Secoya, as well as their mythology, art, ritual, and "science" (explanations of cause and effect in the universe).

Methods

Most of the plant specimens were collected in the environs of the Siona-Secoya settlement of Shushufindi (lat. 0°15′S, long. 76°27′W), a village so named because of its location just upstream from the confluence of the Aguarico and Shushufindi rivers (see map facing page 1). This settlement has subsequently been given the name "San Pablo." During the 1973–1975 study period, Shushufindi had a mean population of 132 individuals, while the Siona-Secoya population of the entire Aguarico Basin was 266. A few specimens were collected at the neighboring settlements of Eno (approximately 20 km upstream from Shushufindi; lat. 0°12′S, long. 76°32′W) and Cuyabeno (approximately 50 km to the northeast of Shushufindi; lat. 0°05′S, long. 76°09′W).

Herbarium specimens were pressed and dried in the field according to standard botanical procedures. Ethnographic data, native names, uses of the plants, and their relationships were recorded at the time of collection of the specimens. The orthography used in the recording of plant names in the Siona and Secoya languages is based on the phoneme systems outlined by Wheeler & Wheeler (1962) and Johnson & Peeke (1962), but uses Langdon's (1974) approach in the simplification of certain symbols. Most of the plants of economic importance or in common use were collected, but this is by no means an exhaustive listing of the plant knowledge of the Siona-Secoya. For example, many timber trees of secondary importance and many wild fruits are known to the Siona and Secoya, but the collection and identification of these species would require much more extensive botanical exploration of the region. In some cases, names and uses of certain plants were recorded, but it was not possible to collect voucher specimens due to their absence in the Shushufindi settlement area or due to constraints imposed by time limitations or seasonal variations.

The greater part of the identification of the specimens was conducted at Field Museum of Natural History, Chicago, and most of the voucher specimens are deposited there. Because it was not always possible to find flowering or fruiting specimens, it was not possible to identify all the plants to species. Several are known only to family or genus. The taxonomic difficulty of several groups (e.g., *Inga, Anthurium*) precluded their complete identification in spite of having fairly complete specimens. The identification of the specimens was hampered by the lack of a published flora for Ecuador and the very limited number of comparative herbarium collections from this area, especially of the large forest trees. Numerous taxonomic specialists assisted in the identification of the material, and they are listed in the Acknowledgments.

A number of general works were consulted to determine the correct nomenclature and/or species distributions of the plants discussed here. The principal floristic works used include the following: Adams, 1972; Croat, 1978; Dodson & Gentry, 1978; Harling & Sparre, 1973–1982; Howard, 1979; Macbride, 1936–1971; and Stolze, 1981. Our principal sources of the names and origins of cultivated plants were the following: Bailey Hortorium, 1976; Purseglove, 1968; Simmonds, 1976; Terrell, 1977; and Uphof, 1968.

List of Plants of the Siona-Secoya

The following list of plants is arranged alphabetically by family. Within families, the plants are arranged alphabetically by genus and species. In the case of well-known economic plants, the common English and/or Latin American Spanish name(s) is given following the scientific name of the species. Under each species the following information is given: collection locality, plant habit, habitat, and area of origin and/or geographic distribution of the species. Local names in Siona, Secoya, Kofán, lowland Quichua, and Spanish are then listed (italicized) and are followed by language identifications and English glosses (when known) in parentheses. Collection number(s) of Vickers's specimens appears in parentheses following the vernacular name, for which the specimen serves as a voucher. Information on the uses of the plants concludes each entry.

With regard to the plant names, it should be borne in mind that Siona and Secoya are very closely related dialects of Tukanoan and, in the majority of cases, have identical names for given plants. The language identifications following native names for plants usually identify the primary cultural identity of the informant who provided the name. In those cases in which it is known that a variation exists in the Siona and Secoya names for a given plant, both names are listed.

Kofán, lowland Quichua, and Spanish names are included because they are also used by the Siona and Secoya and because they reflect the multi-ethnic social dynamics of this region of Amazonia. Cultural contact, borrowing, and intermarriage have occurred between the western Tukanoans and their Kofán neighbors since pre-Conquest times, and relations with Spanish-speaking peoples are at least several centuries old. In many cases introduced plants have been given Siona and Secoya names; for others only Kofán or Spanish names are used.

ACANTHACEAE

Fittonia albivenis (Lindley ex Veitch) Brummitt

Shushufindi. Herb in garden, not planted. Also in primary forest. Colombia to Peru.

minakoro (Kofán) [*213*]
Remedy for headache, muscular pain. Plant is crushed with a rock and boiled with water. The decoction is taken orally or can be rubbed on the afflicted part.

Justicia sp. (fig. 1)

Shushufindi. Herb 1 m tall. Cultivation uncertain.

weoko (Secoya) [*69*]
Dye plant. The emerging leaf is chewed to color the mouth purple. This form of personal ornamentation is usually reserved for visitation or ceremonial occasions.

Teliostachya lanceolata Nees

Río Eno. Herb cultivated in garden. Colombia to Peru.

Vernacular name unknown [*236*]
Remedy for stomachache.

AMARANTHACEAE

Alternanthera bettzichiana (Regel) Nicholson

Shushufindi. Herb cultivated in garden. Said to have been found on beach of Río Aguarico after a flood and planted at Eno. Cultigen native to tropical America.

horo (Secoya, generic name for flower) [*20*]
Ornamental.

Alternanthera lanceolata (Benth.) Schinz ssp. **lanceolata**

Shushufindi. Herb cultivated in house garden.

ma'nya (Secoya, generic name for perfumed plants) [*25*]
Ornamental.

Amaranthus caudatus L.—LOVE-LIES-BLEEDING (Eng.), AMARANTO (Sp.)

Shushufindi. Herb cultivated in house garden. Native Andean cultigen.

ho'ya sãnya (Siona, "house *sãnya*"; *ho'ya* ["house"] indicates domesticated variety) [*7*]
Ornamental.

Celosia cristata L.—COCK'S COMB (Eng.)

Shushufindi. Herb cultivated in house gardens, widespread. Tropical cultigen of uncertain origin.

kura tĩti (Siona, Putumayo, "cockscomb") [*1*]
kura dau (Siona, Aguarico, "cockscomb") [*1*]
Ornamental.

AMARYLLIDACEAE

Hippeastrum puniceum (Lam.) Kuntze

Shushufindi. Herb cultivated in house garden. Tropical America.

turu ɨkó (Siona, Aguarico River, "indigestion remedy") [*193*]
wiha pẽ (Siona, Putumayo River) [*193*]
pẽ (Siona, Putumayo River) [*193*]
Purgative for stomachache. Bulb may be crushed in water and then boiled or roasted in fire and then eaten; followed by drinking water.

ANACARDIACEAE

Mangifera indica L.—MANGO (Eng., Sp.)

Shushufindi. Tree cultivated in house garden. Introduced. Native of India.

mango (Spanish) [*154*]
Edible fruit.

Spondias mombin L.—HOG-PLUM (Eng.); JOBO, UBOS (Sp.)

Shushufindi. Tree in primary forest. Tropical America.

rohí (Siona) [*111*]
Fruit is eaten when it falls from trees in forest.

ANNONACEAE

Annona purpurea Mociño & Sessé ex Dunal

Shushufindi. Tree cultivated in house garden. Introduced. Native to tropical America.

mi'ka (Siona, Secoya) [*104*]
Edible fruit.

Unonopsis veneficiorum (Mart.) R. E. Fries

Shushufindi. Tree in primary forest. Western Amazonia.

pɨ ha'ti (Secoya) [*222*]
Timber for house rafters.

APOCYNACEAE

Bonafousia sananho (Ruiz & Pavón) Markgraf

Shushufindi. Tree in primary forest. Northwestern South America.

baĩ su'u (Secoya, "people *su'u*") [*46, 229*]
Edible fruit. Sticky liquid from fruit is put in dog's nose so "they can smell far in hunting."

ARACEAE

Anthurium cf. **uleanum** Engl.

Shushufindi. Epiphytic herb in primary forest. Ecuador, Peru, Brazil.

karɨčo (Kofán) [*220*]
Remedy for headache. Roots are ground up with a rock, then boiled. Decoction is taken orally.

Anthurium sp. Sect. **Pachyneurium**

Shushufindi. Epiphytic herb on tree trunks in primary forest.

shushufindi karɨ (Kofán, "shushufindi [Quichua toponym] *karɨ*") [*254*]
kaho (Secoya, generic term for "itchy" substance) [*254*]
Remedy for headache. Roots are crushed and mixed with water; infusion is taken orally.

Colocasia esculenta (L.) Schott—TARO (Eng.); PITUCA, PAPA CHINA (Sp.)

Shushufindi. Herb cultivated in house garden. Origin in Indo-Malaya. Now widely distributed throughout the tropics.

a'so kaho (Secoya, "manioc itch" [*a'so* implies similarity to manioc; *kaho* is generic term referring to an "itchy" substance]) [*26*]
Corm is eaten. A minor food item.

Monstera cf. **adansonii** Schott

Shushufindi. Climbing epiphyte on tree trunks in primary forest. Tropical America.

chupo khaki (Kofán, "boil remedy") [*251*]
sõso ɨkó (Siona, "boil remedy") [*251*]
Remedy for boils. Plant is crushed and boiled in water and decoction is rubbed on boils.

Syngonium podophyllum Schott

Shushufindi. Climbing herb in secondary growth and primary forest. Tropical America.

'aíro kaho (Siona, "forest itch" [*'aíro* signifies feral variety; *kaho* is generic term referring to an "itchy" substance]) [*35*]
nyanta hu'hu (Secoya, "ant [*Paraponera* sp.] itch") [*96*]
nyata kaho (Siona, "ant [*Paraponera* sp.] itch") [*112*]
Medicine for bite of *Paraponera* ant. Stem is broken and milky-white sap is applied directly to afflicted part. Also used as an ingredient in funerary potion which is used in the divination of the identity of the sorcerer who caused the death. As the potion boils over a fire, it is said to whisper the name of the sorcerer. Then the pot is broken with a pole, and as the liquid vaporizes in the fire, it is said to speed to the sorcerer and cause his death.

Xanthosoma sp.

Shushufindi. Herb cultivated in house garden. Tropical American root crop.

weá kaho (Secoya, "maize itch" [*wea* refers to golden color of maize; *kaho* is generic term referring to an "itchy" substance]) [*27*]
Golden yellow corm is eaten.

Xanthosoma sp.

Shushufindi. Herb cultivated in house garden. Tropical American root crop.

wẽkɨ kaho (Siona, "tapir itch" [*wẽkɨ* may refer to large size; *kaho* is generic term referring to an "itchy" substance]) [*49*]
Corm is eaten.

Xanthosoma sp.

Shushufindi. Herb cultivated in house garden. Tropical American root crop.

pi'ra (Siona) [*129*]
Leaves are eaten. Leaves are cut, grated, and cooked with fish. Corm is also eaten; reported to be yellow like egg yolk.

ARISTOLOCHIACEAE

Aristolochia sp.

Río Eno. Vine cultivated in house garden.

kekena (Siona) [*242*]
Remedy for stomachache. Plant is crushed with cold water and the infusion drunk.

BALSAMINACEAE

Impatiens balsamina L.—GARDEN BALSAM (Eng.)

Shushufindi. Herb cultivated in house garden. Introduced. Native to Asia.

ho'ya horo (Siona, "house flower"; *ho'ya* implies domesticated variety) [*8*]
Ornamental.

BIGNONIACEAE

Arrabidaea chica (H. & B.) Verl. (fig. 6)

Shushufindi. Woody vine cultivated in house garden. Widespread in tropical America.

nea kuri (Siona, "black *kuri*") [*106*]
Yields a "black" (actually brown) dye. Leaves grated or crushed in water; may be cooked or uncooked to yield dye which is used for painting designs on *cushmas*. Also cooked to make face paint.

ma kuri (Siona, "red *kuri*") [*108*]
Source of red dye. Preparation is the same as for *nea kuri* (above).

Crescentia cujete L.—TREE CALABASH (Eng.), TOTUMO (Sp.) (fig. 8)

Shushufindi. Shrub cultivated in house garden. Native of tropical America, now widely distributed.

sa'sa (Siona, "gourd") [*130*]
Gourdlike fruit used as a bowl or cup.

Jacaranda copaia (Aubl.) D. Don

Shushufindi. Tree in upland primary forest. Widespread in Central and South America.

wa'we (Siona) [*214*]
Capsule valves used as tool for shaping pottery.

BIXACEAE

Bixa orellana L. ANNATTO (Eng.), ACHIOTE (Sp.) (fig. 1)

Río Eno. Shrub cultivated in house garden. Native and widely distributed in Tropical America.

bayo bõsa (Siona, "oily achiote"; said to have attractive quality of making face oily) [*240*]
muhũ bõsa (Siona, "thunder achiote") [*241*]
su'nyo bõsa (Secoya, "yellow achiote") [*241*]
Red oily pulp on seed coat is used for painting the face and for temporary pigmentation of fabrics and weapons. Sometimes boiled down and molded into sticks.

BOMBACACEAE

Ceiba pentandra (L.) Gaertn.—SILK COTTON TREE, KAPOK TREE (Eng.); CEIBA (Sp.)

Shushufindi. Huge tree in primary forest. Pantropical.

huo yui (Siona, "blowgun cotton") [*60*]
Fiber in pod is attached to blowgun darts to form pressure seal and airfoil. Seed used as a fish bait.

Ochroma pyramidale (Cav.) Urb.—BALSA (Eng., Sp.)

Shushufindi. Tree in secondary growth. Tropical America.

yuwi (Siona) [*158*]
Wood used to make balsa rafts, stilts, dolls, and other toys. Fiber in pod used (rarely) as mattress stuffing.

Quararibea cordata (H. & B.) Vischer—SAPOTE (Sp.)

Shushufindi. Cultivated tree in old garden. Native to tropical South America.

apasí (Siona) [*50*]
tãnke apasí (Secoya, "*Cebus apasí*"; designation indicates that the fruit is eaten by *Cebus* sp.) [*68*]
Edible fruit with brown skin, orange flesh, and pumpkin-like taste.

Quararibea obliquifolia (Standl.) Standl.

Shushufindi. Tree in primary forest. Central America, Ecuador.

tãnke apasí (Siona, "*Cebus apasí*"; designation indicates that the fruit is eaten by *Cebus* sp.) [*85*]
Edible fruit.

Quararibea sp.

Shushufindi. Tree in primary forest.

naso apasí (Secoya, "*Lagothrix apasí*"; designation indicates that the fruit is eaten by *Lagothrix* sp.) [*163*]
Edible fruit.

BORAGINACEAE

Tournefortia angustiflora R. & P.

Shushufindi. Vine in primary forest. Colombia to Peru.

hetu bĩsi (Siona) [*107*]
fendoko o'fa (Kofán) [*107*]
Reported to be used as a purgative to "cleanse" the body in preparation for drinking the hallucinogenic *Banisteriopsis* potion. The vine is cut into sections that are then split lengthwise and steeped in water overnight. The infusion is taken upon awakening during the predawn hours of the same day that the *Banisteriopsis* ceremony is to be performed (the latter occurring after sunset).

BROMELIACEAE

Ananas comosus (L.) Merr.—PINEAPPLE (Eng.), PIÑA (Sp.)

Shushufindi. Herb cultivated in house garden. Native of tropical South America.

káto ĩnsí (Siona, "smooth [spineless] pineapple"; distinguished by lack of spines on leaf margins; said to have been introduced by missionaries) [*174*]

hai ĩnsí (Siona, "big pineapple"; distinguished by large size of fruit) [*175*]

miõ ĩnsí (Siona, "spiny pineapple"; distinguished by spines on leaf margins) [*176*]
Edible fruit.

BURSERACEAE

Dacryodes cf. **kukachkana** L. O. Williams

Shushufindi. Large tree with buttresses in primary forest. Western Amazonia.

kũhebo (Siona) [*55*]
Firewood.

CANNACEAE

Canna indica L.—EDIBLE CANNA (Eng.), ACHIRA (Sp.)

Shushufindi. Herb cultivated in house garden. Native to South America. Widely cultivated in the tropics.

tutu (Siona) [*152*]
Rhizomes are edible.

Canna indica L. cultivar of hybrid origin

Shushufindi. Herb cultivated in house garden. Ornamental plant said to have been introduced by missionaries within the last 18 years.

sãsabi'sa horo (Siona, "*sãsabi'sa* flower") [*228*]
Ornamental.

Canna sp. aff. **C. indica** L.

Shushufindi. Herb cultivated in house garden. Apparently a local cultivar of uncertain origin.

sãsabi'sa (Siona) [*127*]
Seeds are used as beads to make necklaces.

CAPPARACEAE

Capparis magnifica Gilg

Shushufindi. Tree in primary forest. Ecuador, Peru, and western Brazil.

bũ'su bara (Siona, same name is applied to *Leonia glycycarpa* R.& P. [Violaceae] and apparently refers to same use) [*82*]
For amusement. When leaves are heated in fire, they make a sound like a machine gun (tat-tat-tat-tat).

CARICACEAE

Carica microcarpa Jacq. subsp. **heterophylla** (Poepp. & Endl.) Badillo

Shushufindi. Treelet in secondary forest. Panama to Peru and Brazil.

'aíro watihĩko (Siona, "forest demontail"; "forest" designation indicates feral variety) [*30*]
Wild fruit is collected and eaten.

Carica papaya L.—PAPAYA (Eng., Sp.)

Shushufindi. Herb cultivated in house garden. Native to tropical America.

watihīko (Siona, Secoya, "demon tail") [not collected]
nea watihīko (Siona, Secoya, "black demon tail"; distinguished by dark leaf stem) [not collected]

bo watihīko (Siona, Secoya, "white demon tail"; said to have bland taste) [not collected]
soa watihīko (Siona, Secoya, "long demon tail"; distinguished by elongated fruit; introduced by whites) [not collected]
Edible fruit.

Carica sp.

Shushufindi. Treelet in primary forest, transplanted to house garden.

'aíro watihīko (Siona, "forest demon tail"; "forest" designation indicates feral variety) [*126*]
Edible fruit.

CARYOCARACEAE

Caryocar glabrum (Aubl.) Persoon—ALMENDRA (Sp.) (fig. 7)

Shushufindi. Tree in primary forest. Tropical South America.

tuã uo (Siona) [*114*]
For good luck in fishing and hunting. The inner bark is stripped off and tied tightly around the arms. After 30 minutes the bark is removed, leaving a strip of blisters on the arm which later form scars. Said to improve the aim of the hunter.

CHENOPODIACEAE

Chenopodium ambrosioides L.—WORMSEED (Eng.)

Shushufindi. Herb commonly cultivated in house gardens. Native of tropical America.

wasi ɨkó (Siona, "worm remedy") [*6*]
paico (Spanish) [*6*]
Purgative, treatment for intestinal parasites. When crushed, emits a penetrating odor. Also an ingredient in a refreshing drink.

COMMELINACEAE

Geogenanthus ciliatus Bruckn.

Shushufindi. Terrestrial herb in primary forest. Colombia to Peru.

paparohe khaki (Kofán) [*253*]
Remedy for swollen knee. Plant is cooked with hot water and decoction is rubbed on knee.

turu (Secoya) [*253*]
Remedy for worms. Plant is mashed with cold water and infusion is given orally to infants.

COMPOSITAE

Adenostemma platyphyllum Cass.

Shushufindi. Open secondary growth. Widely distributed, Panama to Argentina.

tuwi yasi (Kofán) [*179*]
Remedy for pimples on head and ears. Leaf is burned and ashes are rubbed on afflicted part.

Clibadium asperum (Aubl.) DC.

Shushufindi. Shrub cultivated in house garden. Widely cultivated in Amazonia as fish poison. Panama to northern South America.

to'teo, to'te eo (Secoya, "pounded poison"; name refers to method of preparation) [*210*]
A fish poison. The leaves are crushed, mixed with mashed-up fruit of *Bactris gasipaes,* and shaped into balls. These balls are then thrown into streams as bait to poison fish.

Neurolaena lobata (L.) R. Br.

Shushufindi. Shrub on riverbank in open secondary growth. Mexico to northern South America, West Indies.

de'a ɨkó (Siona, "pigment remedy") [*180*]
o'si sehepa (Kofán) [*180*]
Remedy for *carate* (white spots on skin). Leaves are crushed and rubbed on legs or other afflicted parts.

Spilanthes alba L'Her.

Shushufindi. Herb on open riverbanks. Mexico to Peru.

gũhĩ sɨrɨ (Siona, "tooth *sɨrɨ*") [*183*]
Remedy for toothache. The flower head is placed in the cavity of the decayed tooth.

Tagetes erecta L.—MARIGOLD (Eng.)

Shushufindi. Ornamental herb cultivated in house garden. Introduced. Native of Mexico.

ho'ya horo (Siona, "house flower"; *ho'ya* designates domestication) [*3, 4*]
Ornamental.

Zinnia elegans Jacq.—ZINNIA (Eng.), ZINIA (Sp.)

Shushufindi. Ornamental herb cultivated in house garden. Introduced by missionaries. Native of Mexico.

ho'ya horo, horo (Siona, "house flower," "flower"; *ho'ya* designates domestication; *horo* is generic term for flower) [*2*]
Ornamental.

CONVOLVULACEAE

Ipomoea batatas (L.) Lam.—SWEET POTATO (Eng.); BATATA, CAMOTE (Sp.)

Shushufindi. Trailing vine cultivated in house gardens. Worldwide cultigen grown for underground tubers. Probably of South American origin.

bo yahi (Siona, "white sweet potato") [*258*]
Edible tuber, said to be "white."

bo yahi, sara yahi (Siona, "white sweet potato," "many-branched leaf sweet potato") [*259*]

ma yahi (Siona, "red sweet potato") [*260*]
Edible tuber, said to be "red."

nea yahi (Siona, "black sweet potato") [*261*]
Edible tuber. Plant with mauve-colored runners; tuber said to be "black" (actually a deep mauve color).

Río Eno. Trailing vine cultivated in house garden.

su'nyo yahi (Siona, "yellow sweet potato") [*246*]
Edible tuber, said to be "yellow."

CRASSULACEAE

Kalanchoë pinnata (Lam.) Pers.

Shushufindi. Fleshy herb cultivated in house garden. Widely cultivated ornamental plant of uncertain origin.

soma ɨkó (Siona, "boil remedy") [*184*]
Remedy for boils. Leaves are heated in fire and applied directly to the afflicted part.

CUCURBITACEAE

Cayaponia sp.

Río Cuyabeno. Herbaceous vine in primary forest.

sewe (Secoya) [*268*]
Large seeds used to make rattling chest beads. Seeds are grayish in color when new, but turn dark brown with use.

Fevillea cordifolia L.

Shushufindi. Herbaceous vine in primary forest. Costa Rica to Amazonia.

hukú (Siona) [*116*]
Green spherical fruit is the size of a grapefruit and contains oily, creamy-white seeds. Seeds are dried and burned for light like candles. Also, the oil may be extracted and used for painting the face to make it shiny before painting it over with achiote (*Bixa orellana*).

Lagenaria siceraria (Mol.) Standl.—BOTTLE GOURD, CALABASH (Eng.); CALABAZA, PORO (Sp.)

Shushufindi. Herbaceous vine cultivated in house garden. Widely distributed cultivated plant grown for fruits.

tayɨ (Siona) [*131*]
Dried fruit (gourd) used as a toy for children.

Luffa aegyptiaca Mill.—LOOFAH (Eng.), ESTROPAJO (Sp.)

Shushufindi. Herbaceous vine cultivated in house garden. Probably native to India. Said to be a recent introduction from the Quichua.

sosobu'a (Siona) [*9*]
esponjas (local Spanish) [*9*]
The spongelike fiber found within the mature fruit is used to scrub pots and to make wadding for shotgun shells.

Momordica charantia L.—BITTER GOURD (Eng.)

Shushufindi. Herbaceous vine cultivated in house garden. Introduced. Widely distributed throughout the tropics. Native to Old World tropics.

largatilla (local Spanish) [*136*]
Said to have an edible fruit.

CYCLANTHACEAE

Carludovica palmata R. & P.—PANAMA HAT PLANT (Eng.); JIPIJAPA, BOMBONAJE (Sp.)

Shushufindi. Large terrestrial herb in secondary and primary forest on high ground along river. Guatemala to Bolivia.

ne'e horo (Siona, "*Mauritia* flower"; named after *Mauritia* palm) [*159*]
Leaf split in two parts and used for thatch. Also used as an umbrella in sudden downpours.

Cyclanthus bipartitus Poit.

Shushufindi. Tall coarse herb cultivated in house garden. Probably transplanted from primary forest. Guatemala to Peru and Brazil.

nu'tu (Siona) [*15*]
Perfume and body ornament. The fragrant showy bracts of the inflorescence are trimmed with fringes and then secured under wristbands.

Shushufindi. Coarse herb in secondary and primary forest.

'airo nu'tu (Secoya, "forest *nu'tu*"; designation indicates feral variety) [*65*]
Bracts of this wild form are said to be green and not fragrant as the cultivated form (cf. *nu'tu* above).

Evodianthus funifer (Poit.) Lindm. ssp. **funifer** (fig. 12)

Shushufindi. Epiphytic climber on tree trunks in primary forest. Costa Rica to Brazil.

nyama ya'i (Secoya, "deer *ya'i*"; *ya'i* refers to a class of vines employed for various crafts) [*78*]
Pendulous aerial roots employed to weave baskets.

CYPERACEAE

Cyperus articulatus L.

Shushufindi. Herb cultivated in house garden. Tropical South America.

nuni (Secoya) [*17*]
piripiri (Quichua) [*17*]
Rhizome ground and mixed with water for cure of *tuturawi* ("mal viento"), but not taken for grippe or fever. Rhizome has odor of cedar oil.

Cyperus prolixus H.B.K.

Shushufindi. Herb cultivated in house garden. Mexico to Argentina.

hudũdi (Siona) [*186*]
huhu nuni (Secoya) [*186*]
Remedy for anemia. Said to be "like a vitamin." Rhizome is mixed with water and taken orally.

saida nyame dudi (Siona) [*187*]
na'nyame nuni (Secoya, "rainbow *nuni*") [*187*]
Purgative given to both wife and husband to purify them following the birth of a child.

Cyperus sp.

Shushufindi. Herb cultivated in house garden.

dudi (Siona) [*171*]
nuni (Secoya) [*171*]
kanoweču (Kofán) [*171*]
Remedy for menstruation (which is considered to be a ritually polluting disease of women).

DIOSCOREACEAE

Dioscorea trifida L. f.—CUSH-CUSH YAM (Eng.)

Shushufindi. Vine cultivated in house garden.

Native to northern South America and widely cultivated for the edible tubers.

nea nyaho (Siona, "black yam") [*122*]
Edible underground tuber, said to be black.

bo nyaho (Siona, "white yam") [*105*]
Edible underground tuber, said to be white.

ERYTHROXYLACEAE

Erythroxylum ulei O. E. Schulz

Shushufindi. Shrub cultivated in house garden. Probably transplanted from forest. Widely distributed in the tropical eastern Andes.

suara ɨkó (Siona, "*Prochilodus* [fish] remedy")
awɨ itɨ fasi (Kofán) [*144*]
Remedy for diarrhea with blood ("sinteria"), body aches ("dolor de piquete"), toothaches, and headaches. Leaves are crushed and mixed with water, and mixture is boiled and then drunk. Also said to be effective in cold water ("fresco").

Río Eno. Shrub cultivated in house garden. Probably transplanted from forest. Widely distributed in the eastern Andes.

na'nyame ɨkó (Siona, "rainbow remedy") [*238*]
itɨ fasi (Kofán) [*238*]
Remedy for sore throat and stomachache. Stem is grated or mashed, mixed with cold water, and then taken orally.

EUPHORBIACEAE

Caryodendron orinocense Karsten

Shushufindi. Immense tree in primary forest. Northern South America.

súni (Siona) [*57*]
inchí (Quichua) [*57*]
maní de monte (local Spanish, "forest peanut") [*57*]
Seeds are edible. Seeds are removed from capsule and toasted over fire. They smell like peanuts.

Chamaesyce hirta (L.) Millspaugh

Shushufindi. Weedy herb in houseyards. Pantropical weed.

wito sa'wi (Siona) [*33*]
Milky sap from broken stem is used to treat fungus infections between the toes.

Manihot esculenta Crantz —MANIOC, CASSAVA (Eng.); YUCA (Sp.) (figs. 3, 5, 8, 9)

Shushufindi. Cultivated shrub in house garden. Native to the American tropics and now found in all tropical countries.

makoro ã'só (Siona, "red sprout manioc"; name refers to the color of this variety's young leaves) [*167*]
Edible tuber primarily used for manioc cakes.

bo ã'só (Siona, "white manioc") [*168*]
Edible tuber. Petiole and midrib on upper leaf surface red; midrib on lower leaf surface white.

meha ã'só (Siona, "sand manioc") [*170*]
Edible tuber. Not preferred for regular use, but utilized for rapid tuber production when moving to a new site. A fast-growing variety that matures in six months. Said to contain little starch.

si're ã'só (Siona, "fine-leaved manioc") [*191*]
Edible tuber, nonpoisonous. This variety is distinguished by its long, fine, pointed leaves. Petiole is reddish; midrib is white on both leaf surfaces. Said to produce well.

nea ã'só (Siona, "black manioc"; "black" designation refers to petiole which is reported to be of this color) [not collected]
Edible tuber, nonpoisonous.

siri ã'só (Siona, "cloud manioc"; "cloud" designation refers to foamy nature of chicha made from this variety) [not collected]
Edible tuber, nonpoisonous.

wẽkɨ ã'só (Siona, "tapir manioc"; "tapir" designation refers to the tall and robust stems of this variety [the tapir is the most robust animal of the neotropics]) [not collected]
Edible tuber, nonpoisonous.

makɨi ã'só (Siona, "red-stemmed manioc";

name refers to the color of this variety's stems) [not collected]
Edible tuber, nonpoisonous.

bikori ã'só (Siona, "smoke manioc"; name refers to the reportedly brown color of this variety's tubers) [not collected]
Edible tuber, nonpoisonous.

gõsa ã'só (Secoya, "*Jessenia* palm manioc") [not collected]
Edible tuber, nonpoisonous. Reported to be an aboriginal Secoya variety.

suño ã'só (Siona, "yellow manioc"; name refers to the reportedly yellow color of this variety's stem pith) [not collected]
Edible tuber, nonpoisonous.

sĩma ã'só (Siona, "poison manioc"; name refers to the high concentration of hydrocyanic acid in this variety) [not collected]
Primarily used for manioc cakes; tuber is poisonous.

'aíro bãĩ ã'só (Siona, "forest people manioc") [not collected]
Primarily used for manioc cakes; tuber is poisonous.

yara ã'só (Secoya) [not collected]
Edible tuber, nonpoisonous. May be a synonym for *wẽki ã'só* variety (above).

matĩka ã'só (Secoya) [not collected]
Edible tuber, nonpoisonous. May be a synonym for another variety.

Phyllanthus pseudoconami Muell. Arg.

Shushufindi. Shrub or treelet cultivated in gardens. Widely distributed from Mexico to Argentina.

kwimbe (Siona) [*45*]
Reported to be a fish poison.

GESNERIACEAE

Codonanthopsis dissimulata (H. E. Moore) Wiehler

Shushufindi. Epiphytic herb with fleshy leaves forming "ant gardens" on tree trunks in forest margins and *Mauritia flexuosa* swamps. Northern South America.

hũku ɨkó (Siona "ant remedy"; *hũku* is but one of many species of ants) [*161*]
kũgi kɨsɨ (Kofán) [*256*]
Remedy for toothache and headache. The leaves are pounded with a rock and boiled in water. For toothache, the infusion is held in the mouth; for headache, the liquid is taken through the nose with a spoon.

Dalbergaria picta (Karsten) Wiehler

Shushufindi. Climbing herbaceous vine in primary forest. Colombia and Ecuador.

soma mũtó (Secoya, "boil [i.e., sore] tobacco") [*72*]
Leaf is smoked like tobacco.

Drymonia coriacea (Oerst. ex Hanst.) Wiehler

Shushufindi. Vine in secondary growth. Colombia and Ecuador.

mačeniõsi (Kofán) [*120*]
Remedy for toothache and mouth ulcers. Leaves are crushed and boiled. Decoction is gargled when warm and may be kept in mouth for five minutes.

Gloxinia perennis (L.) Fritsch

Río Eno. Rather fleshy herb cultivated in house garden. Native to tropical South America, cultivated elsewhere.

sumo ɨkó (Siona, "boil remedy") [*249*]
koto ɨkó (Siona) [*249*]
Remedy for boils. Plant is cooked in hot water and the afflicted part is bathed with the infusion.

GRAMINEAE

Arundo donax L.—GIANT REED (Eng.)

Shushufindi. Cultivated herb in open house garden. Native to Old World. Widely cultivated.

kɨnapipi (Secoya, "rock cane") [*99*]
guna pipi (Siona, "rock cane") [*99*]
Culms used to make panpipes ("rondador").

Axonopus scoparius (Flügge) Kuhlm.

Shushufindi. Cultivated herb in house garden. Native to tropical America and widely cultivated as forage plant.

duru wẽkɨ taya (Siona, "bull tapir grass"; cattle are named after the tapir) [*199*]
Pasture.

Bambusa sp. subgen. **Guadua**—BAMBOO (Eng.) (figs. 3, 9)

Río Eno. Tall bamboo growing in abandoned garden, cultivated.

mame (Siona) [*264*]
guama (local Spanish) [*264*]
Woody culms used to make spear points and blowgun dart quivers.

Coix lachrymae-jobi L.—JOB'S TEARS (Eng.) (fig. 1)

Shushufindi. Tall grass cultivated in house garden. Native to Southeast Asia. Widely cultivated in the tropics.

wea yi'yo (Secoya, "maize bead") [*23*]
Hard, round, gray fruits used for beads.

kurawea (Secoya, "chicken maize") [*100*]
Fruits used for chicken food.

Cymbopogon citratus (DC.) Stapf—LEMON GRASS (Eng.)

Shushufindi. Grass cultivated in house garden. Native to tropical Asia.

gãtɨ ma'nya (Siona, "cane perfume"; *ma'nya* is generic term for perfume plants) [*11*]
hierba luisa (Spanish) [*11*]
Aromatic leaves used to make a drink with sugar and water. Also taken for stomachache.

Eleusine indica (L.) Gaertn.

Shushufindi. Weedy grass colonizing recently cleared areas. Abundant in houseyards and on airstrip. Pantropical weed.

tayá (Siona, "grass") [*31*]
No reported use.

Gynerium sagittatum (Aubl.) Beauv.

Shushufindi. Giant grass growing on river bank. Widespread in tropical America.

wigãtɨ (Siona, "*wi* cane"; *wi* refers to a class of unidentified small palms [see *Bactris* sp. cf. *B. concinna*]) [*16, 266*]
caña brava (Spanish)
pindo (Spanish name reported from Colombian Amazon)
Stems of mature specimens used for poling canoes. Sections of smaller stems are used to make earplugs and the bases of feather "flowers" which are hung on necklaces.

Lasiacis ligulata Hitchc. & Chase

Río Eno. Tall grass in secondary growth in cleared field. Widely distributed in tropical South America.

pipi (Siona, "cane") [*243*]
Hollow culms used as children's peashooters.

Oryza sativa L.—RICE (Eng.), ARROZ (Sp.)

Shushufindi. Grain cultivated in limited amounts in gardens. Introduced cultigen originally from Southeast Asia.

arusu (Quichua, corruption of Spanish *arroz*) [not collected]
Potential cash crop which Siona and Secoya have only recently begun to grow on an experimental basis.

Pariana aurita Swallen

Shushufindi. Grass in primary forest. Amazonian Ecuador and Peru.

mamekoko (Secoya) [*64*]
Plants are bound together to make a shaman's rattle which is used in *Banisteriopsis* ceremonies.

Pariana sp. (fig. 10)

Shushufindi. Grass persisting in garden, not planted.

mamekoko (Secoya) [*262*]
Plants are bound together to make a shaman's rattle which is used in *Banisteriopsis* ceremonies.

Paspalum conjugatum Berg.

Shushufindi. Weedy grass in houseyards and disturbed areas. Tropical American weed.

sarataya (Siona, "many-branched grass") [*32*]
No reported use.

Pharus latifolia L.

Shushufindi. Grass in secondary and primary forest. Widespread in tropical America.

'aíro yaí hẽhẽ (Secoya, "jaguar's fear" [the literal translation of *'aíro yaí* is "forest felid," but refers specifically to the jaguar]) [*201*]
No reported use. Jaguars are said to be "afraid" of this plant because the barbed ripe fruits (caryopses) stick to their fur.

Saccharum officinarum L.—SUGARCANE (Eng.), CAÑA DE AZÚCAR (Sp.)

Shushufindi. Widely cultivated in gardens. Originally domesticated in New Guinea, now a pantropical cultigen.

hĩ'e gãti (Siona, "striped cane"; name refers to stripes on leaves) [not collected]
si'e gãti (Siona, "blood cane"; name refers to the reddish color of this variety) [not collected]
sũsu gãti (Siona, "sucking cane"; reported to be a small variety suitable for giving to suckling infants) [not collected]
wasi gãti (Siona, "worm cane"; name refers to the dark-colored leaves of this variety) [not collected]
nea gãti (Siona, "black cane"; synonym for *wasi gãti* [see above]) [not collected]
Predominantly used as a snack food.

Zea mays L.—MAIZE, INDIAN CORN (Eng.); MAÍZ (Sp.) (figs. 4, 5)

Shushufindi. Herb cultivated in gardens. Originally domesticated in Mexico, now widespread in tropical and temperate zones of the world.

ãhi wea (Secoya, Siona, "soft maize"; *wea* is the generic term for maize) [not collected]
A variety of maize that is said to have been introduced by missionaries. Eaten boiled or roasted. Reported to produce higher yields than native varieties.

haha wea (Secoya, Siona, "bursting maize") [not collected]
A variety of popcorn. Reportedly introduced by whites.

kĩna wea (Secoya, Siona, "rock maize") [not collected]
morocho (local Spanish) [not collected]
A variety of maize with hard kernels. Introduced by whites. Primarily used as an animal feed and as a cash crop.

kĩnapo wea (Secoya, Siona, *kĩnapo* "maize") [not collected]
A native variety of maize whose kernels are white, soft, and mealy. Eaten boiled, roasted, and used to make maize chicha (*wea kõnõ*). Also mixed with plantains to make a flatbread (*piri*) that is toasted on ceramic griddles.

ma wea (Secoya, Siona, "red maize") [not collected]
wea repa (Secoya, Siona, "maize proper") [not collected]
A native variety of maize with red kernels. Said to be soft like *kĩnapo wea* (above). Used to make a flatbread (*wea 'ãõ*).

nea wea (Secoya, Siona, "black maize") [not collected]
A native variety of maize with black kernels. Used to make maize chicha and flatbread.

po're wea (Secoya, Siona, "ashy maize") [not collected]
A native variety of maize that is said to have soft, ashy-colored kernels. Eaten boiled or roasted and used to make maize chicha.

GUTTIFERAE

Rheedia acuminata (R. & P.) Planch. & Triana

Shushufindi. Small tree in house garden, probably transplanted from primary forest. Native from Mexico to Peru.

piri maharo (Secoya, "rough-surfaced *maharo*") [*303*]
madroña (local Spanish) [*203*]
Fruit is edible, with a sweet taste.

IRIDACEAE

Eleutherine bulbosa (Mill.) Urb.

Shushufindi. Herb with red bulb cultivated in house garden. Native of tropical America. Widely cultivated as an ornamental.

wa'ro (Secoya, Siona) [*22, 172*]
The red bulb is crushed and mixed with water and drunk to kill intestinal parasites and worms.

yaí wa'ro (Secoya, "dog *wa'ro*"; *yaí* is generic term for felids, but Siona and Secoya include domestic dogs in this category as *ho'ya yaí,* or "house felid") [*24*]
Bulb is crushed and mixed with water and given to dog to improve hunting ability. Believed to enhance dog's ability to follow scent of collared and white-lipped peccaries. Not ingested by humans.

LABIATAE

Hyptis capitata Jacq.

Shushufindi. Aromatic herb cultivated in house garden. Widespread tropical weed.

nohabianyono (Kofán) [*182*]
Remedy for *nea ũtá* (Secoya, "black diarrhea"). Leaves are crushed and mixed with cold water and infusion is drunk.

Hyptis mutabilis (Rich.) Briq.

Shushufindi. Herb in open disturbed areas. Common weed in tropical America.

kweso biá (Siona, "*kweso* pepper") [*40*]
No reported use.

Ocimum micranthum Willd.—ALBAHACA (Sp.) (fig. 2)

Shushufindi. Aromatic herb in house garden. Widespread in American tropics.

gõnõ ma'nya (Siona, "chicha perfume") [*12*]
kõnõ ma'nya (Secoya, "chicha perfume") [*12*]
Perfume plant. Twigs are inserted under wristbands or crushed and rubbed on the shoulders.

LAURACEAE

Persea americana Mill.—AVOCADO (Eng.)

Shushufindi. Tree in house gardens.

aguacate (Spanish) [not collected]
Edible fruit. Reportedly introduced by whites.

Genus and species unidentified

Shushufindi. Large tree in primary forest.

wio sĩ wẽkineo (Secoya, "pleasant-smelling yellow-wooded tree") [*225*]
Wood used for house posts and shotgun stocks.

LECYTHIDACEAE

Grias neuberthii Macbride

Shushufindi. Medium-sized tree in primary forest. Colombia to Peru.

kãsi (Siona) [*84*]
Pear-sized cauliflorous fruits are grated and mixed with water to prepare a purgative. They also may be roasted in the fire and eaten.

LEGUMINOSAE

Aeschynomene americana L.

Shushufindi. Weedy herb at edge of houseyard. Said to have been introduced by missionaries. Florida to Argentina.

rudũ wẽki 'ãõ (Siona, "bull tapir manioc cake"; name indicates that this is a food of cattle [cattle are likened to tapirs because of their large size]) [*42*]
Forage crop for cattle. Also said to be good for chickens.

Inga edulis Mart.—GUAMO, PACAY (Sp.)

Shushufindi. Cultivated tree. Widely distributed from Central America to Brazil.

ho'ya bẽnẽ́ (Secoya, "house *Inga*"; *ho'ya* ["house"] implies cultivated variety) [*93*]
otá bẽnẽ́ (Siona) [*93*]
Sweet, white pulp around seeds is eaten.

Inga marginata Willd.

Shushufindi. Large tree with small buttresses in primary forest. Costa Rica to Bolivia and Brazil.

bẽnẽ́ (Siona, "*Inga*"; *bẽnẽ́* is generic term for *Inga*) [*59*]
siri bẽnẽ́ (Secoya, "*siri Inga*") [*80*]
sisi bẽnẽ́ (Siona, "small monkey *Inga*"; *sisi* is a category of small monkeys, including

some species of *Callicebus* and *Saimiri*; name refers to the fact that monkeys eat the fruit of this variety) [*121*]

kwinya bẽnẽ́ (Siona, "bird [a particular, but unidentified, species] *Inga*") [*121*]

'airo yoko pẽnẽ́ (Secoya, "forest *Paullinia Inga*") [*224*]

Fruit not collected by humans, but eaten by a variety of primates and birds.

Inga thibaudiana DC.

Shushufindi. Large tree in primary forest. Belize to Brazil.

noka bẽnẽ́ (Siona, "plantain *Inga*"; *noka* is generic name for plantains) [*40*]

Sweet, white pulp around seeds is eaten.

Inga sp.

Shushufindi. Tree cultivated in house gardens.

wa'nya bẽnẽ́ (Siona, "machete *Inga*") [*135, 194*]

ota bẽnẽ́ (Siona) [*47*]

Sweet, white pulp around seeds is eaten. Fruit said to be 1 m long, shaped like a machete.

Inga sp.

Shushufindi. Tree in primary forest.

goi bẽnẽ́ (Secoya, "turtle *Inga*") [*142*]

Sweet, white pulp around seeds is eaten.

Inga sp.

Shushufindi. Tree in primary forest; also persisting in cleared fields.

do'ki pẽnẽ́ (Secoya, "grimy *Inga*"; name refers to dark fuzzy nature of seed pod exterior) [*206*]

Sweet, white pulp around seeds is eaten. Pods said to be about 18 cm long.

Inga sp.

Shushufindi. Tree cultivated in house garden, also found in primary forest.

wã'so bẽnẽ́ (Siona) [*134*]

Sweet, white pulp around seeds is eaten.

Inga sp.

Shushufindi. Tree in primary forest.

pa'pá bẽnẽ́ (Siona, "palm [species unidentified] *Inga*") [not collected]

Sweet, white pulp around seeds is eaten.

Inga sp.

Cuyabeno. Tree in primary forest.

kosi bẽnẽ́ (Siona) [not collected]

Leaves are heated over fire and applied to ear in treatment of earache.

Inga sp.

Shushufindi. Tree in primary forest.

sẽsé bẽnẽ́ (Secoya, "white-lipped peccary *Inga*") [not collected]

No reported use.

Inga sp.

Shushufindi. Tree in primary forest.

tiri bẽnẽ́ (Secoya, "corrugated *Inga*"; name refers to ripples along the fruit pod margin) [not collected]

Sweet, white pulp around seeds is eaten.

Inga sp.

Shushufindi. Tree in primary forest.

'ẽmṹ bẽnẽ́ (Secoya, "howler monkey *Inga*"; name refers to the fact that the fruit of this variety is "red and hairy like a howler monkey") [not collected]

Sweet, white pulp around seeds is eaten.

Lonchocarpus nicou (Aubl.) DC.—BARBASCO (Sp.)

Shushufindi. Cultivated treelet in old house garden. Widely distributed in tropical South America as a fish poison.

ho'ya eo (Siona, "house poison"; "house" designation indicates that this is a domesticated plant) [*53*]

Roots are utilized as fish poison in small streams and oxbow lakes during dry season.

Ormosia cf. **amazonica** Ducke

Shushufindi. Tree in primary forest. Middle to Upper Amazon.

tuku (Siona) [*270*]

Red seeds used as beads.

Parkia sp. (?)

Shushufindi. Seedling tree in primary forest.

kãhé (Secoya) [*70*]
No reported use.

Phaseolus vulgaris L. (probably)—COMMON BEAN (Eng.), FRÍJOL (Sp.)

Shushufindi. Vine cultivated in house garden.

poroto (local Spanish) [not collected]
Edible vegetable. Introduced by missionaries.

Tephrosia sinapou (Buchoz) A. Chev.—BARBASCO (Sp.)

Shushufindi. Shrub cultivated in gardens. Widely distributed in tropical America.

eo (Siona, Secoya, "poison") [*198*]
Fish poison (use not observed).

Genus and species unidentified

Shushufindi. Tree in primary forest.

ãnya pɨkɨ máo (Secoya, "*ãnya pɨkɨ*" is the name of river demon; "*máo*" refers to a class of red-wooded trees) [*218*]
Bark is scraped and mixed with a little water and applied to cuts. Very hard red wood with black heart, said to bend axe blades.

LILIACEAE

Cordyline fruticosa (L.) A. Chev.

Shushufindi. Shrub cultivated in house garden. Native of tropical Asia.

ho'ya ha'o (Siona, "house leaf"; a generic name; this plant has recently been introduced and has not acquired a Siona or Secoya name) [*151*]
Planted as an ornamental in houseyards.

MALPIGHIACEAE

Banisteriopsis caapi (Spruce ex Griseb.) Morton—YAGÉ, AYAHUASCA (indigenous names) (figs. 1, 6, 15, 16)

Shushufindi. Woody vine cultivated in house gardens. Widely distributed in northwestern South America. The numerous clones all are used as hallucinogens.

wa'í yahé (Siona, "meat *Banisteriopsis*") [*125*]
Leaf is green.

ya'wɨ yahé (Siona, "collared peccary *Banisteriopsis*") [*124*]
Leaf has yellow stripes.

naso ãnya yahé (Siona, "woolly monkey snake *Banisteriopsis*") [*157*]
naso yahé (Siona, "woolly monkey *Banisteriopsis*") [*157*]
Leaf has yellow stripes.

yahé repa (Siona, "*Banisteriopsis* proper") [*139*]

tara yahé (Siona, "bone *Banisteriopsis*"; the vine of this variety is knobby and said to be "hard like a bone") [*189*]

Río Eno. Woody vine cultivated in house gardens.

ya'wɨ yahé (Siona, "collared peccary *Banisteriopsis*") [*244*]

naso yahé (Siona, "woolly monkey *Banisteriopsis*") [*245*]
Leaves at apex of vine have yellow splotches.

wa'i yahé (Siona, "meat *Banisteriopsis*") [*247*]

'aíro yahé (Siona, "forest *Banisteriopsis*"; "forest" designation indicates a feral variety) [*250*]

Banisteriopsis sp. (probably **B. caapi**)

Shushufindi. Woody vine cultivated in house gardens.

bi'ã yahé (Siona, "bird *Banisteriopsis*"; name refers to the small leaves of this variety) [not collected]

sia sewɨ yahé (Siona, "egg *sewɨ Banisteriopsis*"; leaves are reported to be "yellowish") [not collected]

sẽsé yahé (Siona, "white-lipped peccary *Banisteriopsis*") [not collected]

wẽkɨ yahé (Siona, "tapir *Banisteriopsis*"; the tapir designation refers to the large size which this variety attains) [not collected]

yaí yahé (Siona, "jaguar *Banisteriopsis*") [not collected]

nea yahé (Siona, "black *Banisteriopsis*"; name said to refer to the dark coloration of the vine in this variety) [not collected]

horo yahé (Secoya, "flower *Banisteriopsis*"; although this is reported as a variety, it may refer to flowering stage) [not collected]

Cuyabeno. Woody vine cultivated in house gardens.

sisé yahé (Siona, "*sisé Banisteriopsis*") [not collected]

Diplopterys cabrerana (Cuatr.) Gates (figs. 14, 16)

Shushufindi. Woody vine cultivated in gardens. Western Amazon.

yahé'okó (Siona, "*Banisteriopsis* water") [*212*] Hallucinogen. Leaves are an admixture to *Banisteriopsis* drink.

Plants of the genus *Banisteriopsis* are considered to be sacred and are the medium through which the Siona and Secoya seek supernatural knowledge. *Yahé* ceremonies are frequently held at intervals of about once a month, but may be performed within a few days of each other if the shaman has a specific purpose in mind, such as to appeal to the spirits for a cessation of the rains so that the fields may be burned. The preparation of the *Banisteriopsis* potion is carried out by two or three assistants known as *yahé kwakoki* ("*Banisteriopsis* cooks"). The afternoon before the ceremony is to take place, these assistants go to the garden or forest to cut lengths of the *Banisteriopsis* vine and then carry them slowly and respectfully to a special ceremonial hut known as the *yahé wi'e* ("*Banisteriopsis* house"), which is located in the forest away from the settlement.

The following morning one assistant begins cooking the *Banisteriopsis,* while the others bring water and firewood and clean the ceremonial house. The sections of vine are pounded with a wooden club and then placed in a large pot with an admixture of leaves of *Diplopterys cabrerana* (Cuatr.) Gates. The Siona-Secoya refer to this plant as *yahé 'okó* ("*Banisteriopsis* water") and state that it enhances *yahé* visions. Then water is added and the mixture is boiled throughout the day. Rituals are performed during this period to protect the *yahé* from demons. In the afternoon the contents of the pot are strained and only a viscous honey-colored decoction remains. This liquid is *wea yahé* ("maize *Banisteriopsis*"; "maize" refers to the color of the decoction) and is the actual potion that is consumed.

Before sunset the shaman arrives at the ceremonial house with other participants. The drinking of *yahé* is a communal act in Siona-Secoya culture. Whole families may take part, and the number of individuals present may exceed 20. The participants arrive in their finest *hu'ika* ("*cushmas*" or knee-length cotton tunics) and are adorned with elaborate red face paintings (made from seed pigments of *Bixa orellana*), many strands of brightly colored beads, and fragrant plants fastened to their arms by woven cotton bands.

The shaman sits on a special log bench and begins a long and rhythmic chant over the *yahé* pot. After he has sung for nearly an hour, he serves *yahé* to each person wishing to take it (normally this will include everyone present, except for very small children).

As the shaman serves the *yahé,* he performs a blowing ritual and shakes a rattle which is fashioned from the bound leaves of *mamekoko* (*Pariana* spp.) over the person who is about to drink. These actions are intended to startle away any demons that may be lurking about. After they have been served, the participants return to hammocks which they have hung from the house posts and wait for the drug to take effect. After an hour or two many experience severe nausea or diarrhea, but the shaman manifests little discomfort due to his great experience with *yahé.* Following this period of physical discomfort among the participants, they are prepared to enter into a spiritual experience, with the shaman as their leader.

The shaman sings and chants to the beat of the leaf rattle which he shakes in one hand. The words of his song are in a magical dialect which is only partially understood by the others present. It is believed that, during the ceremony, the shaman's soul rises to the heavenly realms and mingles with the *ma'timo bai* ("heavenly people"), including such groups as the *hi'é saipi bãĩ* ("plum-throated cotinga people") and *wakara bãĩ* ("heron people"). The world of the *ma'timo bãĩ* is one of great beauty and bounty, and the shaman describes it in detail. The heavenly people may even descend to the earth during the ceremony; however, only the shaman sees them clearly, and he interprets his vision to the other drinkers of *yahé.* With his guidance they may understand the significance of the vision and the shaman's song. The shaman may also play a one-stringed musical bow, and it is said that the heavenly people dance to the haunting music produced by this instrument. The shaman continues to chant throughout the night, and from time to time his songs are answered by choruses from the others in their hammocks. The virtuoso

shaman never rests or reclines in a hammock, however. He must blow the fragrant smoke of beeswax over the others to protect them from demons, chant over them when they become ill, and guide them through the long night.

As the dawn breaks, the shaman serves additional portions of *yahé* to those who desire it. One of the men in attendance also prepares the usual stimulating morning beverage of *yoko* (*Paullinia yoco* R. E. Schult. & Killip) which is served to others. The shaman then performs curing rituals on those who are suffering from ailments. In order to effect a cure, the shaman must contact the *watí* ("demon") that is the spirit helper of the sorcerer who has caused the illness. Once communication with the spirit helper has been established and the identity of the sorcerer learned, the shaman contracts with the spirit helper to end the illness. Finally, the shaman sings special curing songs and sucks and massages the afflicted part of the patient to extract the foreign body causing the pain (e.g., darts, thorns, or pebbles). By mid-morning the people begin to roll up their hammocks and depart the ceremonial house.

MALVACEAE

Abelmoschus moschatus Medik

Shushufindi. Tall herb cultivated in house garden. Introduced, native of Southeast Asia.

ãnya nye nye (Siona, "snake *nye nye*") [*155*]
Said to be a remedy for snakebite.

Gossypium barbadense L.—TREE COTTON (Eng.), ALGODÓN (Sp.) (fig. 9)

Shushufindi. Treelet cultivated in house garden. Native of South America, now widely cultivated.

ho'ya yui (Siona, "house cotton"; "house" designation indicates domesticated variety) [*10*]
Used to weave armbands and wind around end of blowgun dart to form pressure seal and airfoil.

Hibiscus rosa-sinensis L.—ORNAMENTAL HIBISCUS (Eng.)

Shushufindi. Shrub cultivated in house garden. Introduced by missionaries. Origin uncertain, but possibly from tropical Asia.

horo (Siona, "flower"; *horo* is a general term for flowering ornamentals) [*166*]
Ornamental plant with showy pink flowers.

Sida glomerata Cav.

Shushufindi. Herb cultivated in house garden. Native from Mexico to Paraguay.

yua suó (Secoya, "broom") [*29*]
escoba (local Spanish, "broom") [*29*]
Stems used to make brooms for sweeping houses.

MARANTACEAE

Calathea allouia (Aubl.) Lindl.—LERÉN, LAIRÉN, DALE DALE (Sp.)

Shushufindi. Herb cultivated in house garden. West Indies to northern South America.

sewɨ (Siona) [*177*]
Bears edible tubers which are boiled and eaten. Said to have been brought into the world by Makaguaje shamans (a Western Tukanoan people of the Putumayo River Basin).

Calathea sp. (**C. ornata** [Linden] Koern. group)

Shushufindi. Herb in primary and secondary forest.

kosiri ha'o (Secoya, "shiny-smooth leaf") [*202*]
Remedy for sore throat. The leaves are mixed with water and the infusion taken orally.

Ischnosiphon cerotus Loesener (fig. 21)

Shushufindi. Tall herb in primary forest. Northwestern South America.

poreká (Secoya) [*74*]
Stem is split and woven to make sieve for processing manioc flour.

Ischnosiphon puberulus Loesener (fig. 21)

Shushufindi. Herb in primary forest. Amazon Basin to the Guianas.

wuwu (Secoya) [*77*]
Stem is split and woven to make sieve for processing manioc flour.

MELASTOMATACEAE

Blakea sp. aff. **B. ciliata** Mgf. or **B. rosea** (R. & P.) Don

Shushufindi. Shrub in primary forest.

yayurua (Secoya) [*255*]
hiri khaki (Kofán) [*255*]
Treatment for burns. Leaves are crushed in cold water, and burn is bathed with the infusion.

Miconia astroplocama Donn. Smith

Shushufindi. Tree in primary forest. Costa Rica, Panama, Ecuador, and Peru.

'ãõ ne'e aũ (Secoya) [*207*]
Wood is reportedly used for poles in house construction.

Triolena pluvialis (Wurdack) Wurdack

Shushufindi. Herb in primary forest. Colombia to Peru.

kóshasi (Kofán) [*219*]
Remedy for toothache. Plant is ground with a rock, boiled in water, and then placed in the mouth and held for five minutes; then the procedure is repeated.

MELIACEAE

Cedrela odorata L. (probably)—WEST INDIAN CEDAR (Eng.), CEDRO (Sp.) (fig. 2)

Shushufindi. Tree in primary forest. Mexico to Argentina and West Indies.

bo miã (Siona, "white cedar") [*192*]
Wood is used to make canoes, but the "red" variety is preferred over this type.

ma miã (Secoya, "red cedar") [not collected]
The preferred wood for canoes.

Guarea kunthiana A. Juss.

Shushufindi. Frequent large tree with buttresses in primary forest. Costa Rica to Paraguay.

bo'ũ (Siona) [*54*]
biliwiri (reported Spanish name in Colombia) [*54*]
Firewood; aril of fruit eaten by birds.

Guarea macrophylla Vahl ssp. **pendulispica** (C. DC.) Pennington

Shushufindi. Frequent large tree with buttresses in primary forest. Amazonian Colombia to Bolivia.

wãsuo (Siona) [*83*]
Firewood. Wood reddish within.

MENISPERMACEAE

Abuta grandifolia (Mart.) Sandw.

Shushufindi. Tree in primary forest. Amazon Basin and adjacent areas.

dayawi uo (Secoya, "swamp *uo*") [*221*]
Wood used to make house rafters.

MONIMIACEAE

Mollinedia sp.

Shushufindi. Shrub in primary forest.

hu'hu (Secoya) [*81*]
Remedy for stomachache. The leaves are boiled with water and the decoction is drunk.

MORACEAE

Artocarpus altilis (S. Parkinson) Fosberg—BREADFRUIT (Eng.), ÁRBOL DE PAN (Sp.)

Shushufindi. Tree cultivated in house garden. Native to islands of the South Pacific. Introduced and widely planted in Amazonia.

aĩré (Siona [Secoya informant states that this name is borrowed from an unidentified tropical forest tree]) [*150*]
fruta de pan (Spanish, "breadfruit") [*150*]
Edible fruit.

Cecropia sciadophylla Mart.

Shushufindi. Tall tree in primary forest. Amazon Basin and adjacent areas.

sara wãki nyu (Secoya, "many-branched *Cecropia* tree") [*92*]
No reported use.

Cecropia sp.

Shushufindi. Tall tree in secondary forest; inhabited by stinging red ants.

wãkɨ nyu (Siona, "*Cecropia* tree") [*91*]
Trunk used to make raft for temporary use. Soft wood.

Cecropia sp.

Shushufindi. Tree in secondary forest.

ko'eo (Siona) [*205*]
ko'iyo (Secoya) [*205*]
setico (local Spanish) [*205*]
No reported use.

Cecropia sp. (probably)

Shushufindi. Tree found along riverbanks.

ka'iri wãkɨ (Secoya, "slippery *Cecropia*") [not collected]
Laid down as foundation for sliding canoes from building site in forest to riverbank.

Ficus yoponensis Desv.

Shushufindi. Huge tree with large buttresses in primary forest. Southern Mexico to Peru.

kâ'ko nyu (Siona, "*ka'ko* tree") [*90*]
Fresh latex is ingested as a remedy for diarrhea and worms.

Pourouma cecropiifolia Mart. ex Miquel (fig. 11)

Shushufindi. Tree cultivated in house gardens. Western Amazon Basin.

kwi ya'i (Siona) [not collected]
uvillas (local Spanish, "little grapes") [not collected]
Edible fruit.

Pourouma sp.

Shushufindi. Tree planted in house garden. Reported to occur also in primary forest.

kwi ya'i (Siona) [*123*]
Edible fruit.

Pourouma sp.

Shushufindi. Large tree with buttresses in primary forest.

airo kwi ya'i (Siona, "forest *kwi ya'i*"; "forest" designation indicates a wild variety) [*86*]
uvillas (local Spanish, "little grapes") [*86*]
Edible fruit.

Pseudolmedia laevis (R. & P.) Macbride (fig. 12)

Shushufindi. Tall tree with buttresses in primary forest. Tropical South America.

yahi (Siona) [*56, 185*]
tõto yahi (Secoya, "buttressed *yahi*") [*231*]
wea yahi (Secoya, "maize *yahi*") [*231*]
Red fruits are edible, produced in December. Wood said to be "hard as a rock."

MUSACEAE

Heliconia sp. (fig. 4)

Shushufindi. Large herb in secondary growth.

penoka (Siona, "*pe*-plantain") [*38*]
Leaves used to line netted bags when carrying meat.

Musa × **paradisiaca** L.—BANANA, PLANTAIN (Eng.); BANANA, PLÁTANO (Sp.) (figs. 5, 12, 18)

Shushufindi. Large herb cultivated in house gardens. Introduced. Native of southeastern Asia.

noka repa (Siona, "plantain proper") [not collected]
Produces "cooking banana" or plantain. Siona-Secoya believe it to be a native cultivar. Eaten boiled, fried, roasted, or broiled and used in making *noka kõnõ* ("plantain chicha").

hai noka (Siona, "large plantain") [not collected]
hai moa noka (Secoya, "thick plantain") [not collected]
Variety of cooking banana that is reported to produce large heads and thick fruits.

hĩko sara noka (Siona, "tail-less plantain") [not collected]
sõho peo noka (Secoya, "tail-less plantain") [not collected]
Variety of cooking banana that is reported to have no male bud ("tail") at the tips of its bunches.

ma noka (Siona, "red plantain") [not collected]
cortajeta (local Spanish) [not collected]

Variety of banana that has a reddish brown tint on its peel. Can be eaten raw or used for making a banana beverage (*noka kõnõ*); also said to be good for feeding to pigs. Flesh is tender and sweet.

neaka noka (Siona, "black-leaved plantain"; the suffix *-ka* is usually glossed as "-winged," but in this context refers to the leaves) [not collected]
Variety of cooking banana that is reported to have "black" pseudostems and leaves. Fruit is said to be identical to *noka repa* and is used for the same purposes in cooking (see above).

sai noka (Secoya, "*sai* plantain") [not collected]
hartón (local Spanish, "superabundant") [not collected]
This variety produces some of the largest of the cooking bananas (the mean weight of three fruits with skins weighed in the field was 563 g). Each plant is reported to yield three bunches of fruit.

sáparo noka (Secoya, "Záparo Indian plantain") [not collected]
siri noka (Siona, "foam plantain") [not collected]
bijillas (Peruvian Spanish) [not collected]
This variety of banana is said to be delicious raw. It is also prized for making chicha and is said to produce much foam as it is boiled. It is reported to be too "soft" for other cooking purposes.

sera noka (Secoya, "silk plantain"; *sera* is a corruption of *seda* in Spanish) [not collected]
seda (Spanish, "silk") [not collected]
This variety of eating banana was reportedly introduced by whites and is similar to the varieties marketed in the United States. The Siona-Secoya use it marginally because they consider it to be bland and lacking in sweetness. One informant reported that he used it only as an ornamental plant.

tu noka (Secoya, "blunt plantain") [not collected]
turu noka (Siona, "*turu* plantain") [not collected]
This variety of cooking banana has blunt-ended fruits and also is said to have no male bud at the tips of its bunches. It is eaten roasted or boiled or is made into plantain chicha. It is believed that it will cause intestinal worms if eaten raw.

wahu noka (Siona, "tender green plantain," *wahu* is a core concept in Siona thought and connotes a living force that is tender and green) [not collected]

wiña noka (Secoya, "young green plantain") [not collected]

ya'wɨ noka (Secoya, "collared peccary plantain") [not collected]
This variety is reported to ripen even though the skin retains its green color.

watí noka (Siona, "demon plantain"; name refers to the "supernatural" forces that propagate this variety along riverbanks) [not collected]

ãkɨ noka (Secoya, "white man's plantain") [not collected]
chiririo (local Spanish) [not collected]
orito (local Spanish, diminutive form of "gold")
Variety of dwarf banana that is eaten raw. It has a sweet flavor. The Siona-Secoya normally prefer it less than cooking bananas, but are forced to rely on it when they move to new habitation sites and have no established gardens. (The dwarf bananas are collected from uncultivated stands along riverbanks where they are dispersed during floods.) When cooking bananas are available, the dwarf bananas are used as an occasional snack food and fed to dogs, chickens, and pigs.

yihá noka (Siona, "earth banana"; name refers to the fact that this variety does not grow as tall as other bananas or plantains) [not collected]
This variety produces an eating banana that is said to be similar to *sera noka* (see above), but may also be used to make chicha.

Caño Negro (lower Aguarico River)

manzana (local Spanish, "apple") [not collected]
Variety of banana that is eaten raw. Reportedly not used in cooking because ripe fruit is soft. The infructescence reportedly falls to the ground when the fruit is ripe, but the stalk does not die back as with other varieties.

MYRISTICACEAE

Iryanthera ulei Warburg

Shushufindi. Tree in primary forest. Western Amazonia.

wirisaká (Secoya) [*71, 230*]
The aromatic bark is removed in strips to make perfumed arm bands; leaves and flowers are also used similarly as perfume and as ornamentation. Fruit is edible.

Otoba parvifolia (Markgraf) A. Gentry

Shushufindi. Tall tree in tropical rain forest. Western Amazonia.

kurú (Siona) [*89*]
Timber can be used to make canoes, but wood rots in three months; whites use it for lumber.

MYRTACEAE

Campomanesia lineatifolia R. & P.—PALILLO (Sp.)

Shushufindi. Aromatic shrub in primary forest. Colombia to Bolivia and Amazonian Brazil.

masíka ma'nya (Secoya, "gnat perfume"; *ma'nya* is generic term for perfumed plants) [*234*]
arari ma'nya (Siona, "guayaba perfume") [*234*]
Leaves are crushed to extract a perfume.

Psidium acutangulum DC.

Shushufindi. Small tree cultivated in house garden. Tropical South America.

arari (Siona) [*156*]
guayaba (Spanish) [*156*]
Edible fruit.

Psidium guajava L.—GUAVA (Eng.)

Shushufindi. Small tree cultivated in house garden. Widely distributed in American tropics.

kuma (Siona) [*113*]
guayaba (Spanish) [*113*]
Edible fruit.

OCHNACEAE

Sauvegesia erecta L.

Río Eno. Herb cultivated in house garden. Mexico to South America.

turi ma'nya (Siona, "mouse perfume"; *ma'nya* is generic term for perfumed plants) [*237*]
Remedy for stomachache. Whole plant is crushed with a rock, then boiled in water and the decoction taken orally.

PALMAE

Astrocaryum sp. (fig. 9)

Shushufindi. Armed palm in primary forest.

petó (Siona, "coconut"; refers to fruit only) [*141*]
nyũkwa (Siona, "chambira"; refers to entire plant) [*141*]
chambira (local Spanish) [*141*]
The 6 cm long seed is edible, has meat very much like a coconut. Fruit produced from December to February. Fiber is stripped from young leaves and used to make hammocks, netted bags, and cordage; formerly was woven to make narrow pelvic band for women.

Astrocaryum sp.

Shushufindi. Arborescent palm in primary forest.

si'ra (Secoya) [*272*]
huicungo (Quichua?) [*272*]
chuchana (local Spanish?) [*272*]
Seed is edible. Also used to make ornaments to hang on strands of beads worn across the chest.

Bactris sp. cf. **B. concinna** Mart.

Shushufindi. Clustering arborescent palm cultivated in house garden.

wi (Siona) [*195*]
Edible fruit; borne in cluster 25 cm long, weighing about 2.3 kg.

Bactris gasipaes H.B.K.—PEACH PALM (Eng.); CHONTADURO, PIJUAYO (Sp.) (figs. 3, 18–21)

Shushufindi. Seedling palm cultivated in nurs-

ery in house garden. Native to tropical America and widely cultivated for the nutritious fruit.

bayo 'ɨnẽ̃ (Siona, "oily peach palm") [*146*]
wiyape 'ɨnẽ̃ (Secoya, "fat peach palm") [*146*]
chontaduro (local Spanish) [*146*]
Edible fruit. This variety is noted for its abundance of oil. The fruit is eaten after boiling and is quite oily. Also made into chicha.

ma 'ɨnẽ̃ (Siona, "red peach palm"; name refers to the color of the fruit) [*147*]
chontaduro (local Spanish) [*147*]
Edible fruit.

ma'nyoko 'inẽ̃ (Siona, "star peach palm," name refers to yellow color of fruit) [*152*]
Fruit is eaten after boiling or made into chicha.

mĩũ 'inẽ̃ (Secoya, "spiny peach palm"; name refers to the spines on the trunk of the palm) [not collected]
Fruit is eaten after boiling or made into chicha.

Geonoma sp. (?) (fig. 3)

Shushufindi. Small palm in primary forest.

ni'ni puĩ (Secoya; "*ni'ni* thatch"; *puĩ* is a native category for those palms whose leaves are used for thatching) [*62*]
Leaves are used for thatch.

Geonoma sp. (?)

Shushufindi. Small palm in primary forest.

wakó (Secoya) [*97*]
Fruit is used as a perfume, placed in armbands. Fruits are fragrant, the size of small beads.

Hyospathe sp. (?) (fig. 3)

Shushufindi. Small palm in primary forest.

ma puĩ (Secoya, "red thatch"; *puĩ* is a native category for those palms whose leaves are used for thatching) [*63*]
Leaves are used for thatch.

Iriartea sp. (?)

Shushufindi. Arborescent palm with stilt roots in primary forest.

nyokó (Secoya) [*73*]
Trunk is split and used for flooring.

Iriartea sp. (?) (figs. 8, 17)

Shushufindi. Tall palm with prop roots in primary forest.

orá (Siona) [*58*]
chonta (local Spanish) [*58*]
Trunk is split and used for flooring; also for kindling.

Jessenia bataua (Mart.) Burret

Shushufindi. Palm in primary forest. Amazon and Orinoco basins.

gõsa (Siona, Secoya) [not collected]
ungurahui (local Spanish) [not collected]
The highly prized, oily fruits are used to make a deliciously rich chicha (*gõsa kõnõ̃*). Also boiled down to extract the edible oil.

Mauritia flexuosa L.f.—AGUAJE, MORICHE (Sp.)

Shushufindi. Arborescent palm in wet areas of forest.

ne'e (Siona) [*43*]
canangucho (local Spanish) [*43*]
morete (local Spanish) [*43*]
Flesh around seed is edible. Material is first boiled, then eaten, or made into chicha (*ne'e kõnõ̃*).

kãti ne'e (Secoya) [not collected]
Flesh around seed is edible. This variety said to be shorter in height than *ne'e* (see above) and has spines on trunk.

ma ne'e (Secoya, "red *ne'e*"; name refers to the color of the fruit) [not collected]
Uses same as for *ne'e* (see above).

soto ne'e (Secoya; "ashy *ne'e*"; name refers to the color of the fruit) [not collected]
Uses same as for *ne'e* (see above).

Phytelephas sp.—VEGETABLE IVORY (Eng.), MARFIL VEGETAL (Sp.)

Shushufindi. Arborescent palm in primary forest.

sewa (Secoya) [*79*]
yarina (local Spanish) [*79*]
Leaves are used for thatch. Large seeds are edible and contain thick, chewy meat. Im-

mature seeds provide drinking water in forest.

Palmae gen. indet. cf. **Attalea** or **Orbignya** sp.

Shushufindi. Arborescent palm in primary forest.

ya'pɨ (Secoya) [*267*]
The seeds are polished and used as beads for necklaces.

Palmae gen. indet. cf. **Attalea** sp.

Shushufindi. Palm in primary forest.

pa'pá (Siona) [*263*]
canambo (local Spanish) [*263*]
Grubs are extracted from the seed and used as fish bait. The leaves are used for thatch.

PASSIFLORACEAE

Passiflora quadrangularis L.—BADEA, TUMBO, GRANADILLA (Sp.)

Shushufindi. Herbaceous vine cultivated in house garden. Native of Central America, widely distributed.

tasɨrɨ (Secoya) [*102*]
bate (local Spanish) [*102*]
Fruit is edible and is eaten raw.

Passiflora vitifolia H.B.K.

Shushufindi. Woody vine in old house garden and in secondary growth. Native from Nicaragua to Peru.

taru'i (Siona) [*52*]
No reported use.

PHYTOLACCACEAE

Phytolacca rivinoides Kunth & Bouché

Shushufindi. Tall weedy herb in open secondary growth. Mexico to Bolivia and the West Indies.

bohó (Siona) [*39*]
Leaves are cooked and eaten with fish by some families.

PIPERACEAE

Piper amazonicum (Miq.) C. DC.

Shushufindi. Shrub growing on riverbanks. Ecuador and Peru to eastern Brazil.

gou pɨpɨ (Siona of Putumayo, "turtle remedy") [*257*]
čarapa sikiheču (Kofán, *čarapa* is Spanish loan word *charapa* ["turtle"]) [*257*]
Remedy for high fever. Leaves are pounded with rock and boiled with water. The decoction is taken by mouth. Also said to be purgative. The hot leaves are applied as a poultice on children when they have swollen abdomens.

Piper guianense (Kl.) C. DC.

Shushufindi. Shrub cultivated in house garden. Ecuador and Peru to the Guianas and northeastern Brazil.

nyumi (Secoya) [*18*]
pɨpɨ (Kofán) [*18*]
Medicinal use. Leaves are mashed and mixed with water, and then small amounts of the infusion are given to infants who have lost appetite for nursing.

Piper nudilimbum C. DC.

Shushufindi. Shrub in primary forest. Known from Brazil, Ecuador.

kaɨwačo (Kofán) [*252*]
Foliage placed under armbands as ornament.

Piper sp.

Shushufindi. Shrub in secondary growth. Frequent.

bupɨ weo ha'o (Siona, "*bupɨ weo* leaf") [*37*]
No reported use.

Pothomorphe peltata (L.) Miquel—HIERBA DE SANTA MARÍA (Sp.)

Shushufindi. Frequent weedy herb in open secondary growth. Throughout the tropics.

Santa María ha'o (Siona, "Santa María leaf." It is unusual for a native plant such as this to have a primary name based on Spanish loan words) [*30*]

Leaves are used as "toilet paper" to clean small children.

POLYPODIACEAE

Diplazium sp. aff. **D. ambiguum** Raddi

Shushufindi. Fern in primary forest.

pesi hikâ (Secoya) [*66*]
Leaves are used as a "washcloth" for bathing infants.

Lomariopsis japurensis (Mart.) J. Sm.

Shushufindi. Climbing fern on tree trunks in primary forest. Guatemala to Bolivia.

sisi ka'wi (Secoya, "monkey fern"; *sisi* is the generic term for a group of small monkeys which includes *Callicebus* spp.) [*76*]
Leaves are used as a "washcloth" in scrubbing hands.

Thelypteris sp. aff. **T. berroi** (C. Chr.) Reed

Shushufindi. Tall fern in secondary growth.

ka'wi (Siona, "fern") [*181*]
Leaves are used to weave temporary headbands which are worn by men.

PORTULACACEAE

Portulaca grandiflora Hook.—PORTULACA (Eng.); FLOR DE LAS ONZE (Sp.)

Shushufindi. Herb cultivated in house garden. Acquired from the "whites." Native to southern Brazil. Widely cultivated ornamental.

horo (Secoya, "flower"; *horo* is a generic term) [*21*]
Ornamental.

Portulaca oleracea L.—PURSLANE (Eng.), VERDOLAGA (Sp.)

Shushufindi. Weedy herb in open secondary growth. Cosmopolitan weed.

turi kaho (Siona, "mouse itch"; *kaho* is generic term for "itchy" substance; *turi* or "mouse" refers to small size) [*34*]
No reported use.

RUBIACEAE

Coffea arabica L.—COFFEE (Eng.)

Shushufindi. Small tree cultivated in gardens. Originally from Ethiopia, now widely planted in tropics.

café (Spanish) [not collected]
Recently introduced, coffee is now being grown experimentally as a potential cash crop.

Genipa americana L.—GENIPAP (Eng.); JAGUA, HUITO (Sp.) (fig. 8)

Shushufindi. Large tree in primary forest. Mexico to Argentina, West Indies.

we'e (Siona) [*223*]
Primary use is as a body paint. The inside of the unripe fruit is first grated and the clear juice is applied to the body. After approximately two hours the areas where the juice has been applied turn dark black. The designs consist of bands and geometric patterns painted on the arms and legs. The ripe fruit is edible.

Hamelia axillaris Swartz

Shushufindi. Shrub in primary forest. Also cultivated in house garden. Mexico to Brazil and Bolivia.

ča'i bia (Siona, "*ča'i* pepper") [*137*]
sa'i bia (Secoya, "*sa'i* pepper") [*137*]
Fruits used as fish bait. Root is grated and boiled to make a decoction which is taken for diarrhea and stomachache.

Pentagonia williamsii Standley

Shushufindi. Treelet in primary forest. Amazonian Peru.

muhõ (Secoya, "thunder") [*95*]
This plant reportedly provides an admixture to *Genipa* body paint (see above). It is not known which plant part provides this ingredient.

RUTACEAE

Citrus paradisi Macfad.—GRAPEFRUIT (Eng.)

Shushufindi. Sapling tree cultivated in house garden. Introduced from oil company

campsite. Hybrid origin, probably West Indian. Widely distributed.

toronja (Spanish, "grapefruit") [*145*]
Edible fruit.

Citrus reticulata Blanco—MANDARIN ORANGE (Eng.)

Shushufindi. Sapling tree cultivated in house garden. Originally from Southeast Asia, now widely distributed.

mandarina (Spanish, "mandarin") [*149*]
Edible fruit.

Citrus aurantiifolia (Christm.) Swingle—LIME (Eng.)

Shushufindi. Small tree cultivated in house garden. Probably from India or Southeast Asia, now widely cultivated.

lima (Spanish "lime") [not collected]
Edible fruit, primarily used to make a refreshing drink or "limeade."

Citrus limon (L.) Burm. f.—LEMON (Eng.)

Shushufindi. Small tree cultivated in house garden. Probably from Southeast Asia, now widely cultivated.

pairi bia (Siona, "father pepper"; *pairi* is corruption of the Spanish "*padre*" and refers to the fact that lemons were introduced by Catholic missionaries; *bia* is the generic term for *Capsicum* and is used because of an imputed similarity between it and *Citrus*) [not collected]
limón (Spanish, "lemon") [not collected]
Edible fruit, primarily used to make a refreshing drink or "lemonade."

Citrus sinensis (L.) Osbeck—SWEET ORANGE (Eng.)

Shushufindi. Small tree cultivated in house garden. Originally from China or Southeast Asia, now widely cultivated.

wa'isɨ pairi bia (Siona, "fleshy father pepper"; compare with the native nomenclature for *Citrus limon* above; the adjective "fleshy" refers to the greater volume of pulp in oranges [as compared to lemons]) [*148*]
naranja (Spanish, "orange") [*148*]
Edible fruit, primarily used to make a refreshing drink or "orangeade."

Zanthoxylum cf. **tachuelo** Little

Shushufindi. Shrub in primary forest. Previously known only from western Ecuador.

minakoro (Kofán) [*118*]
The bark is scraped and placed in water and boiled. The decoction is used to wash the legs as a liniment for pain. Also drunk by some and said to be bitter. The Siona and Secoya are said to have received information on the use of the plant from a Kofán shaman who was told about it by demons.

SAPINDACEAE

Allophylus floribundus Radlk.

Shushufindi. Tree along river bank in primary forest. Western Amazonia.

paku yahi (Siona, *paku,* "*Colossoma* [fish]"; *yahi,* "*Pseudolmedia laevis* [moraceous tree]"; name indicates that *Allophylus* is the "*yahi*" berry of *Colossoma*) [*160*]
Red fruits used as fish bait.

Paullinia bracteosa Radlk.

Shushufindi. Woody liana in primary forest on riverbank. Western Amazonia.

õkwe yoko (Siona, "sucking *Paullinia*") [*119*]
'oko yoko (Siona, "water *Paullinia*") [*67*]
Edible fruit. Flesh around seed is sucked.

Paullinia yoco R. E. Schult. & Killip

Shushufindi. Woody liana in primary forest; occasionally planted in gardens. Western Amazonia.

yoko (Siona, Secoya) [*109*]
Bark is scraped into cold water and squeezed to make a bitter-tasting, caffeine-rich beverage. Usually consumed in the pre-dawn hours when men arise to twine *Astrocaryum* fiber and weave hammocks.

SAPOTACEAE

Pouteria caimito (R. & P.) Radlk.

Shushufindi. Small tree cultivated in old garden. Native and cultivated in the Amazon Basin.

toa (Siona) [*48*]

caimito (Spanish) [*48*]
Edible fruit.

Pouteria sp. aff. **caimito** (R. & P.) Radlk.

Shushufindi. Said to be a tree in primary forest.

sõkɨ sewe (Siona, "tree *sewe*") [*269*]
Rich brown, shiny seeds used to make hanging beads for necklaces. Apple-shaped fruits said to be 3 cm long, 4 cm in diameter.

Genus indet.

Shushufindi. Large tree with prop roots in primary forest.

wẽkɨ neaũ (Siona, "tapir *neaũ*"; *neaũ* refers to a class of trees) [*88*]
Trunk is used for making canoes, but the wood rots rather quickly.

SELAGINELLACEAE

Selaginella exaltata (Kze.) Spring.

Shushufindi. Herbaceous vine in shade of primary forest. Colombia to Bolivia.

ka'wi (Secoya, "fern"; *ka'wi* is generic term for ferns) [*75*]
Wiry stems used to weave headbands.

SIMAROUBACEAE

Picramnia martiniana Macbr.

Shushufindi. Tree in primary forest. Ecuador and Peru.

pahaku (Secoya) [*233*]
Leaves are crushed in water to make a black dye.

SOLANACEAE

Brugmansia × **insignis** (B. Rodr.) Lockwood—TREE-DATURA, ANGEL'S TRUMPET (Eng.); FLORIPONDIO (Sp.) (figs. 10, 22)

Shushufindi. Shrub cultivated in house garden. A cultigen of hybrid origin native to the western Amazon.

pehí (Secoya) [*19*]
Hallucinogen. The stem is scraped, placed in a large pot, boiled all day, and then strained and boiled further, after which the decoction is drunk. Said to induce a comatose state the effects of which are long-lasting (24 hours or longer). Overdoses are said to be fatal. Used much less frequently than *Banisteriopsis* and on an individual, rather than communal, basis. Nevertheless, its use is considered to be a significant aspect of shamanistic training and knowledge.

Brugmansia is also occasionally used as an admixture to *Banisteriopsis* potions. The leaves are burned in a pot; then the ashes are pounded and added to the *Banisteriopsis* drink and are said to enhance the hallucinatory effects. However, it seems possible that such burning might destroy the contained psychoactive alkaloids. Additional reported varieties of *pehí* are listed below (these may include additional species or hybrids of *Brugmansia* or other unrelated plants).

muhũ pehí (Siona, "thunder *Brugmansia*"; *Muhũ* ["thunder"] is the mythical antagonist of the culture hero *Baina*) [not collected]

sẽmẽ pehí (Siona, "paca *Brugmansia*") [not collected]

sẽsẽ pehí (Siona, "white-lipped peccary *Brugmansia*") [not collected]

tãkɨyaí pehí (Siona, "*tãkɨ*-felid *Brugmansia*") [not collected]

Brugmansia sp.

Shushufindi. Shrub cultivated in house garden.

ya'wɨ pehí (Siona, "collared peccary *Brugmansia*") [*133*]
wẽkɨ pehí (Siona, "tapir *Brugmansia*") [*133*]
See *Brugmansia* × *insignis* for description of uses.

Brunfelsia grandiflora D. Don subsp. **schultesii** Plowman (fig. 23)

Shushufindi. Shrub cultivated in garden; also found in primary forest. Colombia to Bolivia and Brazil.

uhahai (Siona) [*138, 190*]

chiricaspi (Quichua) [*138, 190*]
A narcotic or hallucinogen. The bark is scraped and mixed with cold water and the infusion drunk. The dose is said to be two mouthfuls. Said to induce cold and tingling sensations in the extremities. Sometimes used as a treatment for fevers. Additional reported varieties of *uhahai* are listed below.

bi'ã uhahai (Siona, "bird *Brunfelsia*"; *bi'ã* is a general term for small birds, but in this instance it refers to the small leaves reported for this variety [said to be approximately 5 cm long]; may be *Brunfelsia grandiflora* var. *schultesii*) [not collected]

umu uhahai (Siona, "cacique bird *Brunfelsia*"; part of the plant is said to be "a pole that hangs like a manioc tuber"; may be family other than Solanaceae) [not collected]

yaí uhahai (Siona, "jaguar *Brunfelsia*"; *yaí* is a general term for felids; this variety is reported to have leaves 15 cm long; may be *Brunfelsia chiricaspi* Plowman) [not collected]

Capsicum annuum L. var. **annuum**—CHILI PEPPER (Eng.), AJÍ (Sp.)

Shushufindi. Shrub cultivated in house garden. Native of tropical America, now widely distributed.

soa horo bia (Secoya, "long flower pepper"; name refers to the shape of the fruit) [*200*]
suara pia (Secoya, "*Prochilodus* [fish] pepper"; name refers to the shape of the fruit) [*227*]
ají (Spanish) [*200, 227*]

Río Eno. Shrub cultivated in house garden.

bia (Siona, "pepper"; *bia* is the generic term for *Capsicum*) [*239*]
Pungent fruits used as a condiment.

Capsicum chinense Jacq.—CHILI PEPPER (Eng.), AJÍ (Sp.)

Shushufindi. Shrub cultivated in house garden. Widely distributed from Mexico to Brazil.

wea bia (Siona, "maize pepper"; name refers to similarity of size between kernel of maize and the fruit of this cultivar) [*115*]
ãnya bia (Siona of Putumayo River, "snake pepper") [*178*]
Pungent fruits used as a condiment.

Capsicum frutescens L.—CHILI PEPPER (Eng.), AJÍ (Sp.)

Shushufindi. Shrub cultivated in house garden. Native of tropical America, now widely distributed.

ma pipi pia (Secoya, "red pointed pepper"; name refers to the color and shape of the fruit) [*208*]
su'nyo pipi pia (Siona, "yellow pointed pepper"; name refers to the color and shape of the fruit) [*226*]
Pungent fruits used as a condiment.

Capsicum spp.—CHILI PEPPER (Eng.), AJÍ (Sp.)

Shushufindi. Shrub cultivated in house garden.

ãhĩ bia (Secoya, "mild pepper"; name refers to the flavor of the fruit) [*211*]
hai horo bia (Siona, "big flower pepper"; name refers to the large size of the fruit [similar to "bell pepper" of the United States]) [not collected]
hɨo bia (Siona, "blowgun pepper") [not collected]
kurá bia (Siona, "hen pepper") [not collected]
nea bia (Siona, "black pepper"; name refers to dark coloration on the fruit of this variety) [not collected]
suru bia (Siona, "*suru* pepper") [not collected]
yari bia (Siona, "*yari* [fish] pepper") [not collected]
The pungent fruits of *Capsicum* constitute the most widely used condiments of the Siona and Secoya and are consumed at nearly every meal. They may be added to food during or after cooking, but are particularly prized as ingredients in several varieties of hot sauces and the traditional "pepper pot" which involves the ongoing cooking of peppers and meats over many days (with consumption and the addition of new ingredients occurring more or less concurrently). On other occasions a meal may consist of nothing but manioc cakes (*'ãõ*) flavored with *Capsicum* or *Capsicum*-based sauces. Another use of *Capsicum* is for the weaning of infants; mothers smear *Capsicum* juice on their nipples to discourage nursing.

Cyphomandra hartwegii (Miers) Dunal vel sp. aff.

Shushufindi. Shrub in forest and cultivated in house garden. Honduras to Brazil and Bolivia.

ko'pɨ (Secoya, Siona) [*98, 196*]
The juice of the berry is used to paint designs on pottery. It is applied after firing and then exposed to smoke and gives a black color. Many designs combine geometric patterns of black and white (from a slip of light clay) and represent the visual effects produced by *Banisteriopsis.*

Lycopersicon esculentum Mill.—TOMATO (Eng.)

Shushufindi. Herb cultivated in house garden. Native to the Peruvian Andes. Introduced.

tomate (Spanish, "tomato") [*197*]
Edible fruit.

Nicotiana tabacum L.—TOBACCO (Eng.), TABACO (Sp.)

Shushufindi. Tall herb cultivated in house garden. Native of South America.

mĩtó (Siona, "tobacco") [*5*]
Dried leaves are rolled into cigars with a dried *Musa* leaf wrapper and smoked. Tobacco and tobacco smoke are important in many ritual contexts. The smoke is believed to ward off demonic spirits; cigars are smoked frequently during *Banisteriopsis* ceremonies, and the smoke is blown over the bodies of patients during the curing portion of such ceremonies. Shamans also prepare an intoxicating infusion of tobacco which they drink through the nose in the quest of visions and shamanic knowledge. A secular medicinal use of tobacco is to blow concentrated smoke and tobacco tar on areas of the skin where certain parasitic larvae have burrowed. This kills the parasite.

sɨra mĩtó (Siona, "swallow [bird] tobacco"; name refers to the smaller leaves of this variety) [not collected]
Used for making cigars and an intoxicating infusion (see description for *mĩtó* above).

Physalis angulata L.

Shushufindi. Common weedy herb in recently cleared gardens. More or less cosmopolitan weed.

siri bia (Siona, "foam pepper"; *bia* is generic term for *Capsicum* and is given because of imputed similarity) [*101*]
Edible berry.

Solanum candidum Lindl.

Shushufindi. Suffrutescent herb cultivated in house garden. Mexico to Peru.

mĩõ toawi'ka (Siona, "spiny *toawi'ka*") [*13*]
mĩõ kukuna (Secoya, "spiny *kukuna*") [*13*]
Edible fruit; snack food.

Solanum diffusum R. & P.

Shushufindi. Herbaceous vine in primary forest. Ecuador and Peru.

ãhi ɨta ɨkó (Siona) [*273*]
ofa kɨhĩ (Kofán) [*143*]
Reported to be used in the preparation of a remedy for stomachache and diarrhea. The infusion is prepared by crushing the plant in cold water.

Solanum kioniotrichum Bitter

Shushufindi. Small armed tree in secondary growth. Western Amazon Basin.

betá (Siona) [*110*]
Bark is prepared with water and taken as a purgative.

Solanum leptopodum Van Heurck & Muell. Arg.

Shushufindi. Shrub in primary forest. Northern Amazon Basin.

oyo ha'o (Secoya, "bat leaf") [*232*]
Reported to be a remedy for the treatment of "crybabies." Leaf is crushed in lukewarm water, and the infant is bathed with the infusion.

Solanum sessiliflorum Dunal var. **sessiliflorum**

Shushufindi. Suffrutescent herb cultivated in house garden. Amazon Basin.

kukuna (Secoya) [*41*]
Pyriform fruits are cooked and made into a beverage.

Solanum stramoniifolium Jacq. var. **inerme** (Dunal) Whalen

Shushufindi. Suffrutescent herb cultivated in house garden. Western Amazon Basin.

toawi'ka (Siona) [*14*]
Edible fruit; snack food.

STERCULIACEAE

Herrania balaensis Preuss

Shushufindi. Small tree in primary forest. Previously known only from western Ecuador.

sunori (Siona) [*94*]
Edible fruit.

Sterculia sp.

Shushufindi. Tree in primary forest.

wẽkɨneo (Secoya, "yellow-wooded tree"; this is a generic term for trees with yellow wood) [*265*]
Sometimes employed for the construction of canoes.

Theobroma cacao L.—CHOCOLATE (Eng., Sp.)

Shushufindi. Tree cultivated in house gardens. Thought to be native to the eastern foothills of the Andes and possibly Central America.

sĩ'e (Siona) [*51, 132*]
cacao (Spanish) [*51, 132*]
Fruit contains edible pulp.

ULMACEAE

Trema micrantha (L.) Blume

Shushufindi. Small tree in open secondary growth. Widely distributed in American tropics.

suĩ sɨyɨ (Siona) [*117*]
Strips of fibrous bark are used for tying house rafters. The timbers are used for rafters.

URTICACEAE

Urera baccifera (L.) Gaudichaud

Shushufindi. Low herb in secondary growth. Mexico to tropical South America.

nyanami susi (Siona, "stingray nettle"; name refers to the imputed similarity of the stinger of the freshwater stingray and the nettles of the plant) [*164*]
Used in the treatment of muscle pain. A leaf is held by its petiole and the nettles are brushed against the skin. Also brushed against the legs of children as a disciplinary measure.

Urera caracasana (Jacq.) Griseb.

Shushufindi. Herb in secondary growth. Mexico to tropical South America.

be'su susi (Siona, "small nettle"; name refers to plant size) [*162*]
Used in treatment of muscular pain and to discipline children (see description for *Urera baccifera* above).

paĩ susi (Secoya, "people nettle") [*204*]
The female flowering branches are rubbed on parts of the body where there is muscular pain (this variety has no stinging hairs on stem or leaves, but does in the inflorescence).

Urera laciniata (Goudot) Weddell

Shushufindi. Urticating herb cultivated in house garden. Costa Rica to Venezuela and Peru.

ma susi (Siona, "red nettle"; name refers to coloration of plant) [*165*]
Used in treatment of muscular pain and to discipline children (see description for *Urera baccifera* above).

Pilea sp. aff. **P. hydrocotyliflora** Killip

Shushufindi. Herb in secondary and primary forest.

ka'mi ɨkó (Siona, "ulcer [of mouth] remedy") [*87, 169*]
sisi pakɨpi (Kofán) [*169*]
Remedy for mouth ulcers. Herb is crushed in a little water and the infusion then held in the mouth to produce a soothing effect.

VERBENACEAE

Verbena littoralis H.B.K.

Río Eno. Tall herb cultivated in house garden. Tropical America.

tahua (Siona, "feces mixer"; *ta* is "feces" and *-hua* "to mix"; name refers to purgative effect of this plant) [*248*]

Remedy for fever. The plant is crushed and boiled in water and then the decoction is taken orally. Said to have a bitter taste and a purgative effect.

VIOLACEAE

Leonia glycycarpa R. & P.

Shushufindi. Tree in primary forest with cauliflorous fruits. Northern South America.

bũ'su bara (Secoya, same name is applied to *Capparis magnifica* [Capparaceae] and apparently refers to same use) [*216*]
For amusement. The leaves "pop" when they are heated in the fire.

Rinorea viridiflora Rusby

Shushufindi. Small tree in primary forest. Western Amazon Basin.

piheri (Secoya) [*217*]
The trunk of this tree is used as poles for fences. Said to grow as a hedge, but not used this way aboriginally. The leaves are bound together to make shaman's rattle for curing ceremony.

ZINGIBERACEAE

Curcuma longa L.—TURMERIC (Eng.), CÚRCUMA (Sp.)

Shushufindi. Rhizomatous herb cultivated in house garden. Native of Java. Widely cultivated throughout the tropics.

gõnõ wẽ'ka (Siona, "chicha *wẽ'ka*") [*103*]
ũnkwisi ma'nya (Siona, "*ũnkwisi* perfume"; *ũnkwisi* is name of *Renealmia thyrsoidea* [see below]; *ma'nya* is a generic term for perfumed plants) [*173*]
Tuber is grated to make a yellow dye for dyeing hammocks and netted bags. Aromatic leaves used as perfume, attached to armbands.

Renealmia nicolaioides Loesener

Shushufindi. Tall clump-forming herb of low ground, cultivated in house garden. Native to western Amazon.

wẽkiho (Secoya, *wẽki-* stem is name of tapir; meaning of suffix *-ho* is unknown; name apparently refers to the large size of this plant [the tapir is the largest terrestrial animal of the neotropical forest]) [*209*]
Edible fruit.

Renealmia thyrsoidea (R. & P.) P. & E.

Shushufindi. Large aromatic herb commonly found in gardens and old cultivation sites. Costa Rica to Bolivia and Brazil.

ũnkwisi (Siona) [not collected]
ma ũnkwisi (Siona, "red *ũnkwisi*"; name refers to the color of the fruits) [*44*]
Food and condiment; stringy fibers inside fruit are edible. They are boiled and eaten with manioc cakes (*'ãõ*).

Zingiber officinale Roscoe—GINGER (Eng.), JENJIBRE (Sp.)

Shushufindi. Rhizomatous herb cultivated in house gardens. Native to tropical Asia.

pia nuni (Secoya, "pepper *nuni*"; *pia* is a generic name for *Capsicum*; *nuni* is a generic term for a class of small medicinal herbs of supposed supernatural origin) [*28*]
ajijilla (local Spanish) [*28*]
pia du'ũdi (Siona, "pepper *du'ũdi* [*nuni*]"; *pia* is a generic name for *Capsicum*; *du'ũdi* is Siona pronunciation [cf. Secoya *nuni*] of the generic term for a class of small medicinal herbs of supposed supernatural origin) [*128*]
afifindi (Kofán) [*128*]
Remedy for stomachache and diarrhea. The rhizome is grated into water, boiled slightly, and the decoction drunk.

Conclusion

In the preceding list of plants we have fully or partially identified 224 species in 166 genera and 69 families which are known to the Siona and Secoya Indians of eastern Ecuador. Most of the plants discussed have economic, ritual, or aesthetic uses as foods, medicines, ornamentals, psychotropics, poisons, and as raw materials for crafts, clothing, construction, toilet articles, tools, and weapons. Table 1 presents an outline of the most prominent uses of plants among the Siona and

TABLE 1. Outline of plant uses among the Siona-Secoya.

Foods	Beverages, condiments, fruits, vegetables, nuts, oils, starchy staples
Food processing	Bowls, calabashes, containers, cups, drying racks, fire boxes, fire fans, fuels, graters, grating troughs, manioc cake shapers, mashers, platters, pot scrubbers, rockers, sieves, smoking racks, stirrers
Cultivation tools	Axe handles, bush knives (wooden), digging sticks, scaffolds for felling trees, shovel handles
Hunting	Blowguns, blowgun darts, dart poisons, dart quivers, dart wadding, cages, clubs, drying frames, shotgun cleaning rods, shotgun shell wadding, spear points, spear shafts, traps
Fishing	Baits, barriers and dams, blinds, floats, harpoons, hooks, line, nets, piscicides, torches for night fishing
Construction	Beams, fencing, flooring, ladders, lashings, pens for animals, platforms, posts, roofing, temporary shelters, walls
Furnishings	Beds, benches, boxes, hammocks, lamps, shelves, trunks
Crafts	Cordage, dyes for ceramics, dyes for fabrics, glazes for ceramics, glues, hammock looms, hammock shuttles, shaping tools for ceramics, tempers for ceramics, thread, waterproof coatings
Personal attire, adornment, and toilet	Ankle bands, armbands, arm ornaments, barkcloth tunics for men, beads, body paints, cleansers, combs, design stamps, ear ornaments, headbands, headdresses, lip stains, nose ornaments, pelvic bands for women, perfumes, pins, shaving blades, string "tweezers," teeth stains, toilet "papers," toothbrushes, "washcloths," wristbands
Medicinal and ritual	Abortants, anesthetics, contraceptives, divination media, drums, emetics, febrifuges, hallucinogens, incenses, insecticides, insect repellents, magical darts, musical bows, ointments, poisons, potions, purgatives, ritual paraphernalia, scarification media, shaman's rattles, shaman's wands, stimulants, vermicides, vertical flutes
Transportation	Baskets, bridges, bridge hand rails, canoes, canoe seats, canoe slides (for portaging), netted bags, paddles, rafts, trail markers, tumplines
Leisure	Dolls, models of adult tools and objects, noise makers, pop guns, stilts, string games
Miscellaneous	Leaf umbrellas, ornamental plants, switches

Secoya and indicates the involvement of plant materials in almost all aspects of native life. Table 1 can also be viewed as a guide to the material culture of the Siona and Secoya, since one may gain an appreciation of the nature and scope of the artifacts employed in their tropical forest style of cultural adaptation. As indicated previously, the list we have presented does not in any way exhaust the ethnobotanical knowledge of the Siona and Secoya. Their complete system may well include at least 2,000 native taxa (including cultivars). However, we feel that we have been able to provide a list which includes most of the major economic plants and other plants in common use. The data provided also give insights into the classificatory principles of Siona and Secoya ethnobotany, although the provision of a detailed analysis of these principles does not fall within the scope of this paper.

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A nearly complete set of voucher specimens for this study is deposited at Field Museum of Natural History, Chicago. The following eight unicate specimens, as well as selected duplicates, are preserved at the Department of Botany, University of Florida, Gainesville: *Vickers 44, 84, 141, 146, 147, 152, 153, 177, 209, 230.* We thank the University of Florida herbarium for lending the unicate specimens for determination and verification. A number of duplicate specimens have also been deposited at the Instituto de Ciencias, Pontificia Universidad Católica del Ecuador.

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FIG. 1. Secoya male in decorative dress. The face painting is done with a paste prepared from seeds of *Bixa orellana* (Bixaceae, *Vickers 130*) and is applied with a thin stick. The fine designs are based on visions arising from the use of *Banisteriopsis caapi* (Malpighiaceae, *Vickers 124* etc.). The lips are dyed purplish by chewing leaves of *Justicia* sp. (Acanthaceae, *Vickers 69*). Feathers are inserted in earplugs constructed from sections of *Gynerium sagittatum* (Gramineae, *Vickers 16, 266*).

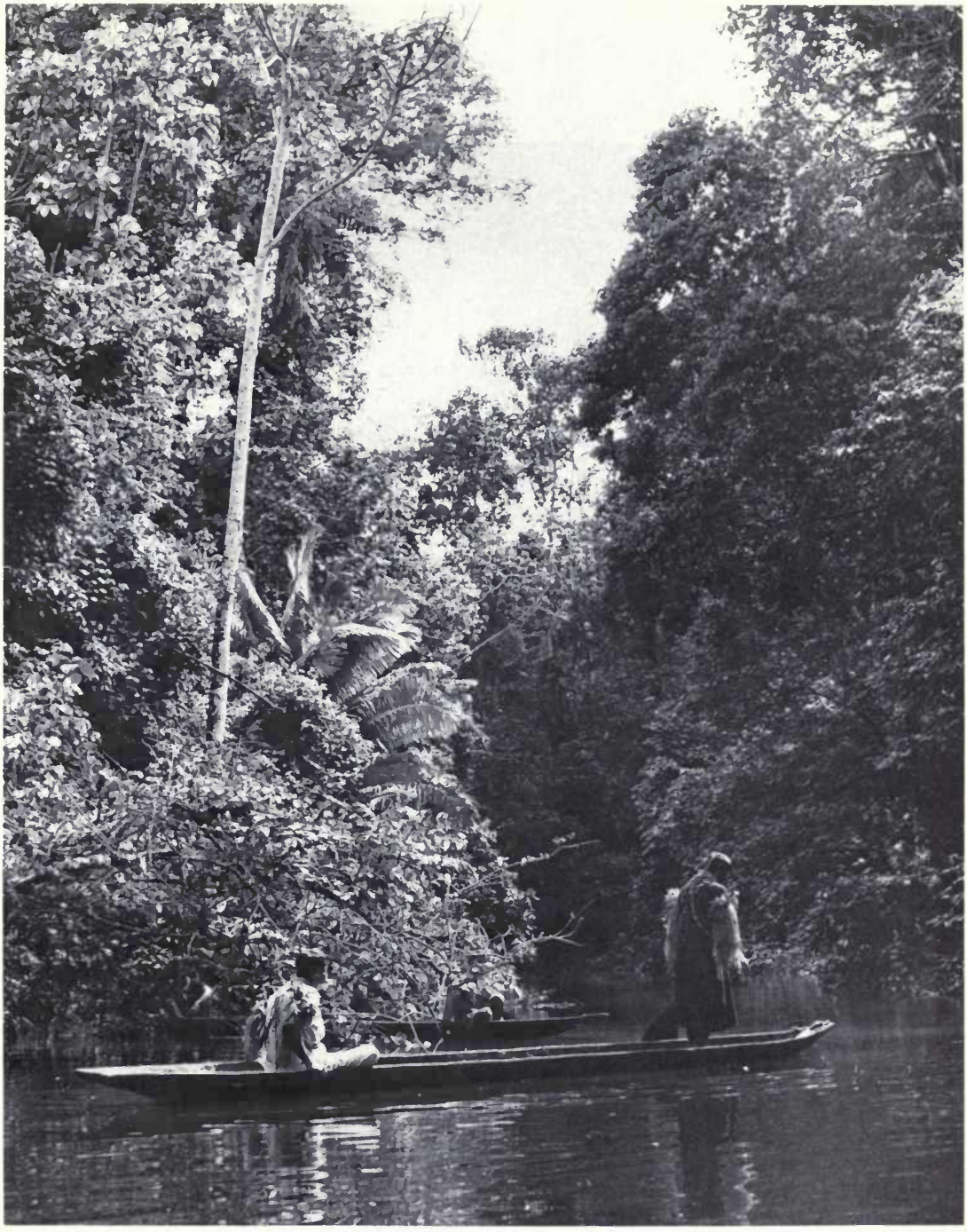

FIG. 2. Siona-Secoya canoes entering a small tributary of the Aguarico River opposite San Pablo. This landscape shows typical vegetation at the water's edge. The preferred wood for canoes is *Cedrela odorata* (Meliaceae, *Vickers 192*). The decorative fibers attached to the upper arms are made from an unidentified palm and topped by fragrant cuttings of *Ocimum micranthum* (Labiatae, *Vickers 12*).

FIG. 3. A traditional-style Secoya house at San Pablo. It is surrounded by planted peach palms (*Bactris gasipaes*, Palmae, *Vickers 146, 147, 152*) which are common around settlements. Thin manioc cakes (*Manihot esculenta*, Euphorbiaceae) dry on a line in the yard. The house thatch may be either a *Geonoma* (Palmae, *Vickers 62*) or *Hyospathe* species (Palmae, *Vickers 63*). The wall siding is made from a bamboo (*Bambusa* sp., Gramineae).

FIG. 4. A Siona-Secoya youth planting *Zea mays* (Gramineae) in a recently burned plot. The sole implement used is a simple digging stick with a sharpened point. The seed is carried in a *Heliconia* leaf (Musaceae, *Vickers 38*).

FIG. 5. A Siona garden three months after planting. Maize (*Zea mays*, Gramineae) is ready for harvesting, but plantains (*Musa* × *paradisiaca*, Musaceae) and manioc (*Manihot esculenta*, Euphorbiaceae) have not yet reached the production stage.

FIG. 6. Secoya man painting a cotton cloth (purchased) with a dye extracted from leaves of *Arrabidaea chica* (Bignoniaceae, *Vickers 106, 108*). The designs are based on visions produced by the use of *Banisteriopsis caapi*, the source of most Siona-Secoya art motifs.

FIG. 7. Scarification on the arm of a Siona youth. This is an aspect of hunting and fishing magic and is believed to improve the individual's aim and skill in landing fish. The light bands consist of raw skin where scars will later form. This effect is produced by tying strips of bark of *Caryocar glabrum* (Caryocaraceae, *Vickers 114*) around the arm.

FIG. 8. Secoya woman roasting a flat manioc cake (*Manihot esculenta,* Euphorbiaceae) on a traditional ceramic griddle. A fire fan, manioc flour, and a manioc cake basket are arranged in front of her. The bowl in her hand is made from the fruit of *Crescentia cujete* (Bignoniaceae, *Vickers 130*). The black body painting is done with the juice of the fruit of *Genipa americana* (Rubiaceae, *Vickers 223*). The house pilings are cut from trunks of an *Iriartea* species (Palmae, *Vickers 58*).

FIG. 9. Secoya men making spears. The man at left is sharpening the point which is made from a bamboo (*Bambusa* sp., Gramineae, *Vickers 264*). The point is attached to a wooden shaft by cord made from *Astrocaryum* (Palmae, *Vickers 141*) and beeswax and is designed to break off in the wounded animal. The wrist and shoulder decorations are made from palm (unidentified) fiber and are held in place by woven bands of tree cotton (*Gossypium barbadense,* Malvaceae, *Vickers 10*). Manioc (*Manihot esculenta,* Euphorbiaceae) grows in the background.

FIG. 10. Shaman's apprentice fashions a shaman's rattle from the leaves of a *Pariana* species (Gramineae, *Vickers 262*) for the *yahé* rite. It is believed that the sound of this rattle will frighten away the malevolent spirits that are attracted to the hallucinogenic *Banisteriopsis* potion. In the background grow plants of *Brugmansia* × *insignis* (Solanaceae, *Vickers 19*), another hallucinogen.

FIG. 11. Siona-Secoya youth harvesting fruit of *Pourouma cecropiifolia* (Moraceae) in an old garden site.

FIG. 12. Siona man with a basket of harvested fruit of *Pseudolmedia laevis* (Moraceae, *Vickers 56, 185, 231*) collected in the forest. The basket is woven from aerial roots of *Evodianthus funifer* (Cyclanthaceae, *Vickers 114*) and is lined with a plantain leaf (*Musa* × *paradisiaca*, Musaceae).

FIG. 13. *Banisteriopsis caapi* (Malpighiaceae) growing in cultivation at Tarapoto, Peru. This is the principal species used as a hallucinogen by the Siona-Secoya (see text).

FIG. 14. Shaman's apprentice (or *yahé* cook; see text) collecting foliage of *Diplopterys cabrerana* (Malpighiaceae, *Vickers 212*) in the forest. This plant is a common admixture to the hallucinogenic *Banisteriopsis* drink.

FIG. 15. Shaman's apprentice pounding stem sections of *Banisteriopsis caapi* (Malpighiaceae, *Vickers 139*) prior to boiling it to prepare the hallucinogenic *yahé* drink. The simple structure in the background is the ceremonial *yahé* house (see text).

FIG. 16. Bundles of mashed stems of *Banisteriopsis caapi* (Malpighiaceae, *Vickers 139*) boiling over the fire at the ceremonial *yahé* house. The pot also contains leaves of the admixture *Diplopterys cabrerana* (Malpighiaceae, *Vickers 212*).

FIG. 17. Siona woman collecting young *Astrocaryum* leaves (Palmae, *Vickers 141*) in the forest. The leaf fibers are twined into cordage and used to make netted string bags and hammocks.

FIG. 18. Fruits of peach palm (*Bactris gasipaes*, Palmae, *Vickers 146, 147, 152*) and plantains (*Musa* × *paradisiaca*, Musaceae) on the kitchen floor of a Siona house.

FIG. 19. Siona woman washing fruits of peach palm (*Bactris gasipaes*, Palmae) prior to boiling them. The elevated fire box is employed in those houses that are built on pilings. The hourglass-shaped ceramic pot supports are a traditional artifact. Smoked meat can be seen on the rack above the fire.

FIG. 20. Secoya girl preparing a mash from boiled peach palm fruit (*Bactris gasipaes*, Palmae). The heavy rocker is cut from the buttresses of a large tree. The food-processing trough can be made from any of several tropical hardwoods.

FIG. 21. Secoya woman pressing peach palm mash (*Bactris gasipaes,* Palmae) through a sieve to give it a fine texture. The *chicha* that is prepared from the mash may be consumed in a fresh or fermented state. Sieves such as this are woven from the split stems of *Ischnosiphon cerotus* (Marantaceae, *Vickers 74*) or *Ischnosiphon puberulus* (*Vickers 77*).

FIG. 22. *Brugmansia* × *insignis* (Solanaceae) growing at the Kofán village of Dureno on the Río Aguarico. This powerful hallucinogen is used by the Siona-Secoya as well as the Kofán, but much less frequently than *Banisteriopsis caapi* (Malpighiaceae).

FIG. 23. *Brunfelsia grandiflora* (Solanaceae, *Vickers 138, 190*) growing in the yard of a Siona-Kofán household on the Cuyabeno River. This hallucinogen produces chilly sensations and is sometimes used in the treatment of fevers.

Index to Scientific and Vernacular Names

The index includes all scientific names of plants and animals (*italics*) and English and Latin-American Spanish common names of plants (Roman). Indigenous names are not included in the Index unless they are in general use in western Amazonia. Page numbers for the principal entry for each genus and species are given in **boldface**.

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