

Comparative Ethnobotanical Studies of the Amerindian Groups in Coastal Ecuador

By ANDERS S. BARFOD *and* LARS PETER KVIST



Biologiske Skrifter 46

Det Kongelige Danske Videnskabernes Selskab
The Royal Danish Academy of Sciences and Letters

Kommissionær: Munksgaard · Copenhagen 1996

The Royal Danish Academy of Sciences and Letters

publishes four monograph series, an Annual Report and, occasionally, special publications. The format is governed by the requirements of the illustrations, which should comply with the following measures.

	<i>Authorized Abbreviations</i>
<i>Historisk-filosofiske Meddelelser</i> , 8°	Hist.Fil.Medd.Dan.Vid.Selsk. (printed area 175 × 104 mm, 2700 units)
<i>Historisk-filosofiske Skrifter</i> , 4° (History, Philosophy, Philology, Archaeology, Art History)	Hist.Filos.Skr.Dan.Vid.Selsk. (printed area 2 columns, each 199 × 77 mm, 2100 units)
<i>Matematisk-fysiske Meddelelser</i> , 8° (Mathematics, Physics, Chemistry, Astronomy, Geology)	Mat.Fys.Medd.Dan.Vid.Selsk. (printed area 180 × 126 mm, 3360 units)
<i>Biologiske Skrifter</i> , 4° (Botany, Zoology, Palaeontology, General Biology)	Biol.Skr.Dan.Vid.Selsk. (printed area 2 columns, each 199 × 77 mm, 2100 units)
<i>Oversigt, Annual Report</i> , 8°	Overs.Dan.Vid.Selsk.

The Academy invites original papers that contribute significantly to research carried on in Denmark. Foreign contributions are accepted from temporary residents in Denmark, participants in a joint project involving Danish researchers, or partakers in discussion with Danish contributors.

Instructions to Authors

Manuscripts from contributors who are not members of the Academy will be refereed by two members of the Academy. Authors of accepted papers receive galley proof and page proof which should be returned promptly to the Editor. Minidiscs, etc. may be accepted; contact the Editor in advance, giving technical specifications.

Alterations causing more than 15% proof changes will be charged to the author(s). 50 free copies are supplied. Authors are urged to provide addresses for up to 20 journals which may receive review copies.

Manuscripts not returned during the production of the book will not be returned after printing. Original photos and art work will be returned when requested.

Manuscript

General. – Manuscripts and illustrations must comply with the details given above. The original ms. and illustrations plus one clear copy of both should be sent to the undersigned Editor.

NB: A ms. should not contain less than 32 *printed* pages. This applies also to the *Mat.Fys.Medd.*, where contributions to the history of science are welcome.

Language. – English is the preferred language. Danish, German and French mss. are accepted and in special cases other languages. Where necessary, language revision must be carried out before final acceptance.

Comparative Ethnobotanical Studies of the Amerindian Groups in Coastal Ecuador

By ANDERS S. BARFOD *and* LARS PETER KVIST



Biologiske Skrifter **46**

Det Kongelige Danske Videnskabernes Selskab
The Royal Danish Academy of Sciences and Letters

Kommissionær: Munksgaard · Copenhagen 1996

Synopsis

Comparative ethnobotanical studies were conducted with the Colorados, the Cayapas and the Coaiqueres of Coastal Ecuador. During the field campaigns in 1982-1987, almost 2000 vouchers were collected for which 1510 uses were recorded. The material was identified to 113 families and 396 genera. The number of species represented in the collections was 930, roughly estimated. Distinction is made between 73 different usage categories. Annotated plants lists are presented for each of these. The usage categories with most records of use overall are snake bite curing and temperature regulating baths. Gesneriaceae is the family mostly used in snake bite therapy. Edible fruits is the largest non-medicinal usage category. Several aspects of the ethnobotany of the Colorados stand out compared with the other Amerindian groups in Coastal Ecuador. Most of the aberrant features have probably been acquired during the last 50 years through contacts with cultures living in the Andes. The socio-political situations of the three groups studied differ which is strongly reflected in their use of the surrounding plant resources. Distinction is made between two determinants of ethnobotanical practices: inherent properties of the plant and cultural exchange. Elements of curing ceremonies and usage patterns are both cited as evidence for past cultural exchange at the local and regional level.

KEYWORDS

Ecuador; Colorados (Tsatchela); Cayapas (Chachi); Coaiqueres (Awa); ethnobotany; ethnomedicine; ethnopharmacology; vernacular naming; treatment; preparation; curing ceremonies; shaman; comparative aspects; classification of uses; acculturation; conservation; current political situation; cultural exchange.

ANDERS S. BARFOD
Department of Systematic Botany
Aarhus University
Nordlandsvej 68
DK-8240 Risskov
Denmark

LARS PETER KVIST
Unit of Forestry
Royal Veterinary and Agricultural Highschool
Rolighedsvej 57
DK-1871 Frederiksberg C
Denmark

Contents

I.	Introduction	5
II.	Methods	7
	Methodological problems	8
III	The region	9
IV	The indigenous peoples	10
	History and linguistic affinities.	10
	The Cayapas	11
	The Coaiqueres	13
	The Colorados	15
V	Results	17
	Materials.	17
	Land-use materials	18
	Social products	18
	Food	18
	Animal foods and poisons	19
	Medicinal uses.	19
	General system	21
	Most important families and usage categories.	21
	Preparation and treatment	22
	Curing ceremonies	23
VI	Discussion	25
	The ethnobotany of the three indigenous groups of Coastal Ecuador compared.	26
	Comparison along a floristic gradient.	26
	Naming	28
	Treatment.	29
	Evidence of past cultural exchange with indigenous groups outside Coastal Ecuador	29
	Curing rituals	30
	Botanical evidence	32
VII	General conclusions.	34
VIII	Acknowledgements	35
IX	Figures 1-20	37
X	Tables 1-82.	59

XI	Spanish abstract	138
XII	List of references	139
	Appendix I. Index to scientific names	141
	Appendix II. Annotated list of vernacular names	151

I Introduction

The ethnobotanical studies of the three remaining indigenous groups of Coastal Ecuador, the Colorados, the Cayapas and the Coaiqueres were initiated in 1982. The project had the following objectives:

- to undertake a description of the ethnobotanical practices throughout Coastal Ecuador
- to compare plant usage patterns across linguistic and cultural boundaries in Coastal Ecuador
- to detect possible exchanges of plant knowledge at a regional level

A comparative method was chosen because it would allow us to discuss human use of plants as a cultural feature in the sense that closely related indigenous groups also share many elements of their ethnobotany. The Coastal tribes in Ecuador were considered suitable in this context because they belong to the same linguistic group, they live in the same region and they show many other cultural affinities not related to plant use. Their history and present situations differ, however. A carefully rendered comparison could furthermore throw light on how ethnobotanical practices vary along biological gradients. Of special interest was the causal relationship between persistence of traditional ethnobotanical knowledge and extrinsic factors such as acculturation and loss of biodiversity.

Three institutions contributed with financial

and logistic help to the project: the Department of Systematic Botany, Aarhus University, Denmark; Museo Antropológico del Banco Central del Ecuador in Guayaquil, Ecuador; and Pontificia Universidad Católica del Ecuador in Quito (PUCE). The following staff members and students from the collaborating universities participated (appearing in alphabetical order): Eduardo Asanza, Anders S. Barfod, Lauritz B. Holm-Nielsen, Lars Peter Kvist, Dorte C. Nissen, and Flemming Skov.

Selected aspects of our data have previously been published. Holm-Nielsen et al. (1983) and Holm-Nielsen & Barfod (1984) present preliminary results including only few plant identifications. Kvist (1986, 1989) focuses on the treatment of snake bites and the use of the family Gesneriaceae. Balslev & Barfod (1987) and Barfod & Balslev (1988) discuss the use of palms. Kvist and Holm-Nielsen (1987) compare selected aspects of ethnobotanical practices between the lowlands of Ecuador and adjacent countries. Kvist & Barfod (1991a) describe the curing rituals of the Cayapa Indians. Kvist & Barfod (1991b) discuss the use of medicinal plants in general and give a number of criteria that can be used to screen large ethnobotanical collections for potential drugs. This paper gives for the first time a comprehensive presentation of all data collected during repeated visits to the three indigenous communities in the coastal lowlands of Ecuador between 1982 and 1987 (Table 1).

II Methods

The fieldwork was conducted at various localities (Fig. 1). Most of the Cayapa collections were made near the village of Zapallo Grande located along Río Cayapa close to its confluence with the smaller Río Zapallo Grande (alt. 50 m.a.s., 78°55'W 0°45'N). We were assisted by several Cayapa informants but most ethnobotanical information was provided by Maclovio Añapa and Vicente Tapuyo. The first mentioned was in his late 40's at the time of the fieldwork. His skills and knowledge of plants were commonly recognized in the community. He lived near the Evangelical mission station in Zapallo Grande and considered himself a Christian. Vicente Tapuyo was younger and apparently not as knowledgeable on herbal practices as Maclovio Añapa. The Cayapas willingly demonstrated how the plants were prepared and used. We also attended a nocturnal healing performed by a shaman living on Río Bolborde about 40 km. up river from Zapallo Grande. The Cayapas from Río Bolborde occasionally visit the medical clinic set up by missionaries in Zapallo Grande, one day's travel downstream. Otherwise they rely on plants for curing minor afflictions and ailments. The work with the Coaiqueres was concentrated in the San Marcos valley (also called Plan Grande) at 660 m.a.s., 78°17'W 1°08'N). The brothers Hermano and Santiago Dinero and Elias Tai served as informants most of the time. Hermano and Santiago Dinero were orphans and both in their 20's. They had an extended network of contacts in the community and both seemed well integrated. Elias Tai was about 50 years old. He was suffering from a liver ailment at the time of our visit but still managed to assist us on short field trips in the area. From what we were told in San Marcos, he was the person that people trusted the most when it came to healing. His

snake remedy or "contra" was renowned, also outside San Marcos. The work with the Colorados was conducted in the reserve of Congoma at km. 16 on the road from Santo Domingo to Puerto Limón (alt. 200 m.a.s., 79°2'W 0°20'S). A shaman apprentice Manuel Aguavil contributed most of the information concerning plant use. He was approximately 25 years old. At times, he was assisted by his older brother Ramón and by his parents. Table 1 gives further details on the fieldwork. The first contact with the informants was established through the chief of the community or through the local representatives of the Amerindian organisation. One shortcoming of the study is that no woman participated in the field work. As a consequence, insufficient information was obtained on plant uses relating to the female reproductive system. It should be noted that the informants were paid for their participation which consisted mostly in pointing out the useful plants in the field and providing information. Communication was conducted in Spanish. Maclovio Añapa and Vicente Tapuyo acted as interpreters during our visit to the community in Río Bolborde where only Cayapa is spoken.

Evidently, individual expertise on plants varies among the members of a given community. This applies both to overall knowledge and knowledge on certain usage categories or plant groups. When it comes to ritual curing of serious and chronic ailments the shaman is the expert. During the later visits with the Cayapas we obtained much information on shamanistic rituals on which subject our informants were very knowledgeable. The Colorado informant was a shaman apprentice. He was the youngest of the informants to assist us. The ethnobotanical information that he provided was particularly

consistent. He both recognised plants and recalled their uses faster than any other informant. He rarely revealed any details about shamanistic rituals, however, possibly because these are considered business secrets. The Coaiquer informants never told us much about their curing rituals. They indicated numerous plants as useful for *chutun*, a group of non-specific symptoms usually described as general indisposition and non-specific body pains. The Coaiqueres generally use the term *chutun* to designate all health problems that are caused by malevolent spirits.

During fieldwork an effort was made to collect only fertile material with either flowers or fruits. Plants without utilitarian value were collected too because they represent an important aspect of an ethnobotanical pattern. Collections of sterile plants were generally avoided due to the difficulties involved in identifying them correctly. Exceptions were made with useful and valuable species that had never previously been observed in a fertile condition. The same applies to plants that were regarded as useful in the juvenile stage only and for which the mature stage was unknown to the informants. A few, very rare and highly appreciated plants were never encountered in the field. The information about these was recorded unvouchered. One example is a plant renowned for its contraceptive properties that is found on the river banks. The descriptions obtained from the informants and others strongly suggest that this is a fungus or achlorophyllous plant. Plant names were recorded following a simple system of our own. The accents are similar to those used in French (accent égu “ ´ “ and accent grave “ ` “) and in Spanish (ñ). A “ “ after a vowel indicates that this is drawn out. A short, abruptly pronounced vowel is followed by an exclamation sign “! “.

The specimens were either dried directly on benches heated by kerosene burners according to standard botanical procedures or pickled in

newspaper soaked in alcohol for later drying in Quito. A minimum of four duplicates were obtained from each plant individual. The sets of duplicates were deposited in the following institutions: Herbario, Universidad Católica in Quito (QCA), Museo Equatoriana de Ciencias Naturales, Quito (QCNE), Herbarium Jutlandicum at Aarhus University, Denmark (AAU). One set was sent to the specialists listed under acknowledgements as gifts for determination. It should be noted that a few groups such as Piperaceae, and particularly *Peperomia*, have been incompletely identified due to lack of a modern taxonomic treatment. All comparisons conducted in this paper between the three indigenous groups are based on a scientific hierarchical classification system and not vernacular names.

The ethnobotanical information was recorded in a standardised way in order to obtain data that were comparable. The plant specimens were collected in the morning in the presence of the Amerindian informants. At the collection site, information such as the vernacular name, utilitarian value, preparation and ecology were recorded on a slip of paper that was kept with the specimen in a separate plastic bag. It should be noted that vernacular names have only been included in the Tables that comprise plant products that are exported from the region or of direct commercial interest: Table 2, timber trees and Table 24, edible fruits. A detailed study of the applicability of the plant names was not conducted. The validity of the names was assessed by cross checking information obtained for the same plant species during separate field campaigns.

As many as thirty collections were made in one day. In the afternoon we set up ethnobotanical sessions during which the informants elaborated further on the plants encountered that day. The sessions usually attracted many other members of the community, especially children and their grandparents. Much valu-

able additional information was derived from these discussions. Representatives of the older generation told, for example, how some plants had been previously used. Our approach was not to press them for information. Our reasons for this were firstly that we considered the lack of information regarding specific plants to be an inherent and important part of the general ethnobotanical pattern. Secondly, we were not interested in explanations invented on the spot to satisfy our requests. Lack of precise information e.g. on preparation, is often an indication that a particular plant is rarely used or of little importance. The informants often related that a particular plant was visited by certain animals and especially birds. This information was recorded in a rather uneven and inconsistent way because we considered it to be outside the scope of the ethnobotanical project at hand. The Amerindians demonstrated, however, that they possess a profound knowledge of rain forest ecology that enables them to exploit their surroundings in a highly sophisticated manner.

The comparative method applied in this paper may prove particularly interesting for scientists specialising in pharmacological aspects of ethnobotany, but only if fieldwork is planned carefully and according to a number of basic principles. Medicinal plants should be collected repeatedly at various localities and at different periods of time. Recollection of plants is an efficient way to test the skills of an ethnobotanical informant. The informants should elaborate on usage, preparation, dosage and prescriptions. Precise information is usually an indicator of the potency of a plant. Poisonous and psychoactive plants are always interesting, even if the effect is not exploited. The active use of the plants as indicated by the informant should be observed if possible. When this is not possible, as is usually the case with medicinal plants, a demonstration should be arranged that shows the preparation mode, dosage etc. Different informants should be

consulted when collecting data. Ideally, sessions should be arranged with the participation of many tribe members.

Methodological problems

It should be emphasised that, even if the ethnobotanical collection is comprehensive, the material is far from complete. Canopy trees are generally underrepresented in our collections, although a special effort was made to collect them with both the Cayapas and the Coaiqueres. Certain groups of plants are particularly well represented due to the bias of the researchers involved. The study was undertaken by botanists specialising in Anacardiaceae, Arecaceae, ferns, and Gesneriaceae.

The ethnobotanist with a background in science typically produces detailed descriptions for the physiological or psychological imbalances that a given herbal treatment is intended to remedy. The recorded information will typically be broken down into narrow usage categories in accordance with western scientific traditions, but far removed from Amerindian reality. Usage categories that comprise plants exploited for their structural and nutritional properties are easily defined because of tangible proof of their utility. More than half of the uses recorded are referred to medicinal usage categories, however, and the definition and classification of these represent a problem. A large fraction of the ethnomedicinal plants that we collected with the Cayapas, Colorados and the Coaiqueres are used to treat weakly defined ailments that are difficult to describe within the conceptual framework of western medicine. Indigenous peoples often have an animistic approach to various diseases, especially those of internal organs. The way in which they locate and heal ailments is very different from western medicine. Perhaps the greatest challenge for the ethnobotanist is to present the results of an investigation accord-

ing to western scientific standards and at the same time remain faithful to the reality of the Indians.

The usage categories used in this paper and their hierarchical organisation are shown in Fig. 2. We have tried to adapt the system suggested in 1991 by Frances Cook and Laura Hastings in a proposal for standard usage descriptors to the International Working Group on Taxonomic Databases for Plant Sciences (TDWG). The most important deviations from Cook and Hastings are the last five general cat-

egories that include plants used for curing vaguely defined diseases or symptoms.

The traditional life of the coastal Indians in Ecuador is rapidly disappearing as their natural surroundings are impoverished by uncontrolled deforestation. Much of the ethnobotanical knowledge we have recorded will not be passed to the next generation and may even have been lost since we conducted our fieldwork a decade ago. Some of the species that we have collected with the Amerindians are endemics on the verge of extinction.

III The region

Ecuador spans the equator in the westernmost part of South America. It has a surface of 273,000 km² which is approximately the size of the state of California or half the size of France. The biological diversity of the flora is among the greatest in the world. The flora on the mainland (excluding the Galapagos Islands) includes some 20,000 species of vascular plants according to Harling (1979) and Balslev (1988).

The Andean mountains divide the country into two lowland regions: the Amazon or *el oriente* to the East and the coastal plain or *la costa* to the West. The entire Amazon region was covered by rain forests, until recently. Renner et al. (1990) included 3100 species in a checklist of the flowering plants found at an elevation of below 600 metres in the Ecuadorian Amazon. The nearly 100,000 Amerindian people that subsist in *el oriente* are distributed among 5 linguistic groups: Cofan, Siona-Secoya, Waorani, Lowland Quichua, and the Jivaroan groups (Shuar, Achuar, Shiwira). The region is still sparsely populated by less than 5%

of the total Ecuadorian population. However, colonisation is steadily increasing.

The coastal plain covers 80,000 km². It represents the phytogeographic transition between the desert conditions existing along the Pacific coast of Peru where the annual precipitation is less than 100 mm, and the ever wet climate of the Chocó along the coast of Colombia where the annual rainfall may exceed 8,000 mm. The vegetation changes accordingly from dry deciduous lowland forest near the Peruvian border to lush pluvial rain forest on the Colombian border. For this reason several forest types, particularly deciduous and semideciduous forests, have a limited natural geographical range on the coast and contain many endemic species. Since the 1950's a vast network of roads has been established and financed by export earnings from the petroleum industry in particular. Spontaneous colonisation as well as public programmes have caused conversion of forested public lands. Today, there is easy access to most regions along the coast. The exceptions are found in the northern provinces

of Carchi, Imbabura and Esmeraldas but roads are currently under construction here too. During the last decade, the timber industry expanded dramatically in this region.

The coastal plain was originally covered by forests, except for the driest areas in the southwest. Today, only 3% has not been converted to farmland or secondary forest types according to a recent estimate by Dodson and Gentry (1991). Most of the dry, moist, and wet forests have been cleared and virtually none have been left undisturbed. The pluvial forest only constituted an estimated 10% of the original forest cover but in terms of biodiversity it was the richest. About one quarter of this forest is still untouched. It represents the southernmost part of the Chocó forest which is distributed along the Pacific coast of Colombia. Dodson

and Gentry (1991) assess the total number of species in the coastal lowlands below 900 metres to 6,300 of which 20% are endemic. The corresponding figures for the pluvial forest alone are 2,300 and 25% endemics respectively. The latter estimate is probably too high since many Ecuadorian species range into the forests of adjacent Colombia without having been recorded there.

The perspectives of the remaining coastal forests are grim indeed. Half of the Ecuadorian population resides in the coastal lowlands, and since 1957 the population of Ecuador has increased from less than 4 million to approx. 11 million. This means an annual increase of 2.8% which ranks among the highest in South America.

IV The indigenous peoples

History and linguistic affinities

The highlands of Ecuador were occupied by the Incas only 80 years before the arrival of the Spanish in 1533. The Incas never invaded the coastal lowlands where several technologically advanced Amerindian groups lived to the south and along the coast: the Esmeraldas, the Mantas, the Huancavilcas and the Punaes. Later, the Spanish occupation led to the disappearance of these cultures at such a speed that nothing is known today about their linguistic affinities (Murra 1946). In the humid inaccessible rain forests to the north three Amerindian groups with simpler material cultures persisted. They all seem to have descended from cultures in the highlands. Due to isolation in remote and inaccessible areas they have preserved their native tongue but they have probably lost many technologically advanced fea-

tures during the process of adaptation to the new surroundings. Probably none of the groups settled in village situations after their migration to the lowlands. Today, it is typical for family units of up to 20 persons to live in large huts scattered throughout the forest near small streams or along rivers (Fig. 3). The tribal organisation is for the same reason weak. During colonial times and until the beginning of this century, the three groups maintained sporadic contact to Ecuadorian society. Visits to the surrounding Mestizo villages were most likely kept to a minimum and were reserved solely for the purpose of purchasing certain items such as machetes and pots and pans made of cast iron. After World War II, colonisation increased steadily in the coastal lowlands of Ecuador. Smallholders settled in areas that the Indians had always considered theirs. After

working the land for a few years the intruders then claimed ownership under Ecuadorian law. This did not cause open conflict because the Coastal Indians have no tradition for inter-tribal raids and for feuding with settlers from the outside.

The Cayapa, the Colorado and the Coaiquer Amerindians are grouped by Mason (1950) in the Chibcha language group. Before the expansion of the Inca empire, Chibcha speaking people probably dominated the northern Andes region. The groups that occupy the coastal lowlands of Ecuador today may have had close contact with Chibcha speaking cultures in the highlands of northern Ecuador and southern Colombia, at that time. During the Inca occupation, Quichua replaced the native tongues of the highlands of Ecuador. Later the presence of the Spaniards caused the annihilation of Chibcha in most parts of Andean Colombia. Only groups that already lived or migrated to remote and inaccessible coastal and Amazonian lowlands were able to preserve their original languages. Barrett (1925) quotes Cayapa mythology according to which, the group was forced to migrate to the lowlands by a *strong enemy*. This enemy was undoubtedly the Incas or the Spaniards. The mythology of the Colorados also suggests that they originally lived in or in the proximity of the Andes.

The relation among the Chibchan subgroups is an unsettled issue. Cayapa and Colorado are mutually intelligible languages that according to Ehrenreich (1989) originated from the same stock about a millennium ago. The affinities of the Coaiquer language are less clear. Ehrenreich (*ibid.*) suggests that Coaiquer derived from Colorado and Cayapa an estimated two millennia ago. Today, the geographical distribution of the Chibcha language group shows a major disjunction between Central America and Coastal Ecuador. The most important Chibcha speaking tribes are the Meskitos in Nicaragua, the Cunas of the Carib-

bean coast of Panama and adjacent Colombia, the Arhuaco and Cogi of Sierra Nevada de Santa Marta in northern Colombia, and the Guambiana and Paéz in the highlands of Cauca in south-western Colombia.

The Ecuadorian Coaiques probably migrated to the lands they now occupy in the Province of Carchi in the early 1900's. According to Kempf (1982), they came from the Altaquer and the Río Nulpe regions of south-western Colombia from which they migrated due to increasing pressure on their land, their cultural integrity and their political autonomy. The Cayapas may once have had contacts with a southern subgroup of the Chocó Indians in adjacent Colombia, the Waunanas. Barrett (1925) claimed that several Chocó shamans practised among the Cayapas. The Chocó language was previously supposed to be related to Carib but Ehrenreich (1989) considers it an independent language that has been influenced by Chibcha. The Otovaleños in the Andean highlands have been in close contact with the Colorados in Santo Domingo. Many of the rituals that the Colorado shamans perform during curing sessions are similar to those used by healers in Otavalo. The rituals were introduced after Hagen visited the Colorado Indians in 1939 and gave a description of their healing rituals. The conspicuous sarong-like clothing that the Colorados use is manufactured and sold to them by the Otovaleños.

The Cayapas

The Cayapa Amerindians refer to themselves as *Chachi*. They constitute the largest indigenous group in Coastal Ecuador numbering more than 6,000 (Carrasco 1988). The Cayapas live along the Cayapa-Santiago river system in the Province of Esmeraldas, and the region is mainly covered by tropical rain forest. The ethnobotany of the Cayapas has remained undescribed. Barrett (1925) described the tradition-

al Cayapa culture with numerous details particularly concerning their material culture. Recent descriptions of their culture and situation are found in Carrasco (1988) and Medina V. (1992).

Agriculture – Subsistence farming is the Cayapas' most important occupation. A shifting slash-and-burn agriculture is usually practised. The most common components in the mixed fields are cassava, plantain, corn, beans, and taro. The crops that constitute the normal staple diet are listed in Table 23. Several varieties of cassava are often grown in the same field. They are distinguished by features of the leaves, the stems and the tubers. The latter differs in shape, colour and taste. Several cultivars of chilli pepper and Bixa are grown too. Other plants with utilitarian value are cultivated around Cayapa dwellings e.g. fibre plants, spices, ichthyotoxic plants and hallucinogenic plants. Domesticated animals other than poultry are rare.

Hunting, fishing and gathering – These activities constitute an important part of Cayapa daily life. Most families have traps throughout the forest (Fig. 13.d). They are checked on a daily basis for smaller rodents and opossums. The traps are so numerous near villages that quarrels over property rights sometimes occur. In Zapallo Grande we witnessed several incidents of this problem. Hunting with blowguns has nearly been abandoned. Ten years ago, blowguns were still manufactured for toys or for sale. Today, mostly muzzle loaders are used for hunting. Animals caught alive in the forest such as monkeys are often kept as pets. While travelling in the forest, the Cayapas gather a multitude of plant products such as fruits, edible larvae (Fig. 12.c) and medicinal plants. If they pass a valuable tree they often mark it down for future exploitation.

Fish traps are commonly used (see Table 33 and Fig. 14). Big fish are caught with large traps that are usually constructed so that they

become inundated at high water levels and exposed at low levels. The fish are lured into the trap using fruits or worms as bait. Removal of the bait releases a mechanism that closes the trap. The fish enter the cages underwater, and are collected when the water level recedes. Near Zapallo Grande, at the confluence of Río Cayapa and Río Santiago the water level varies one metre. At irregular intervals, the river rises several metres due to heavy rains in the mountains. Fishing with spears is common. The spear pole is made of heavy palm wood that is highly resistant to rot. The spear head is made of cast iron and fastened to the pole with a piece of string. Children in particular enjoy this kind of fishing. The Cayapas also fish with nets and with plant poisons. A detailed description of Cayapa fishing can be found in Mitlewski (1985).

Current political situation – The Cayapa community is subdivided into a number of centres that are united in a federation. Although this political structure has weakened the power of the traditional chief or *uñi*, the latter still plays an important role in legal matters and rituals. Conflicts and legal disputes are often solved within the Cayapa community. We witnessed a chief who acted as a go-between and decided which sanctions were to be implemented.

Ten years ago, timber was mainly harvested adjacent to the rivers by independent lumbermen and transported downstream as rafts (Fig. 5.b). The forests were left untouched just a few hundred meters away from the river. Timber companies have since bought concessions that cover vast areas and the forest has been cleared in areas surrounding the Cayapas. The intensive logging has led to a steady decrease in hunting and fishing yields. Malnutrition particularly among Cayapa children was already evident and widespread when we conducted our studies in the early 1980's but the situation has steadily worsened (Carrasco 1988, Medina V. 1992). Many Cayapas are now logging the for-

est to generate sufficient income to supplement their uniform diet of plantains and cassava. Only groups living along the smallest tributaries high up in the river system are not dependant on pecuniary economy. Logging is restricted inside the Cotacachi-Cayapa Ecological Reserve where few Cayapa families are settled. The reserve was established in 1968 and covers an area of 204,420 hectares (Charvet & León 1992). It extends from the upper tributaries of the Cayapa river system to the Andes. Before the park was established in 1977, the Cayapas used to undertake hunting expeditions in these areas. This practice is now being abandoned due to park regulations.

A number of tropical diseases constitute a constant threat to the health of the Cayapas. This is noteworthy since the Cayapas used to live in a remarkably healthy environment according to Barrett (1925). The most common disease is river blindness or onchocerciasis that was introduced to South America from West Africa decades ago. The majority of the Cayapa men are infected with the nematode that causes the disease. The vector is a sandfly that typically occurs near brooks in deep forest. Men have a higher risk of being infected because they spend more time in the forest. The disease will often cause blindness in later stages. Doctor teams based in Zapallo Grande, where the evangelical mission station has an airstrip, have studied the disease, but administering a cure has so far been difficult and costly.

The Coaiqueres

The Coaiquer Amerindians refer to themselves as *Awa*. They live in the western foothills of the Andes on both sides of the border with Colombia, in inaccessible areas covered by moist, pristine forest (Fig. 5.a). The Coaiqueres remain the least known of the Ecuadorian indigenous groups. A roughly estimated 1,000 Coaiquer

Indians live in Ecuador chiefly in the Province of Carchi, but a few live in adjacent areas of the provinces Esmeraldas and Imbabura. Much larger numbers reside north of the border in the Department of Nariño in Colombia. They are more acculturated here than in Ecuador and there are problems defining them as an ethnic group. Recent estimates of population size differ from 4,000 (Ehrenreich 1989) to 12,000 (Orojuela 1992) and 25,000 (Telban 1988).

The Ecuadorian Coaiqueres live scattered throughout the forest in family units ranging from small to large. There are no navigable rivers in the area and all transportation takes place by foot on land. The individual huts are usually situated with several hours walking distance in between. There is a slightly higher concentration of dwellings in San Marcos (Plan Grande) and Gualpi Alto. The Coaiquer are linguistically related to the Cayapas and the Colorados but there is no evidence of recent contacts among any of these groups. In the Cayapa communities where we conducted our studies, most people were not even aware of the existence of the Coaiqueres to the north. In the early 1900's when the Coaiqueres settled in remote areas of Ecuador they deliberately withdrew from contacts and in this way they avoided integration. Today, they maintain their culture and autonomy. In 1950, Ferdon described the Coaiqueres as an isolated tribe that had not yet adapted to western culture. He mentioned that they often travelled long distances in the forest in bare feet carrying heavy loads on their backs. He further noted that some members of the group still wore clothes made from tree bark (Fig. 9).

Orejuela (1992) has provided some ethnobotanical information on the Colombian Coaiqueres. Hernando P. R. & Virsano B. (1992) describe the ethnobotany of a small community of acculturated Coaiqueres and peasant farmers in Altaquer. Kempf (1982) gives a thorough discussion of the socio-political role of the Coai-

quer medical system in Ecuador. She also provides details on the chutun curing ceremonies and nutrition. Ehrenreich (1989) give a comprehensive description of Coaiquer culture in Ecuador. Villareal (1986) reports on the political situation of the Ecuadorian Coaiquieres.

Agriculture – The Coaiquieres live from subsistence farming, hunting, fishing and gathering. They manage a system of rotation which involves both slash-and-mulch fields and agroforestry on the abandoned fields. The edaphoclimatic conditions in San Marcos are typical of the Chocó pluvial forest. The annual precipitation probably exceeds five metres and there are no dry months. The soil is derived from volcanic deposits. It is grey and almost permanently water saturated. Soil samples from Gualpi Alto show a high content of quartz and feldspar, but low content of clay (Thomsen 1986). This generally indicates a soil susceptible to erosion.

Patches of forest are typically cut using machetes and axes (Fig. 11). The preferred site for clearing are late sucesions of abandoned fields. The advantage is that the trees are smaller than in the surrounding forest and therefore easier to cut. The brushwood is not burned, but left for mulching. In this way, the nutrients are released slowly from the dead biomass. The crops are sown shortly after cutting the forest and the seedlings will have to penetrate a layer of brushwood that is 1 m thick. The density of the crop plants is low. Several crops are usually mixed except for plantain and sugarcane which are grown in monocultures. The agricultural practices that we observed in San Marcos are very much like those described by Orejuela (1992) from the Colombian Coaiquieres further north.

The slash-and-mulch farming system probably prevents soil erosion and protects the seedlings from mechanical damage caused by heavy rains. The fields are abandoned after some years when most of the nutrients have

leaked from the brushwood. The land is left fallow and is often enriched with tree and bush crops, especially near the dwellings.

Hunting, fishing and gathering – The Coaiquieres get most of their protein from domesticated animals such as pigs and poultry. Hunting with muzzle loaders is also practised. These are often loaded with miscellaneous pieces of metal and are quite dangerous to handle. Some Coaiquer still use blowguns for birds and monkeys, but this practise is becoming rarer (Fig. 6.d). Rodents and opossums caught in traps constitute a valuable supplement to the staple diet.

Fishing is probably more important than hunting. The Coaiquer territory is dissected by an intricate network of streams. Fish are caught using nets, hooks or plant poisons much the same way as described for the Cayapas. Products gathered in the forest such as grubs, ants and edible plants constitute an important supplement to the diet.

Current political situation – In 1974, the presence of a Coaiquer community was officially acknowledged by the Ecuadorian authorities. The first efforts to integrate the Indians into Ecuadorian society were made the following year in San Marcos or Plan Grande. A school was constructed and a teacher appointed although not without some difficulty. Later a small church and a community house were constructed. While we conducted our fieldwork, a small clinic offering basic medical attention was installed in San Marcos. In an effort to assimilate the Coaiquieres, the Ecuadorian authorities have created a minga labour system and instituted an administrative system with a spokesmen and a *capitan*. The *capitan* has been given some power through a system of sanctions and directives backed by the authorities (Kempf 1982) (Fig. 4). The scattered distribution of the population and the inhospitable environment have made the integration of the Coaiquieres a difficult task.

The Coaiqueres constitute an unusually egalitarian people having no tradition for tribal organisation or authority, according to Kempf (1982). They seem particularly susceptible to the negative effects of a rapid transition to modern society and acculturation. Whereas the Colorados and Cayapas are proud of their indigenous culture, the Coaiqueres appear shy and their self-esteem is generally low. To the outsider the Coaiqueres can seem almost ashamed of themselves. They usually avoid using their native tongue in front of strangers. Instead they speak Spanish however poorly or they do not speak at all. Alcohol abuse is a problem. In the San Marcos area, sugar cane is a common crop. The juice is fermented into an ale-like beverage called *guarapo*. Guarapo is traditionally drunk in great quantities during ceremonies and mostly during these. In San Marcos we saw primitive wooden distilleries in the forest, however, that are used to further process guarapo into a very strong brandy called trago (Fig. 11). Several times, we witnessed drunk Coaiqueres in Chical, a Mestizo village situated nearby.

The colonisers generally despise the Coaiqueres whom they consider illegal intruders from Colombia. The fact is that most Coaiqueres frequently cross the San Juan River which constitutes the border to visit family and attend markets in Colombia. Many of the Indians are not registered as voters in Ecuador and consequently, do not possess the official Ecuadorian identification card, the CEDULA.

When we conducted our field work with the Coaiqueres between 1982 and 1985 their prospects for the future were grim. Plans to build a road from Maldonado to Tobar Donoso that was to cut through the core of the San Marcos area, have since been abandoned. Instead the territorial rights of the Coaiquer Indians have been secured under Ecuadorian law thanks to the intercession of international non-governmental organisations and officials in the Ecu-

dorian Ministry of Foreign Affairs. The Coaiqueres have demarcated their territory by cutting a narrow strip of forest around it (Survival International 1989). Colonisers and developers in the Province of Carchi are pushing hard for a road that would link Chical with Lita. If these plans are carried out they will have an pronounced effect on the economy of Carchi. A new road has recently linked Lita with San Lorenzo, the nearest harbour from which there is already a mayor export of agricultural products (Fig. 5.c). An improved infrastructure would invariably lead to waves of colonisation in the areas adjacent to Coaiquer territory. Currently the biggest threat to the Coaiqueres in Ecuador is acculturation. Secrecy and ostracism have been their main survival strategy for centuries and it has worked this far. The problem today is that the Coaiqueres have nowhere else to go.

Kempf (1982) gives details on the health situation in San Marcos (Plan Grande). In the beginning of the eighties, the most common symptoms of the traditional Coaiqueres were coughs, fever and headaches. Most symptoms were probably caused by intestinal parasites such as helminths (roundworm, whipworm) and protozoans (amebiasis). Almost all Coaiqueres were infected and about 70% had three to six different types of intestinal parasite. The infections contribute to malnutrition and discomfort. The Coaiqueres thus have very concrete reasons to avoid hard work: it makes them feel sick and tired.

The Colorados

The Colorados refer to themselves as *Tsatchela*. They live near Santo Domingo in seven reservations that cover about 100 km² in total (Fig. 1). Earlier during this century, the Colorados were threatened by extinction due to repeated epidemics (Santiana 1951). The population dropped to its lowest in about 1950, but has

since increased rapidly. Lopez (1986) estimates the population size to 1,000, but according to our Colorado contacts this figure is low. They estimate that more than 3,000 Colorado Indians live in the area today.

This paper presents the first and only ethnobotanical information collected with the Colorados. The classic treatment of their culture is that of Hagen (1939). Earlier, some data were provided by Rivet (1905) and Karsten (1924). Juncosa (1988) has recently translated these early works on the Colorados into Spanish. Lopez (1986) gives a more recent description of the Colorado culture and their situation in modern Ecuador.

Agriculture, hunting, fishing and gathering – most Colorados grow cash crops such as coffee, cacao, bananas and African oil palm on their lands. Some are wealthy landowners who have employed Mestizos to work for them in the fields. Subsistence farming, fishing, hunting and gathering is no longer practised among the Colorados since the resource basis for these activities has disappeared.

Current political situation – The Colorados have apparently undergone the transition to modern society without losing their cultural identity. The Colorado organisation is powerful. The younger generation learns to write their native tongue in school. Unlike the Coaiques, self-esteem is generally high. Older Colorados can often be seen in the town of Santo Domingo wearing their traditional clothing. Around their waist they wear a piece of vividly coloured cloth. The nude torso is decorated with body paint. The helmet-like hair style is most unusual and spectacular (Fig. 8.a).

The Colorados have lived near Santo Domingo for at least 300 years. In the 50's, the entire region experienced an economic boom and the rain forests have been converted into agricultural land almost entirely. The edapho-climatic conditions are ideal for most crops. The rich soil is of volcanic origin. A short dry season is experienced most years in June-July (Fig. 1). Very little remains of the original material culture of the Colorados. The tribe is fully integrated economically in modern Ecuador. Their houses combine traditional architectural design with modern materials such as tin roofs and boards. They are surrounded by commodities such as cars, motor bikes, refrigerators, and television sets.

Shamanism has been an important income for some Colorados. Colorado healers are considered to be among the best in Ecuador. They receive patients from the Santo Domingo area and from the rest of the country as well. Travelling shamans have been known to practice all over Ecuador and in other South American countries. When we visited the Colorado Indians during the period 1982-1985 there were more than 50 Colorado shamans offering their services. Their number has decreased since. The trade of Colorado shamans has little prospect for the future, since the choice of medicinal herbs will diminish with the disappearance of the rain forest.

The health situation of the Colorados does not differ much from that of the Santo Domingo area in general. Throughout their reservations they have access to clinics for medical attention.

V Results

A total number of 1991 vouchers were collected with the Colorados, the Cayapas and the Coaiqueres. The specimens collected have been identified to 113 families, 396 genera and 576 species (Table 75). A rough estimate of the total number of species collected is 930. The number of uses recorded is 1510. It should be noted that the number of uses exceeds the total number of vouchers collected with the Colorados which is feasible due to independent registration of uses for multiple purpose plants.

Vernacular names were obtained for 1832 vouchers. This corresponds to 92% of the collections. The Colorado Amerindians named virtually all the plants whereas the Cayapas named only the useful plants. The Cayapas made an effort to explain to us the meanings of their plant names. These are mostly composed of a number of syllables which may indicate usage, the part of the plant used, growth form, the name of the spirit that is believed to reside in the plant etc. This kind of plant naming is frequent among Amerindian people. For a general treatment on ethnobiological classification we refer to Berlin (1992). In Cayapa language, *-tchapé* indicates that the plant has edible leaves, *-pistcha* means that it has edible fruits, *-chi* means that it is a tree, and *-tapé* indicates that it is a herb. Spanish has also been adapted in Cayapa plant names. The Spanish word *-remedio-* is often used as a syllable when a plant is used medicinally. The Colorados construct plant names much the same way as the Cayapas, whereas the Coaiquer names usually consisted of one syllable only. The Coaiquer informants provided us with much fewer names. They even claimed to be ignorant of the names of some of the plants that they indicated as useful. The vernacular names they did use were mostly Spanish ones

which may be a reflection of their reluctance to speak their own language in front of outsiders. Our knowledge of their ethnobotanical practices is incomplete and the discussion in the next section will therefore focus on the Cayapas and the Colorados.

The results of the ethnobotanical studies of the three remaining Amerindian groups in Coastal Ecuador are presented in the Tables 2-81. The Figs. 3-19 illustrate selected aspects of the way plants are used on a daily basis.

Annotated plant lists are presented in Tables 2-74 for each of the usage categories. In the following paragraphs the most important results will be presented for the main usage categories: materials, land-use materials, social products, food, animal food, and poison (Fig. 2). The medicinal categories will be commented upon in further detail.

Tables 75 and 76 present some basic statistical information regarding the material collected during the field campaigns.

Materials (Tables 2-15)

The Colorados no longer base their material culture on plant resources. Instead, they purchase items such as zinc roofs, rope, construction materials, television sets and vehicles in Santo Domingo. This is the reason that relatively little information concerning the Colorados is included in Tables 2-15. Some of the trees that were previously used for construction are no longer available due to deforestation. One particular aspect of Colorado material culture remains intact, however. The Colorados exploit more plants for dyes than their indigenous neighbours (Table 15). Although the Colorados are well integrated in Ecuadorian society they maintain their tribal identity which

is reflected in spectacular body and facial painting and in vividly coloured sarong-like clothing. The Coaiqueres represent the opposite extreme. Their material culture depends almost entirely on the surrounding forest. However, within a few decades they have adopted western style clothing and do not use any kind of painting that could make them stand out as an ethnic group.

The Colorados may have lost most of their traditional material culture, but it should be noted that they share the use of *Streptochaete sodiroana* with the Cayapas. The spikes serve as a depilatory to remove facial hair (Table 11). Plants said to stimulate hair growth are also in common usage among the indigenous groups of Coastal Ecuador (Table 13). It remains to be demonstrated whether any of these herbal treatments are efficient. Other ethnobotanical similarities between the Colorados, the Cayapas and the Coaiqueres indicate regional rather than local exchange.¹ This applies to *Castilla elastica*, the latex which is used to waterproof canoes and *Coix lachryma-jobi* which is used to produce beads for making necklaces.

Land-use materials (Tables 16-17)

The Cayapas cultivate a considerable number of plants because of their ornamental value. The same applies to the Colorados, but they use ornamental plants for other purposes as well. These are often among the numerous plants that are employed in herbal baths (Tables 73 and 74). It is probable that the use of ornamental plants constitutes a recent addition to the ethnomedicinal practices inspired by contacts with Mestizos and African Ecuado-

rians. The Colorados also use a number of shrubs for hedges which is a consequence of intensive land-use and the need to demarcate private property.

Social products (Tables 18-22)

Several times during field work, we verified that plants representing this category were surrounded by strong taboos. The Cayapa informants were generally afraid of collecting plants producing evident physiological effects such as hallucinogenic and anti-fertility agents. These plants are believed to house strong spirits and are most safely handled by shamans. With the Colorados, we did not encounter such taboo-related fears which is probably a result of acculturation. According to Ehrenreich (1989), the Coaiqueres do not use fertility regulating plants or hallucinogenic plants. Another possibility is that these plants are taboo-ridden and that it may be another example of the secrecy of this group.

Food (Tables 23-30)

We recorded about 100 different species producing edible fruits for the Amerindians. The Colorados collect fruits from fewer species than the Coaiquer and the Cayapas (Table 24). Furthermore they use fewer wild plants in their traditional dishes due to a general change in the diet (Table 25). One exception is noticeable, however. The Colorados have preserved many of their traditional plant based beverages, especially those that act as stimulants or aim at raising the body temperature (Table 28). The Cayapas have the unusual habit of eating flowers (Table 26). Many different species are used in this way. The taste of the flowers is often described as very sweet and candy-like. One of the more remarkable similarities between the three Amerindian groups is the use of ferns as vegetables (Table 25). The Caya-

¹ We will refer to ethnobotanical knowledge as *local* when it's range is restricted to the coastal lowlands of Ecuador. When knowledge is more widely distributed, e. g. across the Andes, we will use the term *regional*.

pas and the Coaiqueres prepare the young fronds with fat and salt in many of their traditional dishes.

Animal foods and poisons

(Tables 31-34)

The Cayapas and the Coaiqueres frequently use fruits as bait when fishing. They also have detailed knowledge about the interaction between potential game and specific species of plants in the forest. The informants often pointed out fruiting trees that are frequently visited by birds such as the toucan or the jungle chicken. The Colorados rarely mentioned ecological observations that could be relevant to fishing or hunting. Few of the animals that were traditionally hunted are left in the deforested area and the Colorados no longer depend on wildlife as a protein source. It should be noted that no direct inquiries were made on plant-animal interactions during fieldwork. Often, this kind of relationship was mentioned when no other utilitarian value came in mind.

The Colorados, Cayapas and Coaiqueres have apparently all used the latex of *Naucleopsis* for arrow poisons traditionally. We did not collect this tree with the Cayapas, but detailed descriptions by the informants indicate that they use *Naucleopsis* too. Santesson (1936) reported that the Cayapas and the Chocó of western Colombia use the latex of *Ogcodeia*, a synonym of *Naucleopsis* (Berg 1972). When asked about *arrow-poison tree* our Colorado informant went away to collect material from the only *Naucleopsis* that was known to still exist in a remote part of the Colorado territory. We received the collected material, but never saw the tree.

Medicinal uses (Tables 35-74)

Disease is diagnosed and explained in a fundamentally different fashion by Amerindian cul-

tures. In particular the perception of the function and position of the organs varies from our concepts. Amerindians focus on symptoms and their localisation to cure diseases. This is quite unlike western medicine that constantly seeks to explain the causal relation between symptoms and disease. An example would be the most frequently treated condition among the Coaiqueres called *Chutun*. The description we were able to obtain resembled influenza symptoms: *general indisposition with an aching body and often with fever*. Later, we learned that *chutun* is a condition caused by malevolent spirits and that it encompasses various kinds of symptoms. The Colorados use a system of low and high temperature to explain many diseases. The term *temperature* should not be understood literally and does not necessarily relate to fever conditions. It is used as a measure of physiological imbalances. Numerous plants are used to *cool* or *warm* the body, accordingly.

Cardio-vascular system (Tables 35-38) – The Cayapas in particular use many plants in these four usage categories. This reflects the fact that the Cayapas often cite anaemia as the cause of fatigue. It is noticeable that there is almost no overlap in the plant spectra for the three indigenous groups.

Digestive system (Tables 39-45) – All Amerindian groups in Coastal Ecuador use numerous plants for digestive purposes, but they have few of these in common. The only shared pattern is the use of ferns and *Piper* for stomach disorders (Table 41). Most of the representatives of these two plant groups are very abundant and availability could be the reason for their popularity in this context.

Several species are listed for just one of the three groups, despite the fact that outside Coastal Ecuador these are widely used and often cultivated. This applies to *Spilanthes* (Table 39), *Zingiber officinale* (Table 39), *Chenopodium ambrosioides* (Table 41), *Erythroxylum novogratanense* (Table 41), *Spigelia* (Table 41), *Jatropha*

curcas (Tables 43 & 44), *Ficus insipida* (Table 44) and *Scoparia dulcis* (Table 44) .

External system (Tables 46-55) – The Cayapas and the Colorados both use the families Araceae and Cyclanthaceae for treating ant bites. A similar pattern is found in the Amazon region (Kvist & Holm-Nielsen 1987). *Piper tricuspe* is used for insect bites in general. The Cayapas often cultivate this particular species near their dwellings. A similar practise has been observed among the Cunas in Panama (Duke 1970).

One of the more remarkable aspects of the ethnobotany of the Amerindians of Coastal Ecuador is the large number of plants used to treat snake bites. Snakes represent a constant health problem particularly around villages surrounded by undisturbed forest. Larrick et al. (1978) estimated that nearly half of the Waorani Amerindians in the Amazon region of Ecuador have been bitten by a snake at some point in their life. During our travels in Coastal Ecuador we observed many people with large bluish-black scars from the bites chiefly of the Equis snake, *Bothrops atrox*. It is nevertheless a surprising fact that more plants are used for treatment of snake bites than for any other purpose (Fig. 20). Snake bite plants constitute the largest usage category among the Coaiquer and the Cayapas and the second largest category among the Colorados only surpassed by herbal baths (Table 81). The large proportion of plants used for treating snake bites may relate to the animistic belief of the Amerindians. Snakes are believed to be the dwelling place of particularly malevolent and potent spirits.

Most treatments that aim at curing snake bites are purely topical (Table 48). Systemic treatments are practised by the Colorados and to a lesser extent by the Cayapas (Table 49). The Cayapas and the Coaiquer often vary their therapies in accordance with the particular species of snake responsible for the bite. The Colorado informants on the contrary often re-

lated that a particular herbal treatment was good for snake bites in general, no matter the species involved. The choice of which plants to use in a given situation ranges from being rather random to very specific. The lists of snake bite plants comprise a total of 26 plant families and vascular cryptogams. Two families and the vascular cryptogams are represented with more representatives than any other family (Table 48-50). The Gesneriaceae (Table 80) and the vascular cryptogams (Table 78) are commonly used for snake bites by all three groups, whereas the Piperaceae (Table 79) is used by the Cayapas and the Coaiqueres only.

The Coaiqueres use Gesneriaceae for so-called dry baths that are applied to miscellaneous eczemas (Table 55). The ash from the burned plant is rubbed on the affected area of the skin. This kind of preparation was not observed at the Cayapas and the Colorados. Apart from the use of Gesneriaceae for eczema, no other family is particularly dominant in the usage categories comprising cuts, swellings, abscesses, and fungal infections (Table 51-55). Few plants in the lists were shared among the three indigenous groups. One exception is the genus *Acalypha* which was used to treat cuts by all three groups (Table 51). The treatment of fungal infections (Table 54) is discussed in Kvist & Holm-Nielsen (1987). The most common fungal infection causes a symptom called *manchas blancas* which refers to white, usually concentric circles on the skin where the pigment has been destroyed. The use of the variegated leaves of *Calathea metallica* for this specific purpose is probably based on the so-called *Doctrine of Signatures*. This principle has influenced folk medicine all over the world and is also widespread among Amerindian groups in South America. The *signature* refers to the correspondance between certain physical plant features and the medicinal purposes for which it is valuable. A good example is a species of *Monolena* that we collected with the Cayapas. It

has long, red, worm-like peduncles that are used accordingly for curing intestinal worms (see Table 44).

Muscular-skeletal system (Tables 56-57), nervous system (table 58), reproductive system (tables 59-61), respiratory system (Tables 62-65), sensory system (Tables 66-67) and urinary system (Tables 68-69) – There are no apparent patterns emerging from the list of plants in these usage categories. The rationale behind many of the applications is probably the Doctrine of Signature. Some examples are given in the legends to the Tables. For a general discussion of herbal treatments of eye ailments, see Kvist & Holm-Nielsen (1987).

General system (Tables 70-74)

A number of weakly defined pains and fevers are treated with herbs. The plant choice is rather arbitrary and varies from time to time. The plant groups used most frequently are the abundant ones and those that are easy to collect, viz. plants in the under storey belonging to vascular cryptogams, Araceae, Gesneriaceae, Melastomataceae, Piperaceae, Rubiaceae and Solanaceae. A minor number of plants are used in systemic treatments (Tables 70-71). The Colorados use numerous plants in their bath treatments (Table 73). A third of all the plants collected with this group were used for this purpose. Up to 20 different plants are mixed in a single bath.

Most important families and usage categories

Fig. 19 shows the most important families of plants used by the three ethnic groups. Table 77 lists the families that were most valuable to the three Amerindian groups based on the number of uses. It should be noted that several identical records of use of the same plant across the indigenous groups are registered for

each of these separately. For each ethnic group, both total and relative figures for the number of uses registered within a given family are shown. The familie circumscription follows the taxonomic system used at Herbarium Jutlandicum (AAU) where the first set of our collections is deposited. Here, the plants are organised according to Willis (1966) with a few exceptions. The importance of ferns and so-called fern allies has been emphasised by treating these as a separate unit at the family level. Eight plant groups are listed among the 10 most valuable for all three indigenous groups: vascular cryptogams, Piperaceae, Gesneriaceae, Solanaceae, Araceae, Rubiaceae, Melastomataceae, and Asteraceae. Tables 78-80 compare the usage patterns of the three most frequently used plant groups for each of the three Amerindian tribes, viz. the vascular cryptogams, the Piperaceae and the Gesneriaceae. Identical usage of a particular plant species by separate indigenous groups contributes to the figures for each of these.

Fig. 20 shows the breakdown of recorded uses by usage categories for all three ethnic groups. Several identical records of use of the same plant across the indigenous groups are counted once. The two most important usage categories are those of snake bites and baths regulating body temperature respectively. Both comprise topical treatments only. The most important systemic treatment only rank number ten overall. The choice of plants for systemic treatments is obviously narrow because of the serious side-effects that plants may have when taken internally. Edible fruits constitute a very large usage category. Almost a hundred different species are used by the three groups. Table 81 lists the ten most important usage categories for each of the three indigenous groups studied. It gives the total and relative figures for the number of uses registered within a given usage category. As in Tables 77-80, identical usage of a particular plant species by several in-

digenous groups contributes to the individual figures for these.

If proportionality is assumed between the number of plants used for a certain practice on one hand and how common this practice is on the other hand, then snake bites would be the most common ailment followed by the three usage categories classified under General System: topical therapy to treat miscellaneous pains (Table 72), regulation of body temperature (Table 73) and vaguely defined symptoms (Table 74). Hereafter several minor ailments follow such as skin reactions, wounds, and stomach infections. Snake bites indeed constitute a major health problem. The most common snake is the Equis (*Bothrops atrox*). It causes more deaths than any other snake in the coastal lowlands of Ecuador although it is not as poisonous as e. g. the Bush master (*Lacheis muta*). The purpose of topical treatments of snakebites is both to prevent and heal necrosis around the bite and to expel the snake's spirit that has entered into the body of its victim. Skin reactions (Table 55), wounds (Table 51), and stomach infections (Table 41) are among the most common health problems especially in isolated communities that do not have access to prescription medicine. Other common ailments are physical traumas such as swelling from bruises (Table 52) and injured joints (Table 57), intestinal parasites (Table 44), colds and influenza (Table 65) and fungal infections (Table 54). The fungal infection mentioned earlier causing *manchas blancas* is particularly common. A number of physical imbalances related to internal organs may also be widespread but they are difficult to diagnose for a botanist with no background in medicine. Some of the symptoms referred to the General System category used in this paper may well be related to specific diseases, particularly topical treatment of miscellaneous pains (Table 72) and topical treatment of vaguely defined pains (Table 74). Information on plants used by

women only in connection with birthing and menstruation (Table 59-60) and to regulate fertility (Table 19) are difficult to obtain due to taboos and a reluctance to discuss one's intimate life with representatives of the opposite sex. More studies concentrating on this aspect in particular are needed.

Preparation and treatment

Medicinal plants are prepared in various ways. Leaves and twigs are either used as is, or ground into a paste. Further processing often involves boiling. The insoluble residues are either separated by decantation or included in the preparation. In other cases, extracts of the plant material are produced using cold or lukewarm water. Yet another kind of preparation involves burning the plant followed by an application of the ash.

In decreasing order of importance treatments include: drinking; bathing; compresses made from either the fresh leaves or a paste produced from these; compresses made from the left-over plant residue from decoctions or extracts; massaging with the twigs; showering with extracts or decoctions; so-called dry bathing where ash from a particular plant is sprinkled all over the body or on the affected area of the skin only. Showering implies that the liquid is sprayed all over the patient from the mouth of another person. A common practice among the Cayapas and the Coaiqueres is massage using twigs from shrubs or trees. Treatment with plant paste compresses is also quite common (Fig. 15). Both crude and boiled material are used. Compresses are in some cases removed after a short time, in other cases they are held in place by a bandage and worn for days. Pieces of cloth or leaves are used to make the bandages.

Symptoms related to the external system are usually treated topically. This applies to skin reactions that are caused by contact allergies, for instance. Symptoms related to inner organs are

treated both systemically and topically. Systemic treatments are generally used when symptoms are confined to a particular function of the body. Coughs and diarrhoea are, for example, very often treated by drinking decoctions or extracts. Topical treatments are frequently used when symptoms are not referred to any particular organ group. Combination of general symptoms such as fever, pain and fatigue are often treated topically, as well.

Curing ceremonies

From the Cayapa Amerindians we obtained the most detailed information about shamans and the ceremonies that they perform. The curing systems of the Colorados and the Coaiqueres are similar in many aspects. According to the animistic belief of the Cayapas, numerous spirits reside in nature e. g. in animals, in plants, in stones, and in hills and they are all potentially harmful. A spirit may enter the human body as one passes its dwelling or as one sleeps. When a person dreams, the Cayapas believe that the soul departs from the body leaving it open to invasion by other spirits (Barrett 1925). Dead corpses of animals and humans alike are considered a potential danger because spirits may depart from these and begin to travel about in the village in search of a new dwelling. If they enter a human body they could cause chronic disease or severe health threats. Curing rituals aim at expelling the malevolent spirits and transferring them to another dwelling. Only an experienced shaman can accomplish this transfer which is considered highly risky. He will transfer the malevolent spirit from the patient to his own body, and later to a third dwelling place. If he is too weak he may fail to make the second transfer of the spirit and become a victim himself. The shaman either conducts the curing session personally or guides it from nearby. The number of plants that is included in ritualistic curing is variable from just one or a few to several. Hallucin-

ogenic plant drugs are frequently used to induce strong visions that enable the shaman to see and talk to his tutelary spirits.

Animistic belief also influenced the field work. Particularly powerful plants are supposed to house spirits that may become malevolent if collected and handled by laymen. For this reason we often experienced some reluctance on the part of the Cayapas who assisted us when we asked about plants that they used for contraception, abortion, arrow poisons, mental disorders etc. These plants are not considered harmful to the shaman as long as he possesses the protection provided by his tutelary spirits. An example would be an incident where one of us nearly stepped on a highly poisonous and aggressive Equis snake. According to the Cayapas the snake had appeared because we had upset its spirit by collecting large quantities of plants used to treat snake bites. They declared that if we met a second snake that day under dangerous circumstances, we would have to stop the offensive plant collecting. Otherwise we would meet a third snake that would strike us. After the Cayapas had killed the snake we participated in a ritual aimed at expelling and scaring its spirit away from the village and into the forest. Smoke from cigarettes was exhaled upon the dead snake along with the exclamation of loud conjurations (Fig. 16). Barrett (1925) describes other exorcistic rituals during which tobacco smoke was exhaled on objects in Cayapa dwellings presumed to house spirits.

In October 1983, we attended a nocturnal curing ritual among the Cayapas that live along a small tributary about 40 km upstream from the village of Zapallo Grande. The curing took place in the dwelling of a middle-aged shaman called Maritimo. The families of both the shaman and the patient were present. No local inhabitants spoke Spanish and all communication between them and us went through our informants from Zapallo Grande who had ar-

ranged the visit. The patient was an approx. 35 year old man. He apparently suffered from river blindness or onchocerciasis, the parasitic disease described earlier in this paper which is caused by a nematode that has been introduced from Africa. The ritual lasted the entire night from 8 p.m. to 6 a.m.

The atmosphere during the curing session was surprisingly unceremonious. The first three hours comprised a preparatory phase during which the shaman slowly drank *pindé*. This is the Cayapa name for the hallucinogenic decoction prepared from the malphigiaceous liana *Banisteriopsis caapi* often and mixed with other plants having psycho-active effects. It is known as ayahuasca in Quichua. During these hours the shaman whistled, sang and occasionally rattled with twigs from a common riverbank tree *Pithecellobium longifolium* (the only other plant used during this nocturnal ritual). About 11 p.m. the next phase of the curing session started. Waves of hallucinations now increasingly influenced the shaman, and he was ready to locate and identify the malevolent spirit. A candle was lit, and he arranged a number of objects that were considered to house his tutelary spirits on a low table in front of him: black, flat and rounded riverbed stones, weathered stone sculptures of possibly pre-Columbian origin, an antique Spanish sable, a plastic candlestick holder shaped like a cartoon character (Batman), and a polished staff of dark hardwood with a handle carved in the shape of a monkey (Fig. 10). He chanted, shouted out conjurations and whipped the objects in front of him with the twigs. Just before midnight, the visions allowed him to identify and locate the malevolent spirit. Now he had to expel and transfer the spirit to himself. He extinguished the candlelight, and the rest of the night the shaman was very active chanting and massaging the body of the patient with the twigs. Every now and then he cried out conjurations like *ush-nii* which is a variant of the Cay-

apa word for expel, followed by *huii*. At one point, the wife and the four children of the patient were also massaged. The next morning we were informed that the shaman had transferred the malevolent spirit successfully. He would expel the spirit from his own body during a ritual performed the following night, but we did not attend this ritual. We were informed that during this second night he would not drink ayahuasca but only trago (sugar cane brandy).

In addition to the nocturnal curing sessions performed in houses, other rituals were performed at particular sites adjacent to rivers or in the forest. These rituals were guided by a shaman who had previously instructed the family members about their functions. We attended such a curing that took place on a riverbank (Fig. 10). It involved a family of four persons and lasted for two hours. The patient did not participate actively. His wife and children massaged him with plants collected by the shaman the same morning. A plant decoction was prepared in a big pot. After this had cooled it was used first to bathe the patient, then to bathe his wife and the children. Most of the decoction was poured with a calabash and the rest was sprayed by mouth. The shaman did not take any plant drugs on this occasion. He placed himself in a squat position a little removed from the family with his ceremonial staff and three black and smooth volcanic stones in front of him. In his right hand he held a bunch of twigs. During the entire ritual he sang in a low voice – almost like a Christian mass. At irregular intervals he shouted out conjurations like *ushnii* and hit the river stones hard with his twigs.

The Cayapas draw a parallel between the intestinal system and the river since both are unidirectional and closed. Consequently, they blame ailments related to the intestinal system on spirits from the river. An efficient cure consists of chasing the harmful spirits back to the

river. Virtually all plants growing between the lowest and highest water level of the river are considered to be useful for this purpose. As part of the preparation the plants are soaked in a small, water filled hole or pond dug by hand situated close to the river (Fig. 10). This explains the casual collection of river plants used to massage and bathe the patient. Other curing rituals aim to return malevolent spirits to the forest, and therefore take place here. The shaman acts merely as a guide and usually does not participate actively in the ceremony. A kind of a plant

steam bath is set up. The forest floor is cleaned for herbs and shrubs. A shallow hole is dug in the ground and filled with water. A rack strong enough to hold the weight of an adult person is constructed above this hole and covered with leaves and twigs collected in the understorey near the site. Beside the hole a fire is lit, and a number of stones are heated. The hot stones are then dumped in the water filled hole and a dense steam is produced that passes through the herbs on the rack. The patient receives the steam bath while squatting on top of the rack.

VI Discussion

The ethnobotanical practices throughout Coastal Ecuador have been described in the preceding sections of this paper and in the legends of the Figures and Tables. The present study had two more objectives that will be discussed in this section: comparison of plant usage patterns in Coastal Ecuador across linguistic and cultural boundaries and the detection of possible exchanges of plant knowledge at the regional level. In this discussion we will focus on medicinal uses which are particularly interesting to compare because they are determined by an intricate combination of cultural variables and properties inherent to the plant. The three Amerindian groups all make a clear distinction between medicinal plants that are commonly used and plants that are used exclusively by shamans. Minor health problems are not credited to spirits and can be treated by any member of the community. This applies to bruises, light burns, rashes, fungal diseases, acute headaches, indigestion and so forth. Usually, it is the older people who are most knowledgeable about plant treatments. The

forest adjacent to the dwelling is searched thoroughly for herbs. Some plants are held in higher esteem than others. The choice of which plants to collect is often made as a trade-off between the plant's value for the treatment, its immediate availability and the seriousness of the affliction. Valuable herbs may be stored in alcohol for later use. Snake bite remedies are prepared in this way and stored for years. It is generally easy for the ethnobotanical researcher to relate to these cases of palpable ailments and physical trauma.

The plants used during ceremonies guided by the shaman are not chosen because of their physiological effects. The choice, which is rather arbitrary, is based on cultural variables such as tradition and Doctrine of Signature. Shamans migrating to other regions will preserve their curing ceremonies but they are forced to choose new plants from an exotic flora. The performance of the rituals is consequently a more stable trait than the spectrum of plants used. More studies are needed in order to derive specific hypotheses about the accidental

component of ethnobotanical patterns that are testable with rigorous methods such as inferential statistics.

The ethnobotany of the three indigenous groups of Coastal Ecuador compared

The ethnobotany of the Colorados deviates in several aspects from their neighbouring groups in lowland Ecuador. The most important group of useful plants, vascular cryptogams, is used mainly for preparing baths that aim at regulating body temperature. Plant baths are used more rarely by the Cayapas and the Coaiqueres. Another difference is the use of vascular cryptogams for systemic treatment of snakebites by the Colorados, a practise that was not recorded among the other groups. The Colorados further stand out in the way they use the family Piperaceae. This group of plants is very important for the Coaiqueres and the Cayapas for topical treatment of snakebites. The Colorados do not use Piperaceae to treat snakebites at all. It is further notable that the Coaiqueres do not use Piperaceae for regulating body temperature. They very rarely practice this healing system which probably has its roots among Amerindian groups in the highlands such as the Otavalos. For all three indigenous groups, the family Gesneriaceae is important for treatment of snakebites, especially in topical therapy. The Coaiqueres also use the family for treating rashes for which purpose the leaves are burned and the ash applied to the skin. Vascular cryptogams, Piperaceae and Gesneriaceae are generally used for more purposes by the Cayapas than by their neighbours.

Whereas few plants are used the same way at the specific level, it is noticeable that eight of the 10 most frequently used plant groups at the family level are the same among all three indigenous groups (Table 77), and six of the most important usage categories are the same (Ta-

ble 81). When the usage patterns of the three most important plant groups, vascular cryptogams (Table 78), Piperaceae (Table 79) and Gesneriaceae (Table 80) are considered across the three groups, the Cayapas and the Coaiqueres show many similarities, whereas the Colorados differ. These results reflect the differences between the current cultural and socio-economic situations. The Colorados, who are by far the most acculturated group, also have the most aberrant ethnobotany whereas the Coaiqueres and the Cayapas display more or less the same patterns. *Snakebites, topical treatment* is the largest usage category for both of the latter. Although, they do not appear in the same order, the other usages listed are shared by the Cayapas and the Coaiqueres with only two exceptions. The ninth largest category on the Coaiquer list, *Fodder and fish bait*, is not among the ten largest usages for the Cayapas and *Stomach infections*, which is number 8 in the list for the Cayapas, does not appear on the list for the Coaiqueres. These minor differences probably fall within the variation which can be ascribed to sampling error. We consider the aberrant position of Colorado ethnobotany as a phenomenon that has developed over the last 50 years. The palms, for example, no longer rank among the top-10 plant groups for the Colorados (Table 77). These plants are mainly exploited for their structural properties and they disappear from the ethnobotany early in the process of acculturation. A recently acquired feature of Colorado ethnobotany is plant bath therapy. This usage category is now the most important.

Comparison along a floristic gradient

Knowledge that is generated within a narrow social context for example based on experiments will add distinctive features to an ethnobotanical pattern, whereas knowledge that has been exchanged across cultural boundaries will have the opposite effect. Evaluating

the relative roles of these two determinants of ethnobotany is complicated at best. An indirect method would be the comparison between the plants enumerated under a given usage category for different linguistic groups that are distributed along a floristic gradient. Coastal Ecuador is characterised by several steep floristic gradients. One gradient runs north to south and parallel to the Andes whereas another one is directed east-west, from the Andes to the sea. In the foothills of the Andes climatic conditions often vary radically from one valley system to another, a phenomenon that causes pronounced local differences in floristic composition of the vegetation. Dodson and Gentry (1978) stated that only 37% of the tree species recorded by Little and Dixon (1969) in their list of woody angiosperms for Esmeraldas were found at the Río Palenque Science Centre and that most of the tree species which occur at the Science Centre were absent from Little and Dixon's list. For the non-woody flora and especially the weedy plants, we expect the differences to be less pronounced.

The degree of congruency between the lists of plants used for the same purpose by any two indigenous groups increases with the taxonomic level chosen for the comparison. Closely related species may vicariate for each other in the sense that they are used in the same way by two indigenous groups and probably have the same effect. These coinciding patterns will not be registered as similar at the species level, however. We estimate that less than 5% of the plants in our material are shared between any two of the three cultures studied. Similarity can not be expressed in exact figures at the species level due to the high number of unidentified specimens in genera such as *Anthurium*, *Peperomia*, and *Piper* that are not sufficiently known taxonomically. It is possible that the low percentage is a collection artefact, although a more likely explanation is that it reflects the pronounced floristic differences that exist in

the vegetation surrounding the three groups. From Dodson and Gentry's paper cited above, it follows that less than a third of the woody species surrounding the Cayapas and the Colorados are the same. The differences between their ethnobotanies are notable since these two groups speak mutually intelligible languages and are known to have maintained contact for centuries.

The forests surrounding the three indigenous groups were not subjected to detailed vegetation analysis and thus, it is not possible to make precise comparisons between the taxonomic patterns of the plants recorded as useful on one hand and the floristic composition of the surrounding forest on the other hand. Fig. 18 compares the most important groups of plants used by the Colorados with the family composition of the surrounding forest vegetation. If plants are not actively searched for, but instead collected randomly according to their availability, some congruency is expected. This requires that diversity of most families is proportional to their availability, knowing quite well that this does not apply to families with many epiphytic representatives such as Orchidaceae. The Colorados were chosen because a flora exists covering the Río Palenque area nearby (Dodson & Gentry, 1978). The families in the flora have been reorganised to fit the taxonomic circumscriptions of this paper. The yearly precipitation at the Río Palenque Science Centre is about 2650 mm which is almost equal to that of the Santo Domingo area (See climatic diagram on Fig. 1). The two family spectra show a surprisingly high degree of congruency. The families primarily used are generally also the ones represented by the highest number of species in the flora. This applies to vascular cryptogams, Gesneriaceae and Piperaceae. The very diverse orchid family is, not surprisingly, little exploited since most species are rare epiphytes from the forest canopy. The purely graphic comparison in Fig. 18 indicates

that plant choice has a strong random element to it. This applies particularly to the usage categories under General systems that include the highest number of plants (Table 72-74).

When useful plants become rarer due to deforestation, alternatives are sought out based on simple cost-benefit considerations. Further degradation of the resource basis will eventually lead to acculturation. The material culture will usually disappear first. This is clearly the case with the Colorados where only the older generation remembers how to exploit the structural and nutritional properties of plants. For the younger generation this knowledge is irrelevant, particularly since many of the plants in question can no longer be found in the area. The Colorados have the least elaborate plant classification system of the three ethnic groups if percentage of plants that are named is used as an indirect measure (Table 76). Of the vouchers collected with this tribe only 32% were named. The corresponding figures for the Cayapas and the Coaiqueres are 93% and 56% respectively. However, the Colorados also stand out from the other two tribes studied by providing both an Indian and a Spanish name for almost half of the named plants and by using many plants for multiple purposes.

Naming

One of the aims of botanical science is to name plants unambiguously and to classify them in a hierarchical system that ideally reflects phylogeny. Scientific plant names are binomial, being composed of a genus name followed by a species name. The names typically describe an important aspect of the plant, its distribution, or simply commemorate a famous colleague. The Amerindian groups in Coastal Ecuador use non-hierarchical classification, although they do recognise that certain groups of plants such as palm trees are similar, however, this is not the main criterion for their naming. Inclusive categories are only erected to accommodate

variation at lower taxonomic levels such as varieties of Cassava. In many cases there is not a one-to-one correspondence between plant species and name. Plants that are obviously different but used for the same purpose may have the same name, whereas plants with multiple purposes may be named differently depending on the particular use in mind. The same plant may also change name as it passes through the different life stages from seedling to mature tree. The geographical distribution of the names is variable, too. Some plants are used and named locally by just one household whereas others are widely used and known under the same name throughout a region. The names of ritual plants that are collected more or less randomly in certain habitat types are usually not very specific nor constant. There are ways to verify indirectly the stability of a set of names provided by a given informant. Plants should be recollected during repeated field campaigns in the same area eventually using different informants. Sessions should be set up with several members of a community to see whether a plant name is in general use or has been constructed ad hoc.

Despite these ambiguities, Amerindian plant classification is by no means arbitrary. The system is in fact flexible and reflects the social situation of the Amerindians. People dispersed in small and isolated communities will invariably develop individual ethnobotanical practices and naming systems. Plant names are adjusted to the context in which they are used. The identity can be specified to a higher or lesser degree by varying the number of syllables in the name. The descriptive plant names that combine several syllables are similar to the phrase names used in pre-Linnean classification in Europe prior to the 18th century. The advantage of combining several descriptive syllables is that the identity of the plant referred to is embedded in the name. When applied, the name will immediately in-

voke an image for the recipient if he or she is knowledgeable about plants. During our ethnobotanical sessions with the Cayapas, we often overheard discussions that demonstrated the flexibility of these descriptive phrase names. It was clear that, sometimes the informants were uncertain or disagreed upon the identity of a given plant that we had collected earlier the same day. In some cases, the collection did not include sufficient information on e.g. location and growth form of the plant. In other cases, however, naming differed throughout the community. As a result of these discussions, either two names were given to the plant, or a name was agreed upon which combined the syllables of both of these. Cross checks of plants collected repeatedly during the various field campaigns revealed that plant naming was stable in general. Even some of the longer names were used in a consistent way.

Treatment

Both systemic and topical treatments of the external system may produce physiological effects. It is unlikely, however, that topical treatments of symptoms relating to the inner organs will have any effect, at least when measured by western standards. Among the Amerindian groups in Coastal Ecuador, this treatment is performed exclusively by shamans. The shaman is consulted when a disease develops into a permanently debilitating condition. The Amerindians of Coastal Ecuador often explain disease as malevolent spirits inhabiting the body as mentioned previously. Healing implies that the identity of the spirit is known and that its abode in the body has been localised. It is believed that only the shaman possesses the powers to expel the spirit. The plants that he uses in this specific context are considered worthless in the hands of persons other than him. When the same plants are used for a different purpose, however, there is no constraint as to who may use them. Curing ceremonies per-

formed by shamans are purely ritual in most cases; whatever effects they may produce are probably psychological or psychosomatic. The shaman's function is often as a spiritual advisor, rather than as a doctor.

Certain plants are less promising than others from an ethnopharmacological point of view. This applies to the majority of the plants used by the shaman and to plants that are used according to the Doctrine of Signature. It is also dubious whether plants that are used for topical treatment of symptoms of inner organs have any measurable effect. Yet, even when all these apparently physiologically inactive plants are excluded, a large number of plants still remains. Several hundred in the case of the Coaiqueres, the Cayapas and the Colorados. Usually, it is not economically feasible to analyse all these plants for active compounds. Instead, the ethnobotanical data should be screened against a number of additional criteria. The plants that comply with most of these should be given highest priority. Table 82 shows a list of species that remained after screening the collections in the present study for physiologically active plants. The indirect criteria used were: plants collected repeatedly with same information; plants used separately and not as part of a herbal mixture; plants provided with precise information on usage, dosage and contraindications; plants with a usage pattern that apparently has been independently acquired by linguistically or geographically isolated cultures; plants indicated as being poisonous.

Evidence of past cultural exchange with indigenous groups outside Coastal Ecuador

Exchange of knowledge is an important variable that determines ethnobotanical practices in an intricate manner. The regional distribution of ethnobotanical practices partly reflects cultural processes of the past. Carefully con-

ducted comparative analyses could contribute to an understanding of the relative roles of endemic ethnobotanical elements versus diffusion of knowledge across ethnic barriers. Usage patterns that cannot be predicted from inherent features of the plant and that occur repeatedly across cultural barriers, strongly suggest past exchange of knowledge.

Curing rituals

Travelling and migrating shamans often play an active role in spreading ethnobotanical knowledge. The curing ceremonies of the ethnic groups of Coastal Ecuador are dynamic, cultural features. Many similarities between the practises of the different peoples reflect recent contacts, and rituals can change dramatically in just a few decades as exemplified by the Colorados. On the other hand, some similarities between the practises of different peoples may also reflect century old contacts, or even common descent from one ethnic group.

Comparison of the curing rituals performed today with those described in the anthropological literature of the beginning of this century is a way of testing whether ritual healing and associated plant uses are stable features that characterise the various communities, or rather that they are a dynamic cultural feature that varies in both time and location. An additional benefit would be insight into the way new plant uses are implemented by a community. Barrett (1925) noticed that a number of Chocó shamans practised among the Cayapas in 1908-9. The direct contact probably ceased more than a half century ago. There exists evidence of Chocó influence today. During curing sessions Cayapa shamans still possess a hardwood staff with a carved wooded figurine. The staff is considered to house their personal tutelary spirit. Wood figurines are otherwise unknown among Ecuadorian lowland Amerindian people, but very similar figurines are standard paraphernalia among Chocó shamans (Wassen 1935,

Stout 1948, Trupp 1981), as well as among the Cunas further to the north in Panama and nearby Colombia. Furthermore it is noticeable that both the Cayapa and the Chocó Indians include antique Spanish sables among their preferred paraphernalia. With the Coaiqueres this kind of exchange is more unlikely. According to Kempf (1982) most households have at least one male member that is trained as a shaman and often as a matter of social obligation. The training is rather informal, comprised of instruction lasting only three days. Curing is regarded as bothersome work and the shamans do not enjoy any special status.

The Cayapas share some elements of the described shamanistic rituals both with the Colorados and with the Otavalos, who are geographically the nearest indigenous people in the Andean highlands. This applies particularly to the use of paraphernalia and the way that these are handled during the healing sessions. Colorados (Hagen 1939) and Otavalos (Lopez 1986) also organise their paraphernalia at a low table in front of them, and they attach special importance to rounded, black river stones of volcanic origin. All three peoples believe that these stones house powerful spirits useful to the shaman as tutelary spirits. This reflects that volcanoes are important in their mythology. During the healing rituals that we attended among the Cayapas the name of the vulcano *Imbabura* was repeatedly used as a conjuration. *Imbabura* is the nearest vulcano of the western Andean cordillera and it is considered a sacred mountain by the Otavalos. According to the mythology of the Colorados numerous spirits reside in the vulcanos of Cotopaxi and Chimborazo south of *Imbabura*. The way that all three groups organise their altar and worship the volcanoes may reflect pre-colombian contacts between the ancestors of the Cayapas, Colorados and Otavalos – possibly at a time when the former two groups lived nearer the highlands and when they all may have spoken related Chibcha languages.

Curing rituals and certain ethnobotanical patterns suggest the presence of both ancient and recent contacts between the cultures in Coastal Ecuador. The Cayapas currently interact with the African Ecuadorian colonisers who have settled throughout their territory. This ethnic group constitutes a majority in the Ecuadorian Province of Esmeraldas. The first Africans fled from slavery and miserable living conditions and founded colonies in the coastal areas of western and northern South America. In Ecuador, they settled in the northern part of the coastal plain. The colony continued to attract emigrants of African origin even after slavery was abolished.

The curing ceremony that we attended in 1983, took place in a fairly isolated Cayapa community. The rituals that we saw performed have probably changed little since the beginning of this century. In contrast, a comparison with older and more recent literature suggests that the Colorado rituals have changed dramatically. Karsten (1924) described a nocturnal curing ritual in which the shaman used three black stones, a drum, a rattle, and a number of candles. Everybody who attended drunk *nepé* (the Colorado name for Ayahuasca) and danced around the patient. At the end of the session the shaman presented a spine of the *chonta* palm (*Bactris gasipaes*) and claimed he had extracted it from the patient. The spine was supposed to be a magic arrow that had caused the disease. Magic arrows are important in the mythology of indigenous highland people, e.g. the Otavalos, and this ritual also suggests early Colorado contacts with the highland. Since then the Colorados have integrated additional practices from highland indigenous healers, e.g. to rub the affected area of the patient with an egg in order to transfer the malevolent spirit from the patient to the egg (Trupp 1981).

In recent decades, so-called warm and hot plant baths have become an important ele-

ment of Colorado curing ceremonies. Earlier authors reporting on the Colorados (Hagen 1939; Karsten 1924; Rivet 1909) do not mention this practise which apparently has developed since. The warm baths are similar to the steam bath that was demonstrated to us by the Cayapa Amerindians, whereas the cold baths often take place in small ponds close to the river (Lopez 1986). The steam bath ritual was probably introduced to the Cayapas by the Colorado shamans very recently. We only observed it in Zapallo Grande which has extended contacts with the exterior. In remote and isolated Cayapa communities such as along the Río Bolborde we never heard of such practices.

The exact origin of the plant baths is uncertain but again it may have been inspired by contacts with indigenous healers in the Andean highlands. Illness is generally explained by a disharmony between the *cold* and the *warm* principle. To stay healthy, highland indigenous people must maintain a balanced diet of items considered as *cold* and *warm*, respectively. The Colorados and the Cayapas have adapted only the part of this philosophy that relates to the bath treatment of certain ailments.

The African Ecuadorian population on the coast also have their own shamans, and live intermixed with the Cayapas along the lower parts of the Cayapa river system. Barrett (1925) noticed that in these communities shamans with a good reputation occasionally treat patients of the other ethnic group, and this is still the case. To what extent this has influenced the Cayapa curing rituals is unclear, but one introduction from the black population is the marimba – a keyboard instrument – which is found in many Cayapa houses, as well as among Colorados and Coaiquer. Apart from this example, it is difficult to trace how the Coaiquer rituals have been influenced by other groups and vice versa. The Coaiqueres do not use hallucinogenic plants during curing ceremonies, but everyone present drinks trago

(sugar cane brandy). This distinguishes them from all other Amerindian groups in Coastal Ecuador (Kvist & Holm-Nielsen 1987; Naranjo 1983). Dancing to marimba music is an important part of Coaiquer curing ceremonies (Kempf 1982). In general, the function of the shamans is less specialised compared to the Cayapas and the Colorados. According to Ehrenreich (1989), skilled shamans were not among the Coaiques that settled in Ecuador at the beginning of this century. In the San Marcos valley, one adult male member of almost every household has been trained as a shaman (Kempf 1982).

Botanical evidence

A few examples of botanical evidence of old cultural connections exist. This applies in particular to some domesticated plants. *Psychotria viridis* is cultivated by the Cayapas who mix the leaves with the stems of *Banisteriopsis caapi* when they prepare pindé (ayahuasca). It is not native to the coastal region of Ecuador and may have been introduced from Amazonian Ecuador (Rivier & Lindgren 1972). *Psychotria viridis* has hallucinogenic effects in itself and is used for this reason by Amazonian Amerindians. The fish poisons *Clibadium asperum* and *Lonchocarpus nicou* may also have been introduced to the coast. The Colorados grow both plants that according to Murra (1948) were introduced from the Amazon region along with other ichthyotoxic plants.

The importance of the Gesneriaceae for treating snake bites is puzzling. In the case of the genus *Columnnea* the Doctrine of Signatures may provide some of the explanation. The representatives of the largest section of Coastal Ecuador all have leaf apices and leaf margins that are bright red on the lower leaf surfaces (Kvist & Skog 1993). The Amerindians draw a parallel between these leaf variegation patterns and the bites of the haemolytic vipers which often cause excessive bleeding. But this is only

part of the explanation. Other species of *Columnnea* and Gesneriaceae serve the same purpose without having variegated leaves. The Amerindians rarely make mistakes when distinguishing between the Gesneriaceae and other morphologically similar groups such as the Acanthaceae that are not used for treating snake bites. A number of Gesneriaceae are used for treating snake bites by the African Ecuadorian population that lives on the Pacific coast of Colombia along Río Tataboa west of Cali (Kvist, unpublished data from 1991). The Chocó and Cuna Amerindians of western Colombia and Panama have been reported to use some Gesneriaceae too (Duke 1970, 1975; Forero P. 1980). This is in contrast to the Amerindian groups of the Amazon region who rarely use Gesneriaceae for snake bites (Kvist 1986, 1989). Two Gesneriaceae were claimed to be particularly valuable. One is *Chrysothemis friedrichsthaliana* which is used in snake bite therapy by both the Cayapas in Ecuador and the Cuna and Chocó Amerindians of Panama (Duke 1970, 1975). The other one is a hybrid of *Kohleria* grown as a febrifuge both by the Colorados and the Cayapas. It is widely cultivated in north-western South America.

Plants that are used for poisoning fish are generally known in South America as barbasco. The little known barbasco, *Sapium peruvianum*, is shared between the Colorados and Coaiques. All the Amerindians of Coastal Ecuador use *Phyllanthus anisolobus* which serves the same purpose. Species of *Phyllanthus* are generally used for fish poison in South America. Only the Colorados use *Lonchocarpus sp.* and *Clibadium sp.* as barbasco. They are often cultivated around the dwellings. Both species have undoubtedly been introduced from the Amazon where they are commonly used for fishing. A comprehensive discussion of fish poisons or barbasco among South American Indians can be found in Acevedo-Rodríguez (1990).

The plant uses classified under social prod-

ucts generally suggest that little exchange has taken place between the Amerindian groups of Coastal Ecuador. A few plants are however exploited in similar ways throughout a vast region. This applies to *Banesteriopsis caapi* from which the hallucinogenic decoction known as Ayahuasca in Quichua is prepared. Ayahuasca drinking is widespread among Amerindian people in north-western South America (Rivier & Lindgren 1972). The Colorados do not add other plants to their Ayahuasca preparations whereas the Cayapas mix in plants allegedly to adjust the effect or to remove the bitter taste. One of the plants that the Cayapas use in this way is *Psychotria viridis*. Only the Cayapas in Coastal Ecuador use *Brugmansia* as a hallucinogenic plant. The range of this usage pattern is restricted to people living in or near the Andean cordilleras (Lockwood 1979). It is a very powerful and dangerous drug that is used in connection with certain rituals performed by shamans. All the Amerindian groups in Coastal Ecuador use *Brugmansia* for medicinal purposes, however (see Tables 36, 52, 53, 55, 72). Several Amerindian people in western Amazonia produce an extract from the seed of *Persea americana* which is used as a contraceptive or sometimes, as a sterilising agent (Kvist & Holm-Nielsen 1987).

Exchanges between the Colorado, Cayapa and Coaiquer Amerindians are suggested in

particular by the use of *Streptochaeta* to remove facial hair (the former two groups), the use of ferns to promote hair growth (all three groups), the use of ferns mixed with fat for food (the latter two groups) and the use of *Sapium* as a fish poison (the former two groups).

The use of numerous plants and particularly the Gesneriaceae as snake bite remedies also unite the three Amerindian groups of Coastal Ecuador. The African Ecuadorian populations along the Pacific coast to the north and to a lesser extent the Chocó and the Cuna Amerindians share this practise too. Regional exchanges along the Pacific coast, from Ecuador and north to Panama, are also indicated by the use of the latex of *Naucleopsis* for arrow poison and by the cultivation of *Piper tricuspe* that is used to kill lice etc. Regional contacts across the Andes to the western part of the Amazon Basin are suggested by the use of several hallucinogenics and fish poisons as well as the use of *Persea americana* for contraception. Finally, a considerable number of medicinal plants used by the Amerindian people in Coastal Ecuador are also widely used throughout northern South America. Some of these were mentioned by Kvist & Holm-Nielsen (1987): *Aclepias curassavica*, *Cassia reticulata*, *Chlorophora tinctoria*, *Ficus insipida*, *Jatropha curcas*, *Paspalum conjugatum*, *Scoparia dulcis* and *Zingiber officinale*.

VII General conclusions

A comparison of the results obtained from the three groups of coastal Indians in Ecuador is complicated. Not only is the level of ethnobotanical knowledge variable within a single indigenous community, but certain aspects may even differ within the same village or across generations in the same household. The sample size is too small to give a precise description of the enormous variation encountered. More information is needed on ethnobotanical practices within-communities and between-communities. A number of general conclusions can be inferred from the results obtained, however.

Certain usage patterns are likely to develop due to inherent features of the plants. This is certainly the case with plants exploited for their chemical, nutritional or structural properties. Experiments with the surrounding flora are constantly being conducted. New fruits are discovered; previously unknown medical properties of a plant are realised; fibre plants are tested that have not been used before; etc. The present study clearly demonstrates that independently acquired knowledge is an important determinant of usage patterns but that exchange of knowledge across linguistic barriers is also important. Knowledge that is generated within a narrow social context, for example based on experiments, will add distinctive features to an ethnobotanical pattern, whereas knowledge that has been exchanged across cultural boundaries often will have the opposite effect. It is surprising that more exchange apparently has occurred at the regional level than locally between three geographically adjacent and culturally related ethnic groups.

The category to which most uses have been referred overall is topical treatment of snakebites. Other important usage categories are topical treatment of ailments of a general na-

ture such as miscellaneous pains and indisposition. The Colorados use numerous plants in baths that aim at regulating body temperature. Palms constitute the most important group of plants exploited for their structural properties. Most species are used for multiple purposes. The importance of palms rapidly decline with increasing acculturation and integration into a market economy. Three groups of plants invariably rank among the four most important based on an utilitarian criterion: vascular cryptogams, Piperaceae and Gesneriaceae. These families are mainly exploited ethnomedicinally.

The degree of congruency between the plants listed under given usage categories for different indigenous groups increases with the taxonomic level chosen for the comparison. Whereas less than five percent of the plants roughly estimated are shared between the three groups at the species level, similar patterns appear when comparisons are conducted at the family level. We have identified a wide range of usage patterns at this level ranging from very constant in both time and space to recently acquired and quite labile. This applies particularly to the ethnomedicinal applications. The usage patterns of medicinal plants are a function of both cultural variables and variables inherent to the plant. For plants with obvious beneficial effects on an ailment, a use will have a better chance of developing and can more or less be predicted in communities that constantly experiment with the surrounding flora. For species that are used as part of a cultural pattern, other factors influence the plants chosen for curing. Common species are more likely to be used than rarer species. Terrestrial herbs are more likely to be used than e.g. epiphytes because the latter are more difficult to

collect. Whereas some plants apparently are collected more or less at random others are collected according to the Doctrine of Signature which invariably adds a certain degree of predictability to the selection of medicinal plants.

The plant usage patterns of the three Amerindian groups studied strongly reflect their present cultural and socio-economic situation. The Coaiqueres live in an undisturbed environment surrounded by a very diverse forest. They have been isolated from other cultures until recently. Their ethnomedicine is apparently less constant and more experimenting when compared with the other Amerindian groups studied. Although the material culture of the Coaiqueres seems simple, they have thorough ecological insight that enables them to manage a fragile ecosystem in a sustainable manner. The Colorados represent another extreme. This group is generally well integrated into the Ecuadorian society. They live in an area where most of the forest has been cleared. Very little remains of their original material culture. Colorado ethnomedicine is elaborate and is based on a sophisticated classification system. A number of shamans and shaman apprentices practice outside of the community in most regions of Ecuador and even abroad. These have probably included several exotic elements in the original ethnomedicine. The ritual curing resembles that of the Quichua

speaking tribes of the Andean highlands. This applies especially to the body temperature curing system. The Colorados deviate in many aspects from their indigenous neighbours in their ethnobotanical practices.

Most Cayapas are settled in villages along the Cayapa and Santiago rivers. Their territories were recently opened to the operation of logging companies. Impoverishment of the plant resources is occurring at an alarming rate. The ethnobotanical knowledge basis varies from one community to another. The Cayapas we worked with had an intimate knowledge about the plants that surround them. Their material culture has changed little since Barrett described it in 1920's, but it is in the process of disappearing. Cayapa ethnomedicine and the naming of plants is just as sophisticated as that of the Colorados.

Several things prevent us from making conclusions on the relative roles of cultural variables and plant inherent variables on ethnomedicinal practices. Basically we do not know whether a plant has the alleged effect or not or whether it is more powerful than any other randomly selected plant. We often assume that people use the plants that serve their purpose best. But this may not be the case with many medicinal plants and plants that are used during curing ceremonies. The opposite is also possible – that otherwise useful species are avoided because of taboos.

VIII Acknowledgements

Without the unconditional help and warm friendship offered by the informants mentioned in Table 1 this study would not have been possible. It should be stressed that all intellectual rights to the information presented

in this paper remain with the indigenous communities in Ecuador. Mr. and Mrs. Rev. Meisenheimer are thanked for accommodation while staying in Zapallo Grande. We also thank our field companions Dorte C. Nissen, Lauritz B.

Holm-Nielsen, Eduardo Asanza and Flemming Skov who, besides their dedication to the fieldwork, encouraged us all the way. We thank Dir. Oluf Holm for establishing the first contacts with the Colorados and for maintaining an ever so strong interest in our work. He has contributed with many interesting discussions in his office at the Anthropological Museum in Guayaquil. The work was supported financially by Museo Antropologico in Guayaquil and the Department of Systematic botany at Aarhus University which is gratefully appreciated. We received valuable advise on medical matters from the physician Dominick Rizzi. Pamela Hall commented on the manuscript and Denise Sanchez Barfod provided linguistic assistance. The abstract was translated to Spanish by Juan Manual Macía.

Thanks is due to the following experts who helped in the identification of the collections (appearing in alphabetical order): Acevedo, R. (Sapindaceae), Alverson, B. (Bombacaceae), Andersson, L. (Heliconiaceae, Marantaceae), Barnaby, R. (Menispermaceae, Caesalpinaceae), Berg, C. C. (Moraceae, Urticaceae), Boom, B. (Rubiaceae), Callejas, R. (Piperaceae), Croat, T. (Araceae), Daly, D. (Bursera-

ceae), Dodson, C. H. (Orchidaceae), Eliasson, U. (Phytolaccaceae), Eriksson, R. (Cyclanthaceae), Escobar, L. (Passifloraceae), Fryxell, P. (Malvaceae), Gale, N. (Rubiaceae), Gentry, A. (Bignoniaceae), Harley, R. M. (Lamiaceae), Holm-Nielsen L. B. (aquatic plants), Huft, M. J. (Euphorbiaceae), Hunt, D. R. (Commelinaceae), Iltis, H. H. (Capparidaceae), Jørgensen, P. M. (Passifloraceae), Judziewicz, E. (Poaceae), Knapp, S. (Solanaceae), Kuijt, J. (Loranthaceae), Læggaard, S. (Poaceae, Cyperaceae), Leeuwenberg, A. J. M. (Apocynaceae), Liesner, R. (Lacistemataceae), Lourteig, A. (Onagraceae), Luteyn, J. (Ericaceae, Campanulaceae), Luther, H. (Bromeliaceae), Maas, P. J. M. (Zingiberaceae), Madsen, J. (Cactaceae), Miller, J. (Myrtaceae), Moran, R. (Pteridophytes), Mori, S. (Lecytidaceae), Nissen, D. C. (Pteridophytes), Øllgaard, B. (Pteridophytes), Palacios, W. (Meliaceae), Pedersen, T. M. (Amaranthaceae), Pennington, T. D. (Sapotaceae), Plowman, T. (Erythroxylaceae, Solanaceae), Renner, S. (Melastomaceae), Stolze, R. G. (Pteridophytes), Ståhl, B. (Theophrastaceae), Taylor, C. M. (Rubiaceae), Todzia, C. (Chloranthaceae), Wasshausen, D. (Acanthaceae), Zardini, E. (Onagraceae).

IX Figures 1-20

Photos by A.S. Barfod and L.P. Kvist



Maclovio Añaña (left) and the shaman Maritimo involved in an ethnobotanical discussion. Their contribution to this study was invaluable.

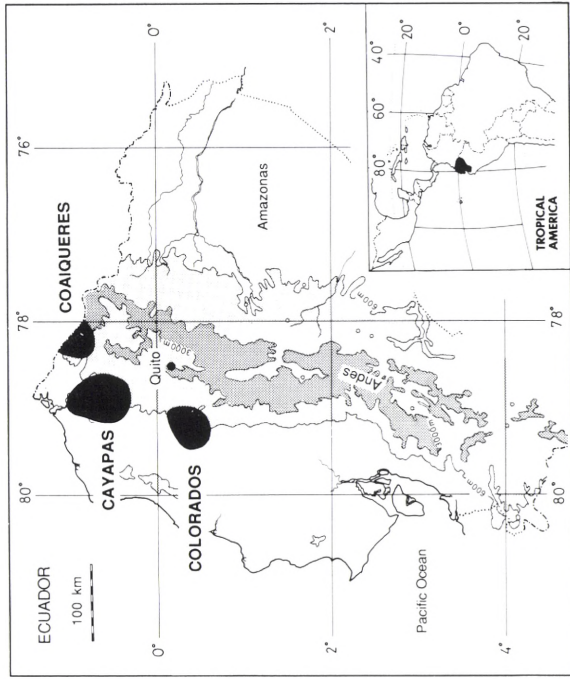


Fig. 1. Barford & Kvist, februar 1995

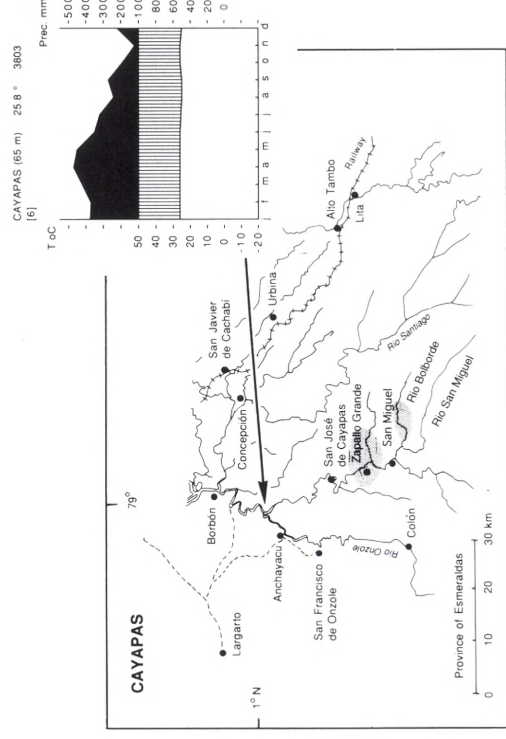
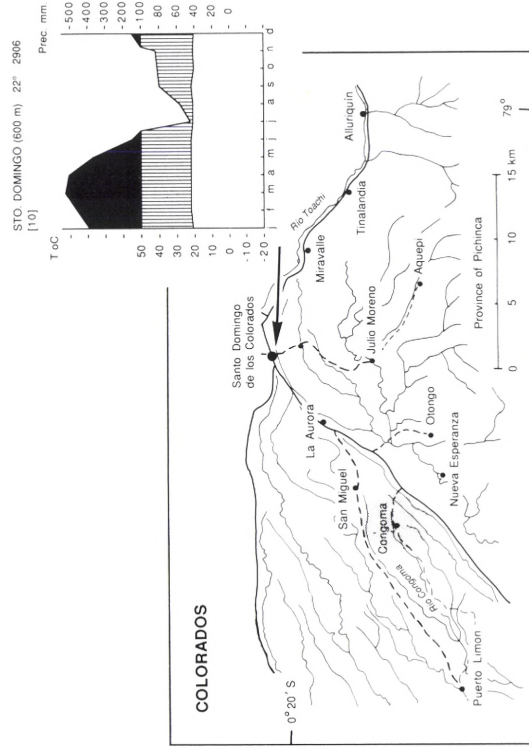
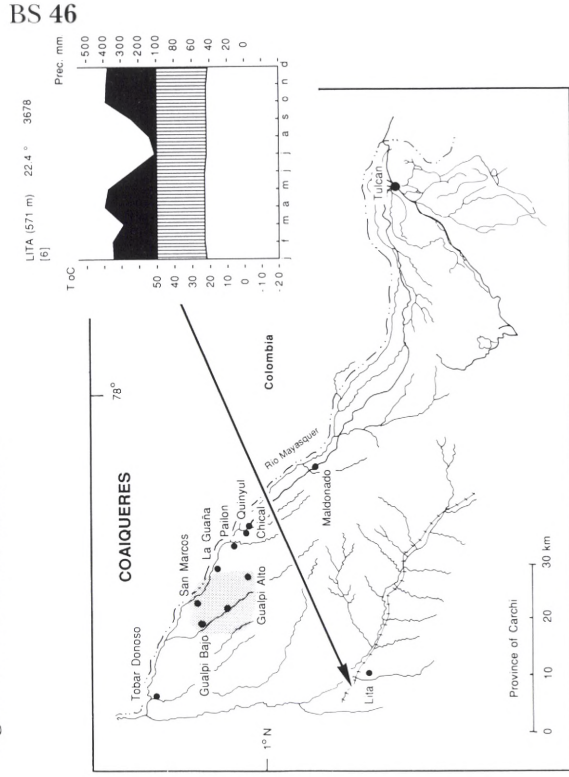


Fig. 1. Map showing the location of the three indigenous groups with which the ethnobotanical studies were conducted. The shaded areas on the detailed maps indicate the approximate range of the field campaigns. Climatic diagrams are given for stations nearby. The location of these is shown with arrows. The data were extracted from Cañas C., L. (1983).

Fig. 2. Barfod & Kvist, februar 1995

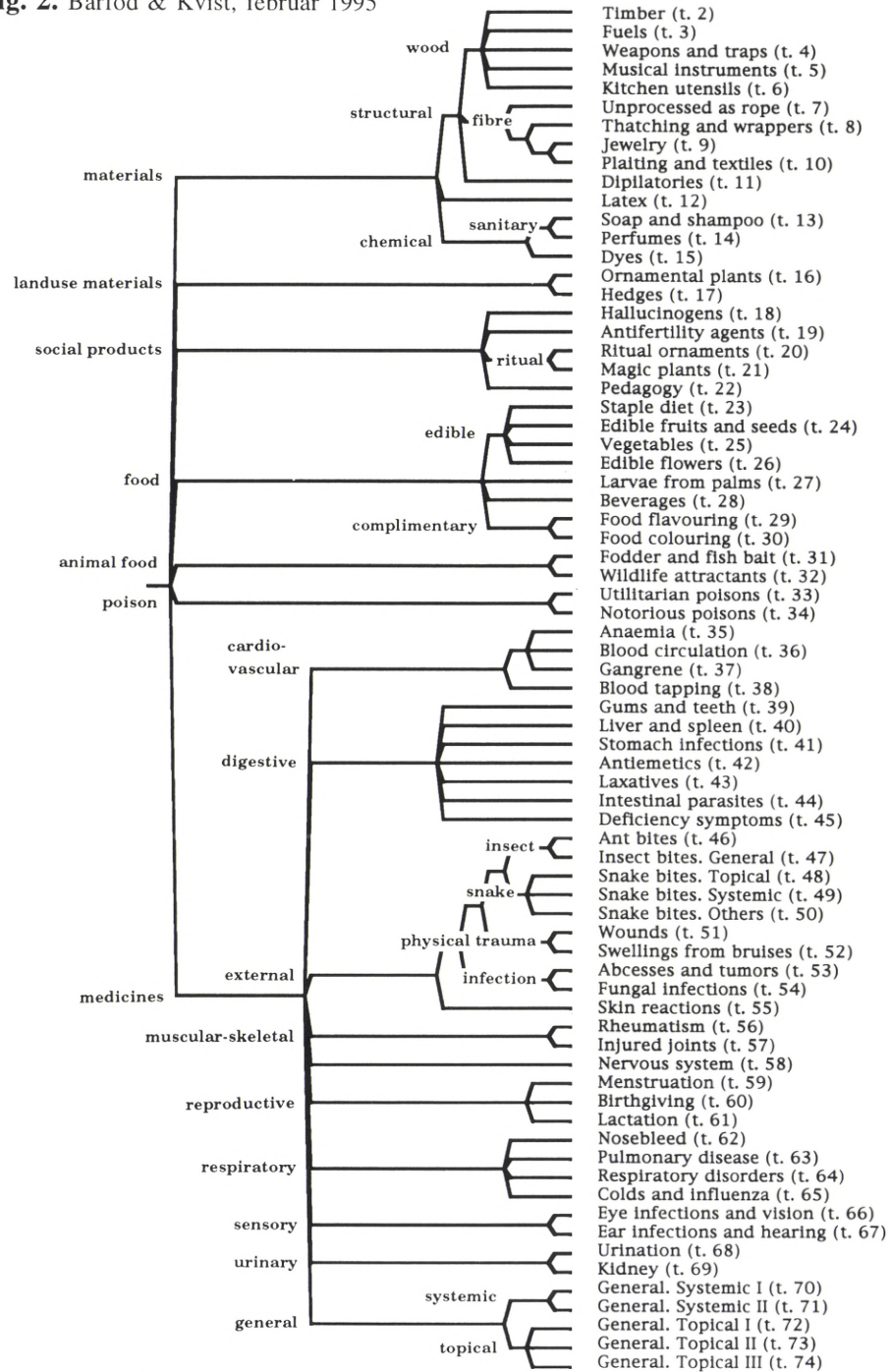


Fig. 2. The usage categories used in this paper and their hierarchical organisation. In parentheses is referred to the Table for the usage category in question.



Fig. 3. Cayapas. – A. Zapallo Grande. Cayapa children playing with the children of settlers. The vast majority of the population in the Province of Esmeraldas are of African origin. The African Ecuadorians settle ever more deep inside the Cayapa territory. In most communities, the two ethnic groups live in peaceful co-existence but social friction's do surface at times – B. A traditional Cayapa dwelling on posts. Note the palm thatch and the open design. The only room with walls in the hut is for sleeping. – C. A modern Cayapa house at the evangelical mission station in Zapallo Grande. The architectural design corresponds to that found elsewhere in rural Ecuador. Note the zinc roof and the general emphasis on privacy, quite unfamiliar to traditional Cayapa culture.

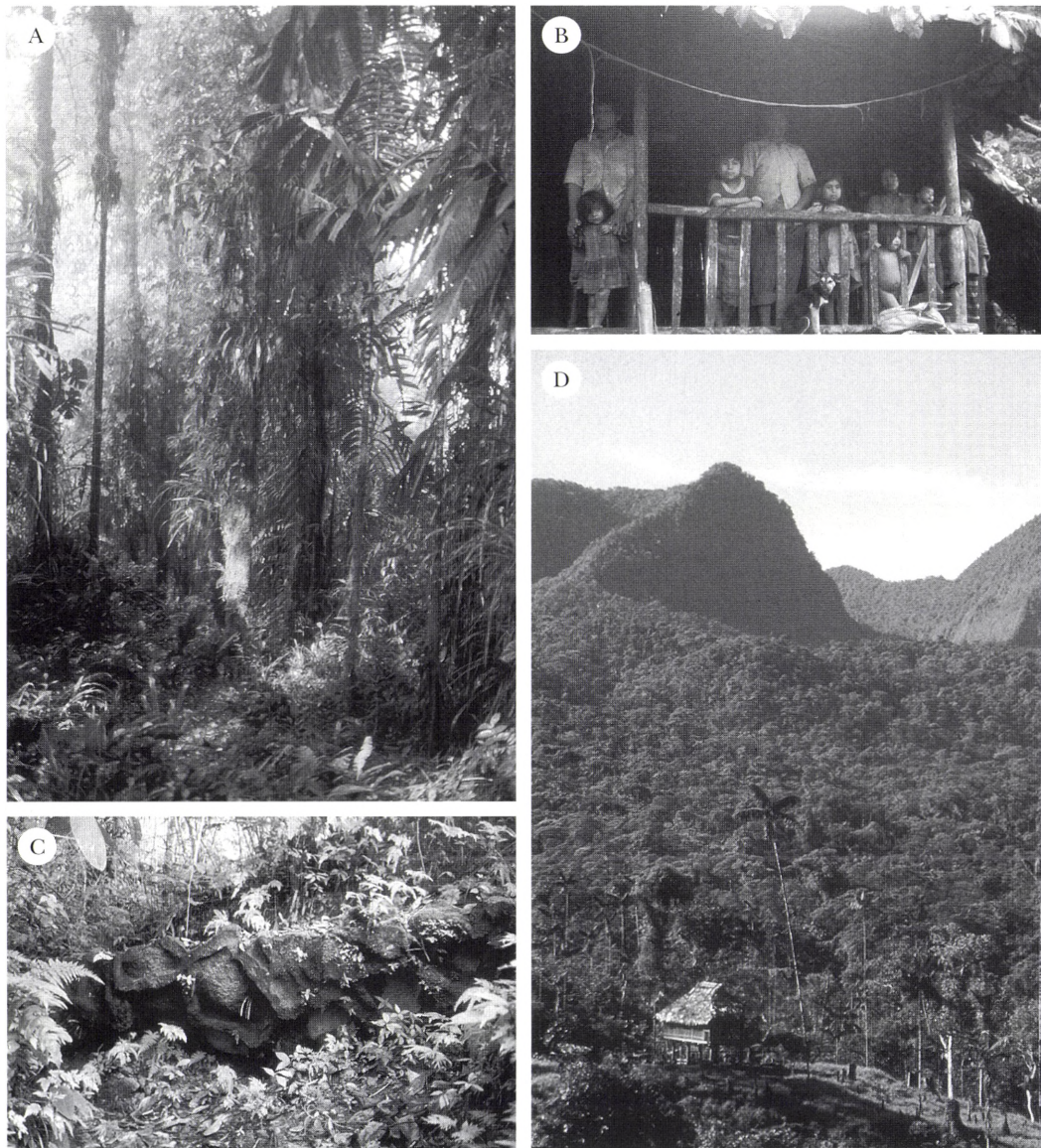


Fig. 4. Coaiqueres. – A. The forest surrounding the Coaiqueres in the Ecuadorian Province of Carchi is very humid and species rich. This picture shows one of the wettest localities on the San Marcos Gualpi Bajo trail in 600 m's altitude. The structure of the forest is characteristic having few tall, large diameter trees. The trees are dispersed in comparison to typical lowland forest and heavily loaded with epiphytes. – B. Don Ignacio, Capitan of the Coaiqueres in the San Marcos valley where the largest concentration of Coaiqueres south of the border with Colombia is found. – C. The remnants of presumably an outpost erected by the Incas in Quinyul. This may indicate the western limit of the Inca occupation in Carchi. – D. View from the highest point at 1000 m's altitude on the Pailon-Gualpi Alto trail. In the foreground is a Coaiquer dwelling.

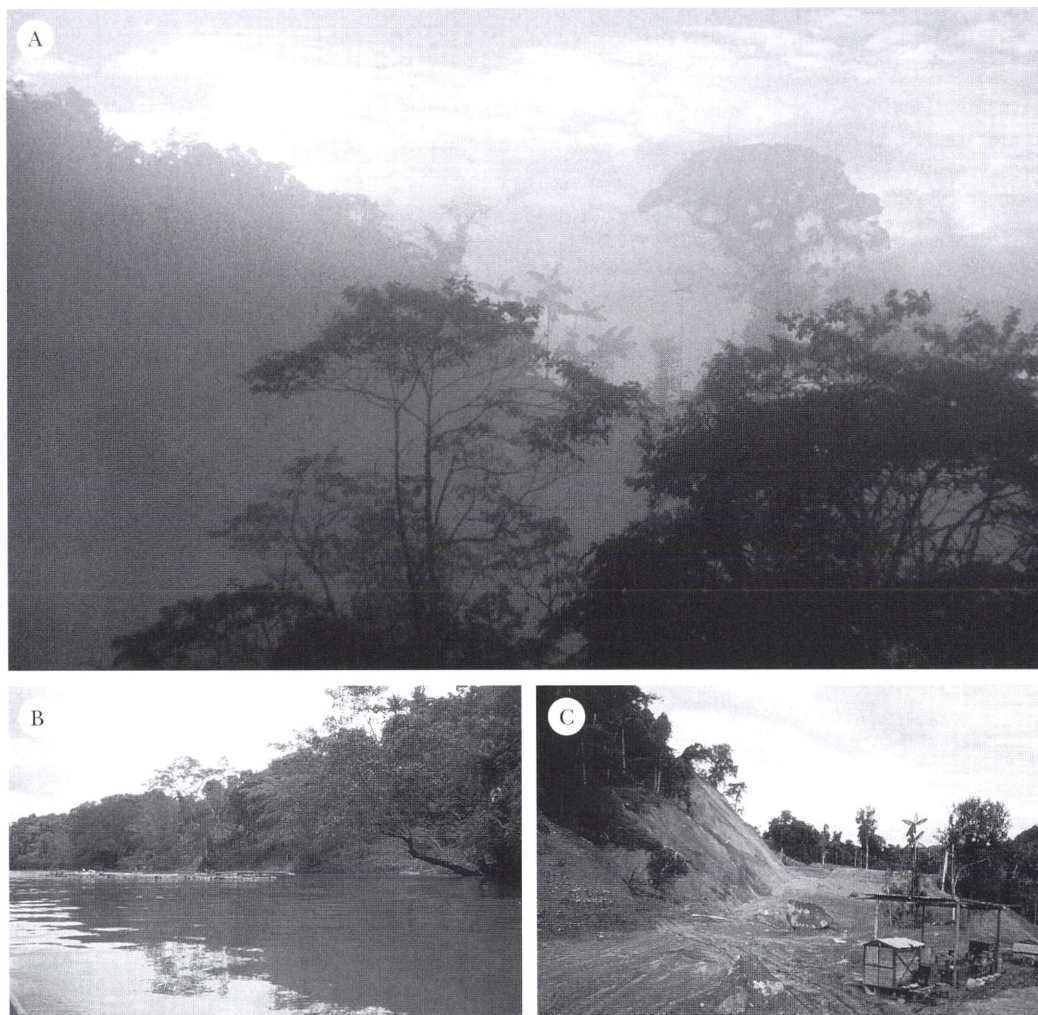


Fig. 5. – A. Pluvial forest at dawn near Gualpi in the Coaiquer territory. – B. Timber harvesting along the Río Cayapas and its tributaries. Independent lumber men harvest timber far up in the Cayapa river system and float the trunks downstream to the sawmills near Borbón tied together in gigantic rafts. Selective cutting of timber trees occurs illegally within the limits of the Cotocachi-Cayapa National Parc. – C. Road building 5 km west of Lita. This road has opened new land to uncontrolled colonisation and conversion of the forest into fields and pastures.



Fig. 6. Plants used for their structural properties. – A. The house of the canoe builders in Zapallo Grande, a mixed Cayapa-African Ecuadorian community near an evangelical mission. The canoes in front of the dwelling are made of a yet unidentified species of Lauraceae called *djuin-chi* and a species of *Protium* called *supla-chi*. – B. The Coaiquer Indians frequently cross the Río San Juan using rafts made of *Ochroma pyramidale*. The river constitutes the border with adjacent Colombia. – C. Sapotaceous species are used for firewood by the Coaiqueres and the Cayapas. The wood is flammable when green. – D. The Coaiqueres still use blowguns when hunting canopy species such as monkeys and many species of birds.

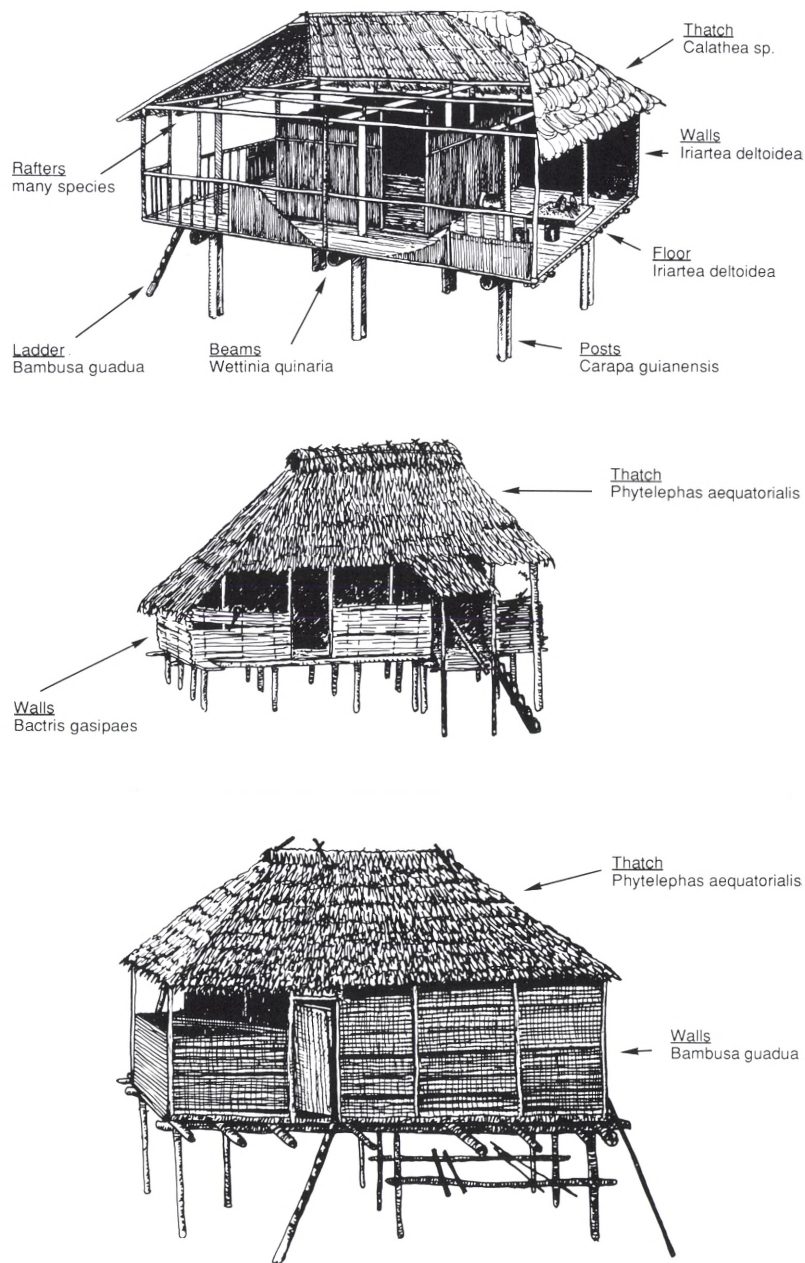


Fig. 7. – Plants used for their structural properties. Construction. Three types of huts all constructed on posts. The upper one is the traditional Coaiquer dwelling with *Calathea* thatch. The middle one is the traditional Cayapa hut with palm thatch. The open design is characteristic of both of these. They are typical of large family units that live scattered in the forest or along rivers. The architecture of the bottom Cayapa hut is the result of life in a village situation. The design is more private and a door is present. The traditional thatch is maintained. Bamboo walls like those seen here are frequently found in the houses of the African Ecuadorian settlers too (drawings by K. Thomsen and K. Worm).

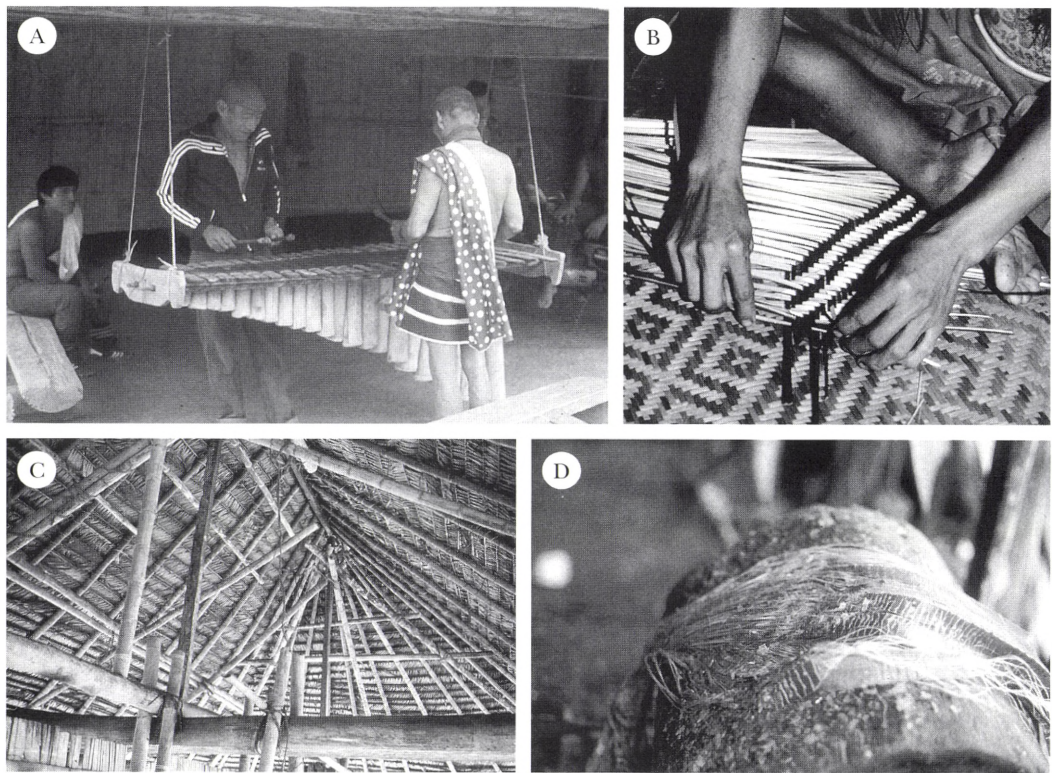


Fig. 8. Plants used for their structural properties. – A. The Marimba is common among all the indigenous groups of Ecuador. It was probably introduced via the African Ecuadorians from the Caribbeans. The keys are made of the heavy and durable wood from certain palm species and the tubes underneath amplifying the sound are produced from the internodes of *Bambusa guadua*. – B. The Cayapas use *Cardulovica palmata* for a wide range of plaited items that are used in daily life such as containers, mats, fans etc. They also produce handicrafts that are sold to tourists. – C. *Phytelphas aequatorialis* thatch. The leaf rachis is split longitudinally and the halves are placed on top of each other and fastened to the rafters with pieces of liana. The pinnae are sometimes braided in ceremonial houses. – D. Fibres are extracted from a leaf of *Aechmea magdalena* using a stick or wooden mallet. They are used to make a fine but strong string that is very suitable for fishing nets.



Fig. 9. Bark cloth (A-C) and Latex (D). – A. The moraceous species *Poulsenia armata* is used to make bark cloth. The fibres are derived from the inner bark as shown on this picture. – B. After extraction the fibres are freed from the bark by pounding, usually with a wooden stick. – C. Bark cloth as shown here is treated like felt. Several pieces can be joined simply by putting one piece on top of the other and pounding them until they become inseparable. – Latex. D. A latex is extracted from the inner bark of *Castilla elastica* (Moraceae). It is used for waterproofing of canoes and for making blowgun pipes airtight.

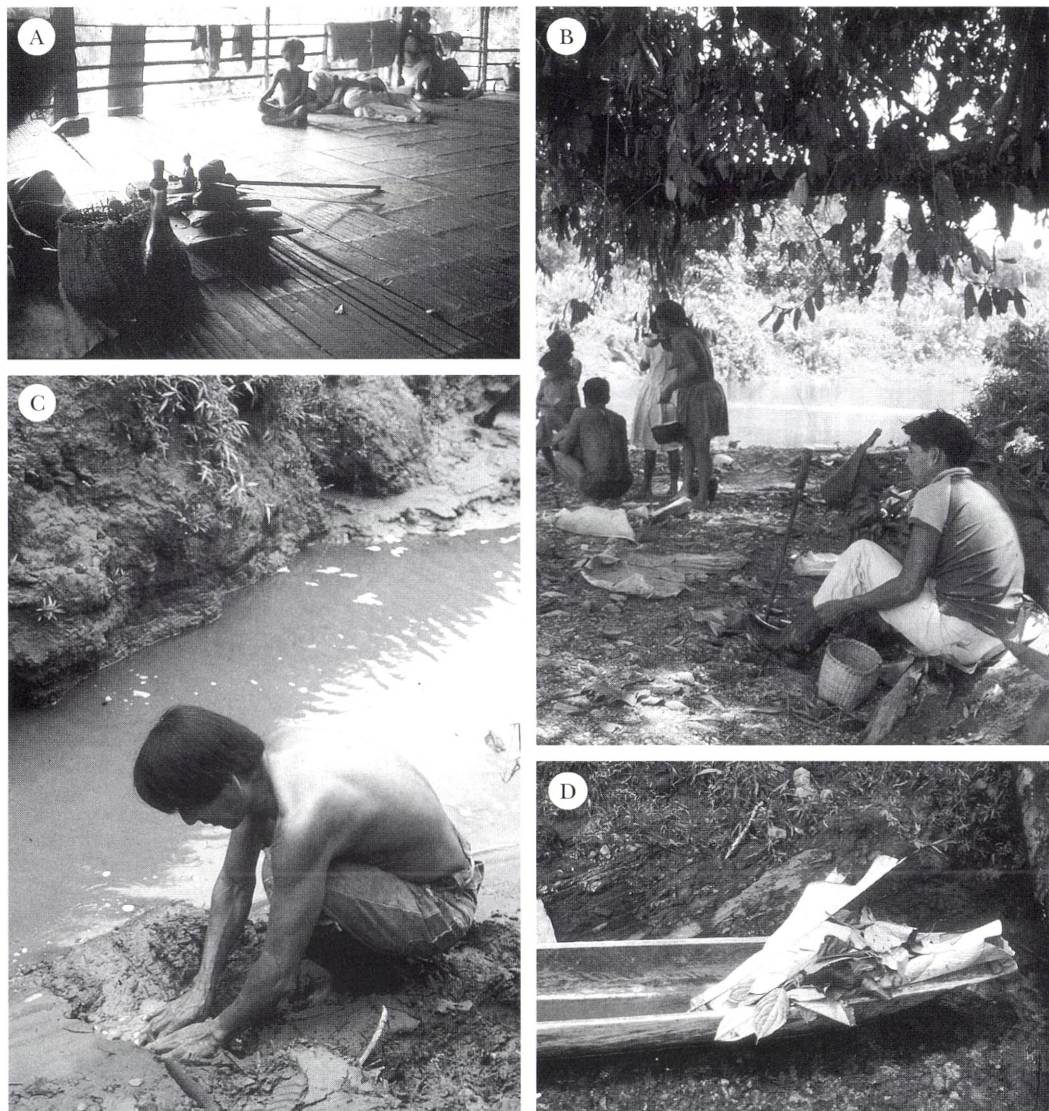


Fig. 10. Shamanism and ritual healing. Cayapa. – A. The shaman's altar. Note the nicely arranged items that supposedly house the powerful tutelary spirits. In the foreground is the bottle containing *pindé*. The patient is sleeping on the floor surrounded by his family members after a nocturnal healing. B. A shaman assists at a curing ritual performed in the morning on a riverbank. He does not participate directly in the healing but sits at a distance while members of the family perform the rituals. The shaman is surrounded by his tutelary spirits which dwell in his wooden cane and in the river stones in the basket. C. The Cayapas draw a parallel between the stomach and the river; both systems transport matters in an unidirectional, closed way. Plants that grow near the river and especially rheophytes are considered beneficial for stomach conditions. As part of the preparation the plants are soaked in a small water filled hole made by hand and situated close to the river. D. Plant material collected by the shaman for the riverbank ritual. It is used for a decoctions applied to the patient and for massage. The plants allegedly have no effect when used by layman.



Fig. 11. Coaiqueres. Agriculture. – A. Slash-and-mulch field about eight months after clearing. Corn has been sown directly in the up to one meter deep brushwood and the scattered plants are now visible. In the background is a banana field. Note also the single individual of the palm tree *Wettinia quinaria* that has been left for later use as timber in house constructions. – B. Sugarcane is often cultivated by the Coaiqueres. A big part of the harvest is used to make a fermented drink called goaripo. This can be further processed into trago or brandy in primitive wooden distilleries. Here two men share a drink early in the morning in San Marcos. Behind them, in front of the church, there is a sugarcane field. – C. Clearing made for slash-and-mulch agriculture. Species of *Vismia* with whitish or ferruginous undersides of the leaves are well represented on this plot probably because the forest is in a young successional stage after a previous clearing.



Fig. 12. – A. *Clusia* sp. (voucher no. 48932) is one of the many plants referred to as *wildlife attractants* (see Table 32) by the Coaiqueres. Birds feed on the fruits and thereby act as the dispersal agent. The category comprises both plants attracting game and plants interacting with animals in a particular way. – B. The seeds of the cycad *Zamia lindenii* or *sa-oo-pa-chi* are ground into a flour used for a special kind of bread by the Cayapas. – C. The larvae of the Curculionid beetle, *Rhynchophorus palmarum*, is considered a great delicacy by the Cayapas and the Coaiqueres. It is collected on the partly decomposed stem of certain species of palms such as *Iriartea* and *Bactris*. – D. *Iriartea deltoidea* is a truly multiple purpose palm. It serves as timber for construction, traps, weapons and musical instruments. The palm heart is eaten and, edible larvae are collected from decomposing stems.

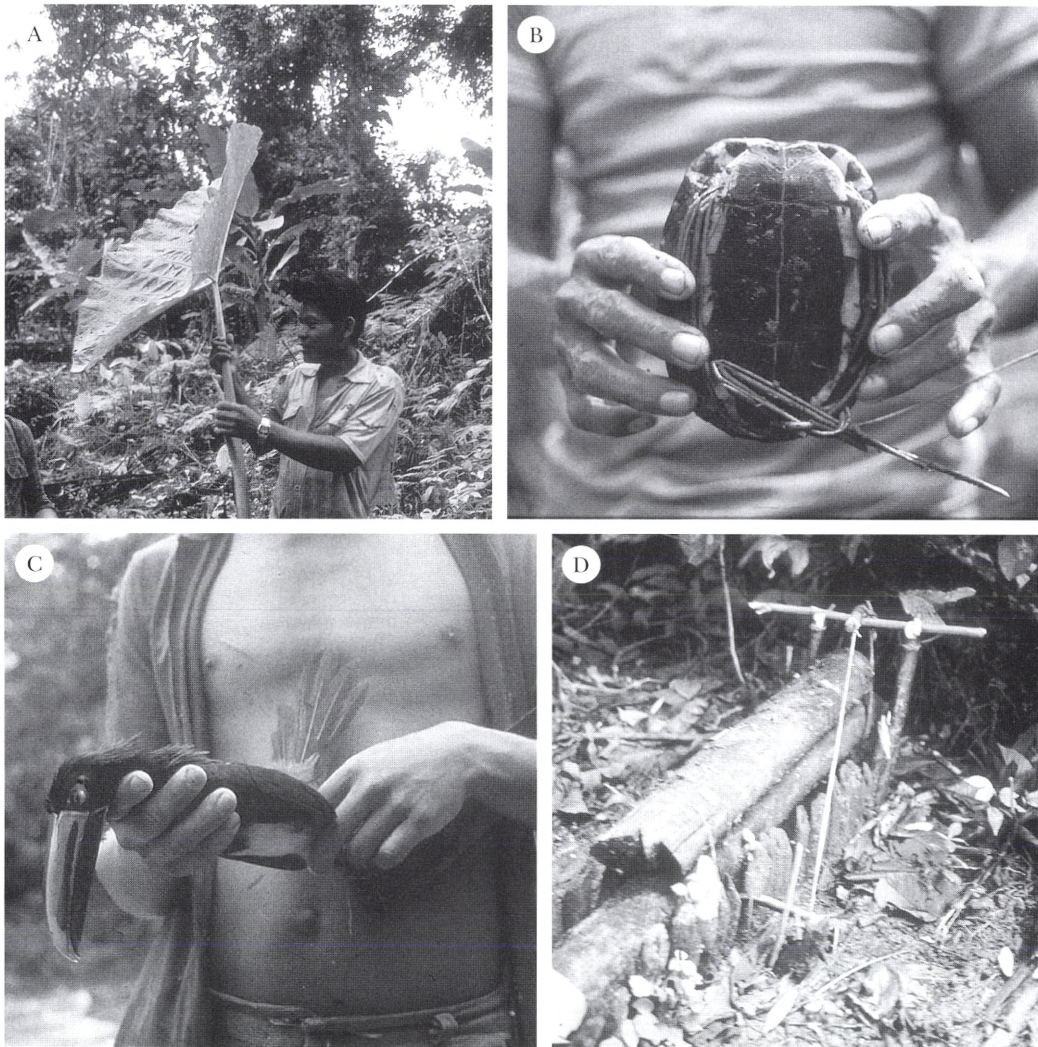


Fig. 13. Hunting. – A. *Xanthosoma daguense* is known by the Cayapas to attract turtles which are said to eat the fleshy rhizome. – B. A turtle caught by a Cayapa for eating. The liana wound around the head and leg openings prevents it from escaping. – C. Coaiquer. Toucan shot with a muzzle loader. These outdated weapons are replacing the traditional blowguns in many communities despite the fact that they are imprecise and emit a deafening noise when fired. – D. Cayapa. Trap used to catch small rodents and opossums. A trigger mechanism releases the suspended piece of heavy palm timber that falls down and prevents the animal from escaping.

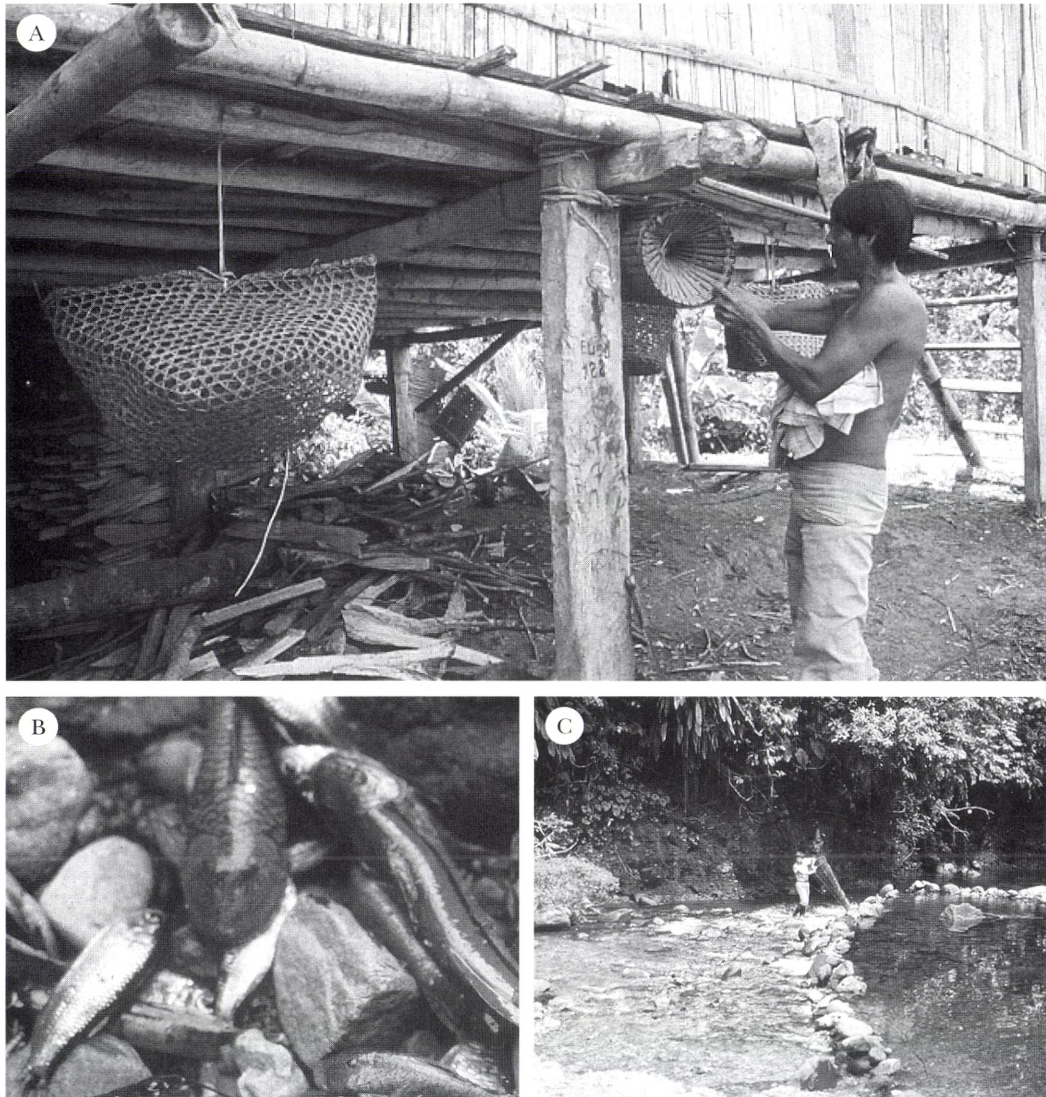


Fig. 14. Fishing. – A. Cayapa. Demonstration of a fish trap made of palm wood. The trap is oriented in the water so that fish that swim down the current are funnelled through the hole and thereby trapped. – B. Coaiquer. Fish caught using ichthyotoxins extracted from plants commonly referred to as *barbasco*. The largest ones are less than 10 cm long. – C. Coaiquer. Manmade dam used for fishing with plant based ichthyotoxins. The fish trap shown in the picture is used to collect the paralysed fish at the outlet in the far end of the dam.

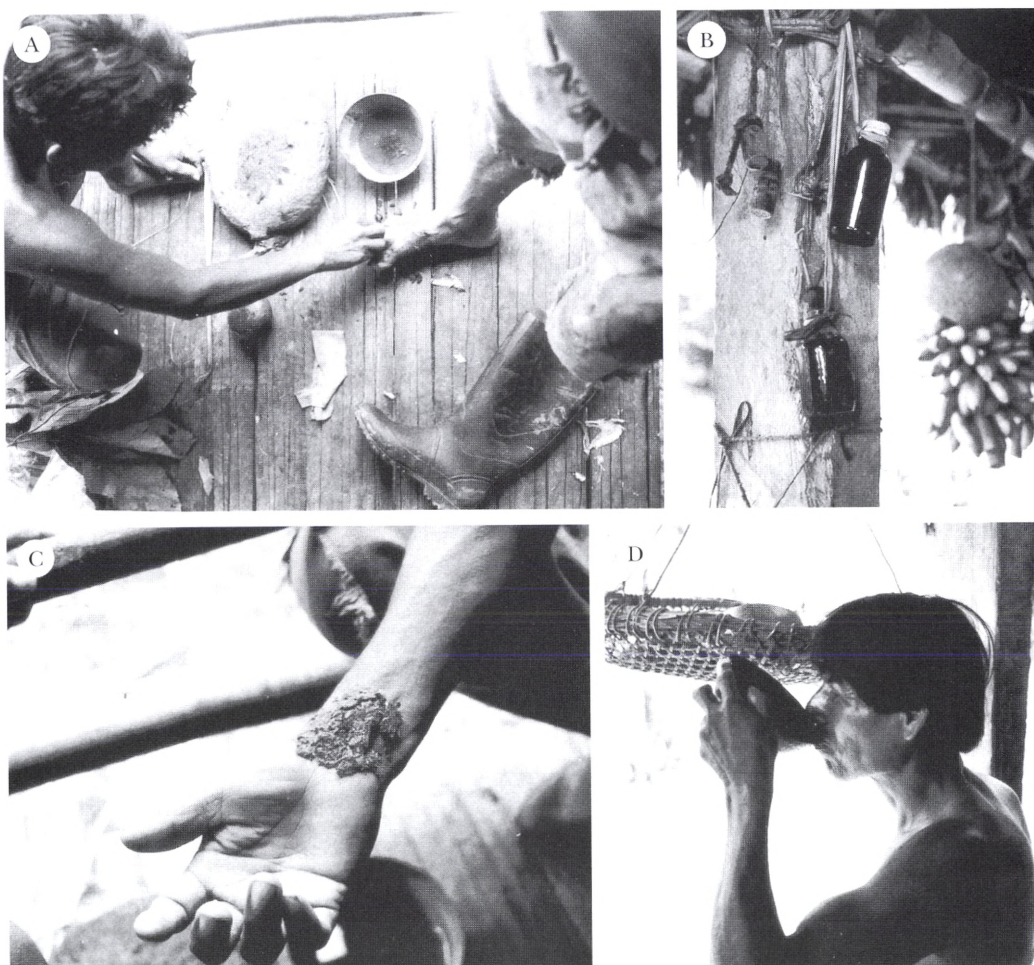


Fig. 15. Medicinal plants. Preparation. – A. A number of plants are used to treat fungal infection, in this case between the toes. Typically the leaves are ground into a green paste that is applied directly to the skin either heated or cooled. – B. Bottles containing alcohol extracts of plants used for snake bites are common. They are often produced and sold by certain tribe members that have gained a reputation as snakebite healers. – C. A plant paste used as a compress to stop bleeding and to prevent infections in wounds. – D. A plant decoction is drunk for indigestion.



Fig. 16. Medicinal plants. Snakebites. – A. *Coral* (*Micrurus* sp.). Several plants are used to treat the bites of this snake. The poison is neurotoxic and has an immediate effect unlike the haemolytic poison of the vipers. – B. *Gasteranthus corallinus*. Representatives of Gesneriaceae are generally used to treat snake bites. This species is used for the *Equis* snake (*Bothrops atrox*) by the Cayapas. The leaves are macerated into a paste that is used for making a compress placed on the bite. – C. An *Equis* snake has just been killed and the malevolent spirit is being expelled. This is done by blowing smoke on it and using conjurations like *uuiish* which probably mimics the sound of its departure. – D. *Cavendishia grandifolia*. This species often decorates Cayapa huts where curing ritual are performed by a shaman. The plant allegedly increases chances of successful healing by ousting malevolent spirits.



Fig. 17. Medicinal plants. Miscellaneous. – A. *Palicourea guianensis*. This species attracts wildlife especially birds and is used for ritualistic treatments of vaguely defined or non-specific symptoms. B. *Columnea fililoba*. The ash of this species is used for a topical treatment of a skin reaction allegedly caused by the plant itself. – C. Species of *Dichorisandra* are used for snake bites, for fungal infections, for injured joints, for colds and influenza and for urination problems.

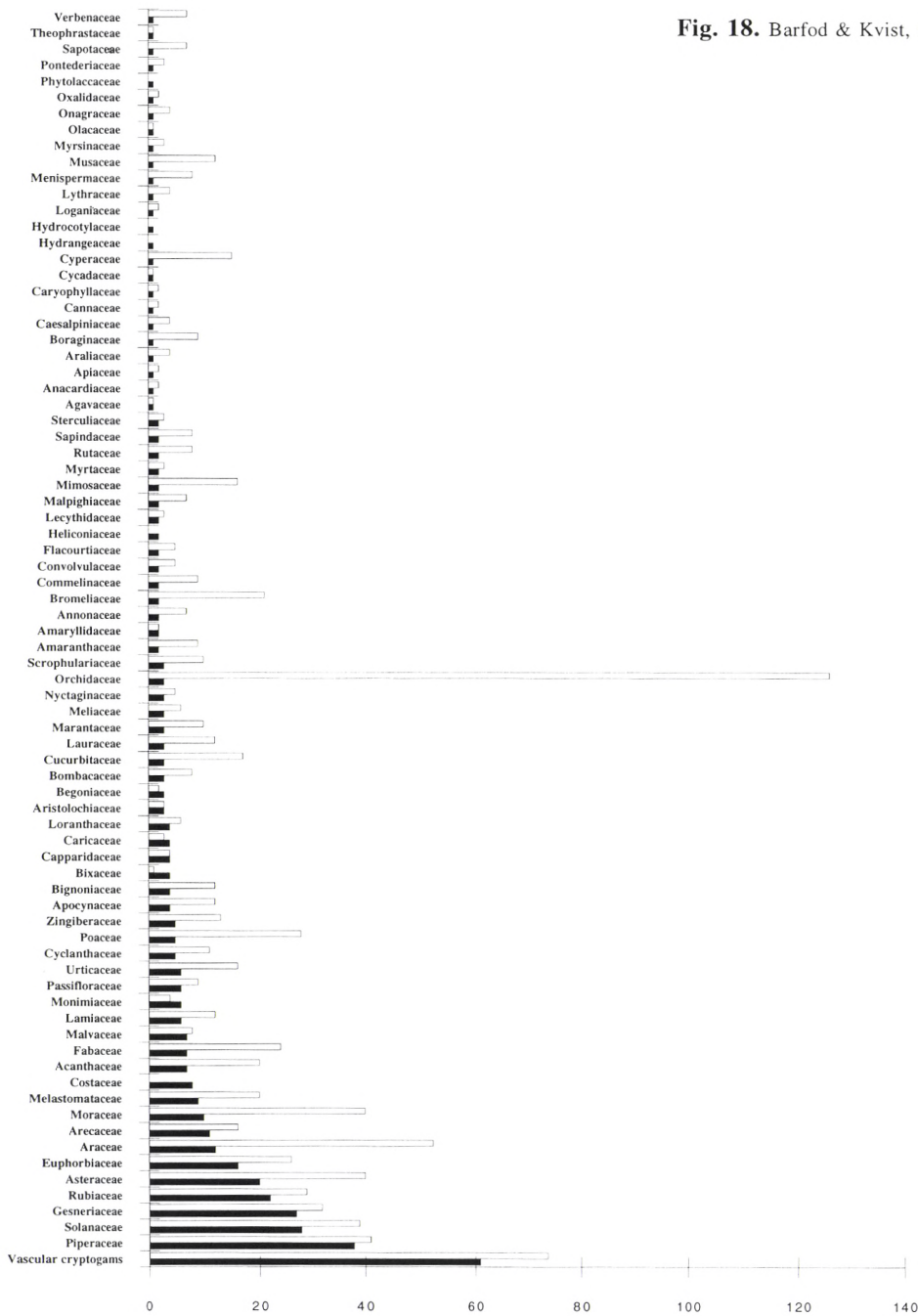


Fig. 18. Barfod & Kvist, februar 1995

Fig. 18. Colorados. Comparison of the most important families of useful plants with the composition of the surrounding flora. Dark bars show the number of times that representatives of a given family have been recorded as useful in this study. Note that multipurpose species may contribute more than once to the figures. White bars show the number of species representing a given family in the Flora of Río Palenque (Dodson and Gentry, 1978). Only families with more than 1 ethnobotanical record have been included.

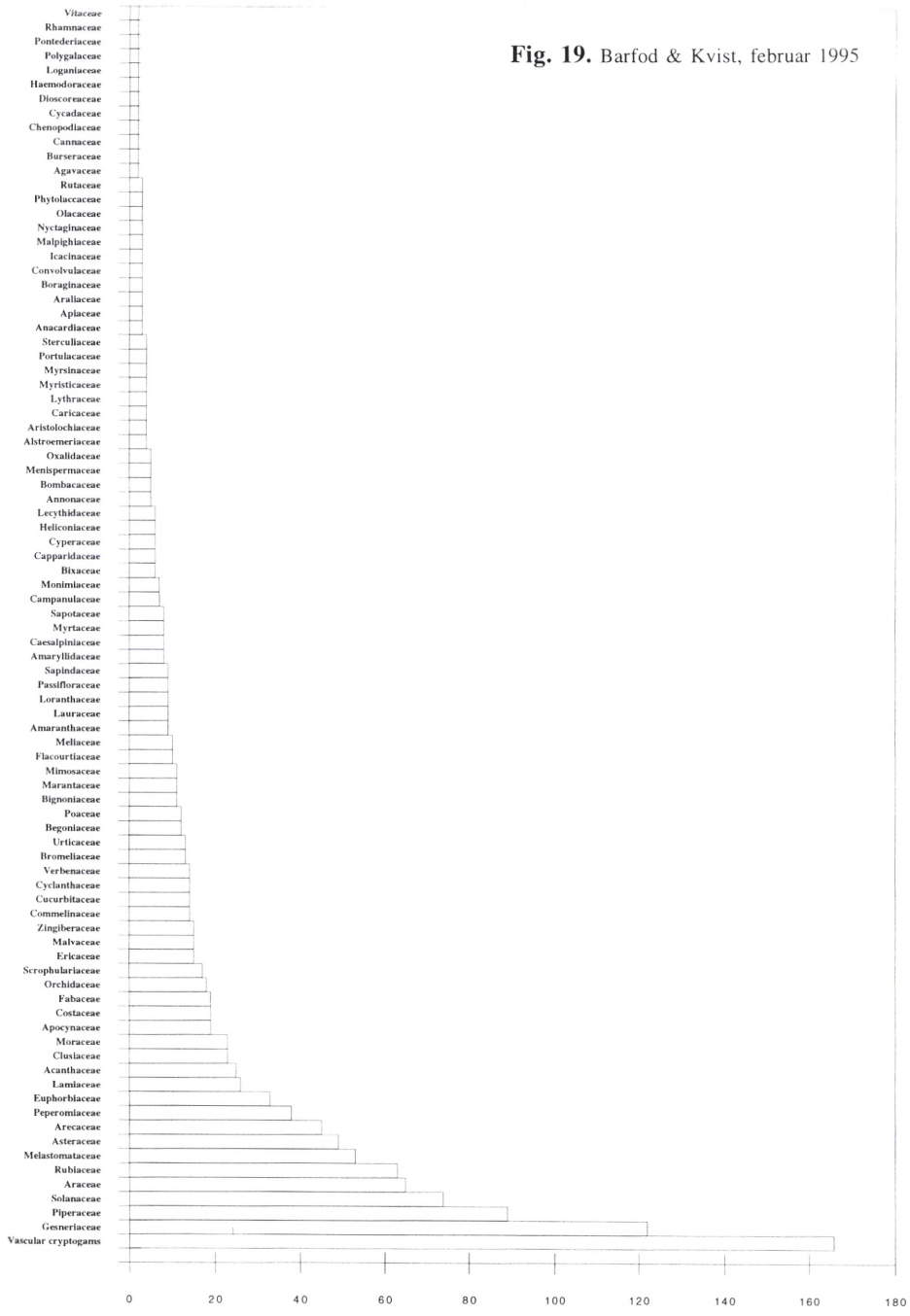


Fig. 19. Barfod & Kvist, februar 1995

Fig. 19. Most important families. All three indigenous groups. Histogram showing the number of uses having been recorded for the representatives of a given family. Only families with more than 1 ethnobotanical record have been included. Note that multipurpose species may contribute more than once to the figures. Identical use of a given plant species by two or three indigenous groups is only recorded once.

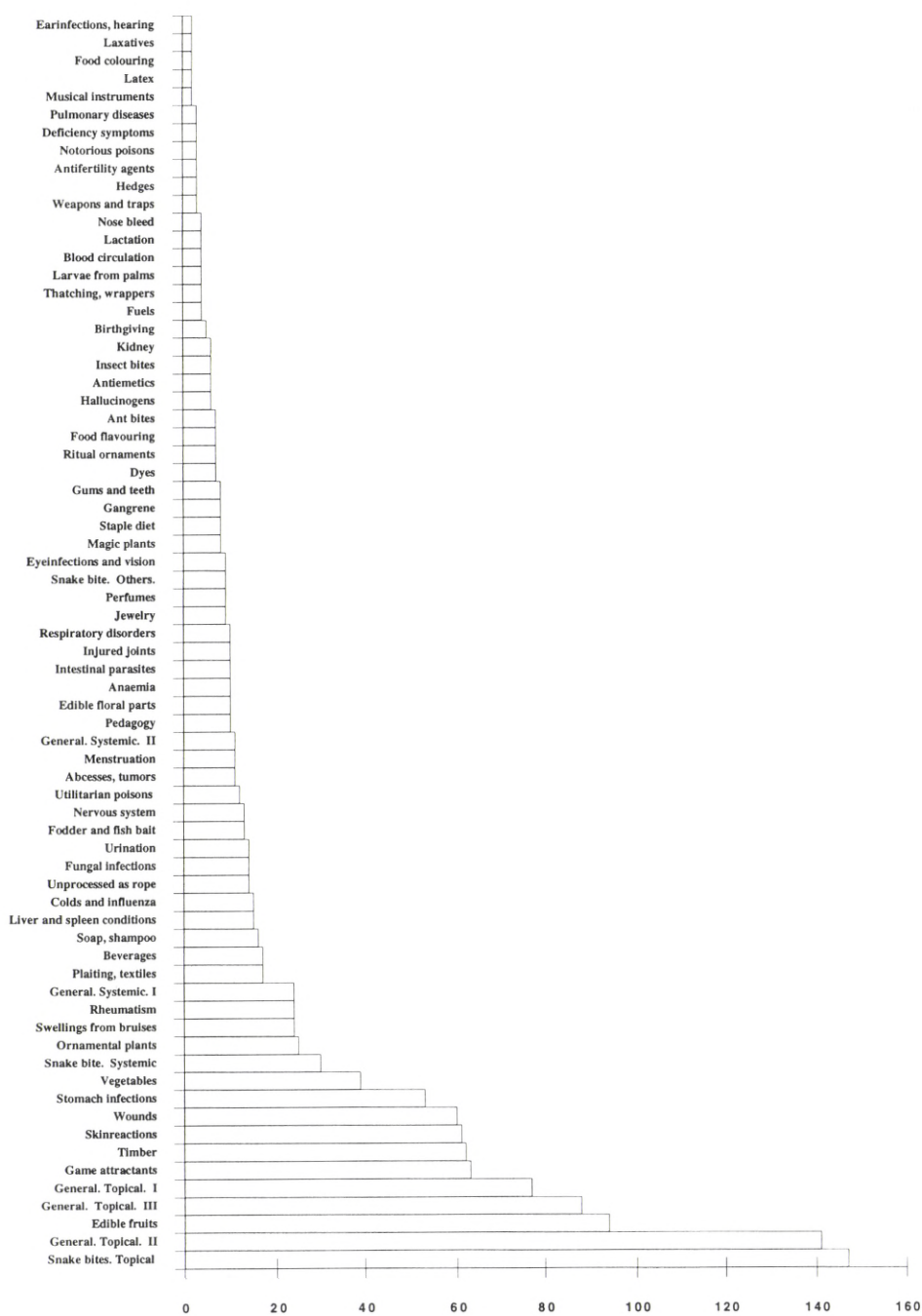


Fig. 20. Most important uses. All three indigenous groups. Histogram showing the total number of uses having been recorded in a given usage category. Note that multipurpose species may contribute to several usage categories. Identical use of a given plant species by two or three indigenous groups is only recorded once.

X Tables 1-82

Table 1. List of ethnobotanical collections. For localities visited, see also Fig. 1.

Collectors	Month, Year (duration of stay)	Sites visited	Indigenous group visited	Vouchers (AAU serie)	Informants in the field
Kvist & Holm-Nielsen	Jun. 1982 (2 weeks)	Congoma	Colorado	40000-40238	Manuel Aguavil (and family)
Kvist & Asanza	Jun.-Jul. 1982 (3 weeks)	Zapallo Grande	Cayapa	40292-40610	Marclovio Añapa, Vicente Tapuyo
Kvist	Jul. 1982 (1 week)	Congoma	Colorado	40611-40728	Manuel Aguavil (and family)
Kvist	Aug. 1982 (2 weeks)	Zapallo Grande	Cayapa	40729-40909	Marclovio Añapa, Vicente Tapuyo
Barfod	Oct. 1982 (2 weeks)	Zapallo Grande	Cayapa	41000-41087	Marclovio Añapa, Vicente Tapuyo
Barfod	Jan. 1983 (2 weeks)	San Marcos	Coaiquer	41416-41511	Elias Tai, Santiago Dinero
Barfod	Feb. 1983 (2 weeks)	San Marcos	Coaiquer	41553-41676	Herman Dinero, Santiago Dinero
Kvist, Barfod & Nissen	Oct. 1983 (3 weeks)	Santa Maria, Zapallo Grande & Río Bolborde	Cayapa	48013-48445	Marclovio Añapa, Vicente Tapuyo
Barfod, Kvist & Nissen	Nov. 1983 (2 weeks)	San Marcos & Gualpi Bajo	Coaiquer	48692-49026	Elias Tai, Herman, Santiago Dinero
Nissen, Kvist & Barfod	Dec. 1983 (1 week)	Congoma	Colorado	49028-49060 & 49088-49123	Ramon Aguavil (and family)
Barfod & Skov	Mar. 1985 (1 week)	Gualpi Alto & La Guaña	Coaiquer	60000-60022	Adam Guiz
Barfod & Skov	Apr. 1985 (1 week)	Zapallo Grande	Cayapa	60065-60120	Marclovio Añapa

Table 2. Timber. For construction and canoes. Where no uses are indicated the informants did not elaborate further except that the species collected served as a timber tree. The comments provide details concerning common uses, durability, value and preparation of the wood. Finally the vernacular name is included. Note that some of the Amerindian names are of mixed origin with Spanish syllables incorporated (see also Figs. 3-7).

	Tribe	Use/comments/"local name" [language]/(AAU voucher)
Anacardiaceae		
Tapirira guianensis	Cayapa	/valuable/"Sajo de arriva" [Spanish], "Sajo-chi" [Cayapa]/(48277)
Annonaceae		
Guatteria sp. 1	Coaiquer	// "Guasca negra" [Spanish]/(41655)
G. sp. 2	Cayapa	Huts// "Pa-chi" [Cayapa]/(40736)
Arecaceae		
Catoblastus aequalis	Coaiquer	Posts in huts// "Gualte deparar" [Spanish]/(60002)
Iriarteia deltoidea	Cayapa	Huts// "Boun-chi" [Cayapa]/(60097)
Socratea exorrhiza	Cayapa	Huts// "Piñ-ua-chi" [Cayapa]/(60098)
S. exorrhiza	Coaiquer	Huts// "Gualte cresco" [Spanish]/(60007)
Wettinia quinaria	Cayapa	Posts in huts// "Ban-chi" [Cayapa], "Palmira" [Spanish]/(41074)
W. quinaria	Coaiquer	// "Gualte bola" [Spanish]/(60005)
Bombacaceae		
Matisia coloradum	Colorado	Huts// "Dédo" [Spanish]/(40015)
Burseraceae		
Dacryodes granatensis	Coaiquer	// "Pulgande" [Spanish]/(41676)
Protium colombianum	Coaiquer	// "Anime" [Spanish]/(41659)
P. sp.	Cayapa	Canoes// "Supla-chi" [Cayapa]/(41006)
Caesalpinjiaceae		
Bauhinia sp.	Coaiquer	// "Forda" [Spanish]/(41674)
Swartzia sp. 1	Coaiquer	Huts// "Chiparo" [Spanish] or "Palo chiso" [Spanish]/(41607, 41656)
S. sp. 2	Coaiquer	Posts in huts/last up to 20 years/"Palo chiso" [Spanish]/(41669)
S. sp. 3	Coaiquer	// "Acorosillo" [Spanish]/(48789)
Clusiaceae		
Clusia sp.	Coaiquer	// "Mancha ropa" [Spanish]/(41662)
Marila laxiflora	Coaiquer	/hard and durable/"Ambouré" [Spanish]/(41615)
Vismia sp.	Coaiquer	// "Mancha ropa" [Spanish]/(48832)
genus indet.	Coaiquer	// "Sangriado" [Spanish]/(41665)
Euphorbiaceae		
Hieronima chochoensis	Coaiquer	// "Motilon" [Coaiquer]/(41657)
H. laxifolia	Cayapa	Huts, canoes// "Nagarichi-tapé" [Cayapa]/(40507)
Sapium sp.	Cayapa	// "Piñ-sa-chi" [Cayapa]/(41041)
Genus indet.	Cayapa	Walls of huts, never floors// "Uasé-chi" [Cayapa]/(41038)
Fabaceae		
Dussia sp.	Coaiquer	// "Acoronsillo" [Spanish]/(41656)

Tabel 2 – Continued

	Tribe	Use/comments/"local name" [language]/(AAU voucher)
Flacourtiaceae		
<i>Tetrathylacium macrophyllum</i>	Cayapa	Placed across timber trails to facilitate sliding of trunks///(48425)
Hippocastanaceae		
<i>Billia colombiana</i>	Coaiquer	//"Corosillo" [Spanish]/ (41663)
Humeriaceae		
<i>Humiriastrum procerum</i>	Cayapa	Huts, most commonly used timber/"Chanul" [Spanish], "Mana tchapè" [Cayapa]/(41076)
Lauraceae		
<i>Ocotea ira</i>	Coaiquer	//"Vara blanco" [Spanish]/(41671)
<i>O. sp. 1</i>	Coaiquer	//"Chachajo" [Spanish]/ (41675)
Genus indet.	Cayapa	Particularly oars/"Sanda-polo-chi" or "Djeiva-chi" [Cayapa]/(41008)
Genus indet.	Cayapa	Canoes/hard and very durable/"Djui-chi" [Cayapa]/(41027)
Genus indet.	Coaiquer	//"Goaripo" [Spanish]/ (41661)
Genus indet.	Coaiquer	//"Malde" [Spanish]/ (41670)
Lecythidaceae		
<i>Eschweilera sp. 1</i>	Coaiquer	//"Tètè" [Spanish]/ (41668)
<i>E. sp. 2</i>	Coaiquer	//"Tètè" [Spanish], "Tedpu" [Coaiquer]/ (48995)
Melastomataceae		
<i>Blakea punctulata</i>	Coaiquer	Huts///(41613)
Genus indet.	Coaiquer	//"Chicharo" [Spanish]/ (41666)
Meliaceae		
<i>Carapa guianensis</i>	Coaiquer	/last up to 30 years/"Aray" [Spanish]/ (41667)
<i>Guarea sp.</i>	Cayapa	/very valuable/"Bu-chui" [Cayapa]/(48217)
<i>Trichilia poeppigii</i>	Coaiquer	Huts/"Chalde"[Spanish]/(41672)
Genus indet. B	Cayapa	Finer woodworks/"Inun-chi" [Cayapa] "Cedor"/ [Spanish] (48229)
Moraceae		
<i>Brosimum utile</i>	Cayapa	Huts, mainly for floors///(41037)
<i>Castilla elastica</i>	Cayapa	//"Cauchú" [Spanish]/(48214, 48994)
<i>Ficus cervantesiana</i>	Cayapa	Boards or for canoes/"Bi-chi" [Cayapa]/ (40765)
<i>F. insipida</i>	Cayapa	///(40900)
<i>F. maxima</i>	Cayapa	Cut up for boards/"Hè-a-la-pi-chi" [Cayapa]/ (48203)
<i>Perebea xanthochyma</i>	Cayapa	Canoe paddles/"Ya-mu-ki-chi" [Cayapa]/ (48201)
Myristicaceae		
<i>Dialyanthera gordoniaefolia</i>	Coaiquer	//"Cangaré" [Spanish]/(41664)
<i>D. sp. 1</i>	Cayapa	//"Mo-chi" [Cayapa], "Cangaré" [Spanish]/ (40354)
<i>D. sp. 2</i>	Cayapa	Floors/very durable/"Mo-chi" [Cayapa]/(41049)
<i>D. sp. 3</i>	Cayapa	/valuable/"Chu-ain-chi" [Cayapa], "Chalveande" (Spanish)/(48290)
Olacaceae		
<i>Heisteria sp.</i>	Cayapa	Several uses/very hard/ "Shui-yun-gui-chi" [Cayapa]/(40358)
<i>Minquartia guianenses</i>	Cayapa	All parts of huts/valuable and durable/ »Guayacan-chi-haki" [Cayapa], "Guayacan" [Spanish]/(41023, 48400)

Tabel 2 – Continued

	Tribe	Use/comments/"local name" [language]/(AAU voucher)
Poaceae		
Bambusa guadua	Cayapa	Ceilings, stairways, fences// "Ba-ki-tapé" [Cayapa], "Caña" [Spanish]/(48374)
Rubiaceae		
Cephaelis gentryi	Cayapa	Axe handles// "Tu-main-chi" [Cayapa]/(48108)
Isertia pittieri	Cayapa	// "Tu-main-chi" [Cayapa]/ (40827)
Pentagonia sp.	Cayapa	// "Ma-kari-chi" [Cayapa]/ (41035)
Sapindaceae		
Cupania cinerea	Cayapa	Floor in huts// "Kèlan-boe-r-chi" [Cayapa]/(41046)
Sapotaceae		
Pouteria torta	Coaiquer	// "Piast" [Spanish]/(41629)
P. collina	Coaiquer	// "Caimitillon" [Spanish]/ (41673)
Solanaceae		
Cestrum baenitzii	Coaiquer	// "Chalmolan" [Spanish]/(41650)
Tiliaceae		
Apeiba sp.	Cayapa	Canoes/not very valuable// "Han-apé-chi" [Cayapa], "Peña-mono" [Spanish]/(48198)

Table 3. Fuels. A few trees were pointed out as being particularly useful for firewood because they are flammable when green (Fig. 6). A wide variety of other woody species are used as well but they need to be dried first which is difficult under humid tropical conditions.

	Tribe	Use/comments/(AAU voucher)
Fabaceae		
genus indet.	Cayapa	Charcoal/wood hard/ (48063)
Mimosaceae		
Inga edulis	Cayapa	Fire wood/excellent/ (48200)
Sapotaceae		
Chrysophyllum argenteum	Cayapa	Fire wood, charcoal/flammable when green/(41017)
Pouteria collina	Coaiquer	Fire wood/flammable when green/(41673)

Table 4. Weapons and traps. To make a blowgun two narrow boards, 3-5 meters long and semi-circular in cross section (5 X 2.5 cm) are prepared from the outer strongly sclerified layer of the palm stem. The central bore of the blowgun is made by carving a straight furrow on the flattened sides to be joined. The Cayapas use straps of rubber extracted from *Castilla elastica* to unite the two pieces of wood and to assure that the pipe is airtight. The Coaiqueres wind a plant fiber tightly around the blowgun and rub it with beeswax. The beeswax is further heated over a fire until black (Fig. 6). For blowgun darts both groups use the thick and stiff fibres extracted from the desintegrated leafsheaths of *Jessenia bataua*. A small pellet of kapok from *Ceiba pentandra* is wound around the proximal end of the dart. The other end is dipped in plant poison (see Table 33). Palmwood is very durable and fishtraps that are constructed in rivers partly under water may last for several years. For Cayapa fishing techniques see also Mitlewski (1985).

	Tribe	Use/(AAU voucher)
Areaceae		
<i>Bactris gasipaes</i>	Cayapa	Blowguns, fishtraps, spears/(60113)
<i>B. setulosa</i>	Coaiquer	Blowguns, fishtraps, spears/(60010)
<i>Iriartea deltoidea</i>	Cayapas	Blowguns, fishtraps, spears/(48409, 60097)
<i>Jessenia bataua</i>	Coaiquer	Blowgun darts/(60006)
<i>J. bataua</i>	Cayapa	Blowgun darts/(60079)

Table 5. Musical instruments. Three palm species in particular are the source of the wood used for marimba keys. It is the strongly sclerified, black and heavy tissues toward the periphery of the stem which are exploited (Fig. 8).

	Tribe	Use/(AAU voucher)
Areaceae		
<i>Bactris gasipaes</i>	Cayapa	/(60113)
<i>B. setulosa</i>	Coaiquer	/(60010)
<i>Iriartea deltoidea</i>	Coaiquer	/(not vouchered)
<i>I. deltoidea</i>	Cayapa	/(60079)
Vitaceae		
<i>Cissus</i> sp.	Cayapa	Fruits dried with seeds inside; offered to children as rattle/(40486)

Table 6. Kitchen utensils. Bowls. Calabash trees are often cultivated close to dwellings. The woody pericarp of the fruit is used to produce a number of household utensils such as bowls, scoops, spoons etc. Coconut shells sometimes serve the same purpose.

	Tribe	(AAU voucher)
Bignoniaceae		
<i>Crescentia cujete</i>	Colorado	(40728)
<i>C. cujete</i>	Cayapa	(40453)

Table 7. Unprocessed as rope. This category comprises plants of which the stems, climbing rhizomes, or aerial roots are used as rope in heavy duty construction. The only preparation is cleaning e. g. removal of leaves and side branches. This is in contrast to plants of which the fibres are extracted and often further processed before usage.

	Tribe	Part of plant/use/(AAU voucher)
Vascular cryptogams		
Blechnum volubile	Cayapa	Rhizome/rope in house construction/(40763)
Araceae		
Philodendron subhastatum	Cayapa	Aerial root/(48179)
P. sp. 1	Cayapa	Aerial root/tying logs together/(40849)
P. sp. 2	Cayapa	Aerial root/string, poor quality/(48241)
P. sp. 3	Cayapa	Aerial root/rope/(48403)
Arecaceae		
Desmoncus sp.	Cayapa	Stem/rope in house construction/(48197)
Bignoniaceae		
Paragonia pyramidata	Cayapa	Stem/rope for fastening canoes and tying logs together/(48413)
Bromeliaceae		
Pitcairnia sp.	Coaiquer	Roots/string/(41436)
Cyclanthaceae		
Asplundia sp. 1	Cayapa	Stem/tying logs together in constructions/ (40829)
A. sp. 2	Cayapa	Stem/(48124)
A. sp. 3	Cayapa	Aerial root/string, not valuable/(48371)
Ludovia integrifolia	Cayapa	Aerial root/very strong rope/(48281)
Fabaceae		
Dioclea sp.	Coaiquer	Stem/tying of logs/(41646)
Rhamnaceae		
Gouania sp.	Cayapa	Stem/rope used for tying bamboo stems together in constructions/(41086)

Table 8. Thatching and wrappers. The leaves of *Phytelephas aequatorialis* are often processed before being placed on the roof. One such treatment consists of inundating the leaves for several weeks apparently to soften the tissues and assure that the pinnae remain flat upon drying. Another explanation could be the removal of the eggs of unpleasant insects (Figs. 7 & 8)

	Tribe	Use/(AAU voucher)
Araceae		
Anthurium asplundii	Cayapa	Wrapping material/(40886)
Arecaceae		
Geonoma sp.	Cayapa	Wrapping material/ (60004)
Phytelephas aequatorialis	Cayapa	Thatch/(60111)
Maranthaceae		
Calathea sp.	Coaiquer	Thatch/(no voucher)

Table 9. Jewelry. The vascular bundles of a number of ferns serve as string in necklaces made of seeds, fruits or flowers.

	Tribe	Part used/use/(AAU voucher)
Vascular cryptogams		
<i>Adiantum macrophyllum</i>	Cayapa	Vascular bundles/string in necklaces/(48399)
<i>A. sp.</i>	Cayapa	Rhizome/for necklaces/(40828)
<i>Pteris sp.</i>	Cayapa	Rhizome/for necklaces/(40899)
<i>Tectaria sp.</i>	Cayapa	/necklaces, earrings/(48286)
<i>Thelypteris sp.</i>	Cayapa	Vascular bundles/string in necklaces/(48398)
Apocynaceae		
<i>Mandevilla dodsonii</i>	Cayapa	Flowers/garlands/(40439)
Fabaceae		
Genus A	Cayapa	Fruits/pearls in necklaces/(48190)
Poaceae		
<i>Coix lachryma-jobi</i>	Cayapa	Fruits/pearls in necklaces/(40540)
<i>C. lachryma-jobi</i>	Coaiquer	Fruits/pearls in necklaces/(41480)
Sapindaceae		
<i>Paullinia fascescens</i>	Cayapa	Seeds/pearls in necklaces, one side red and one side black/(48426)

Table 10. Plaiting and textiles. Natural fibres are typically freed from the plant tissues by pounding with a stick (Fig. 8). An exception is *Cardulovica palmata* from which long strips are torn from the outer layers of the petiole. These are used for making mats, fans and other woven items (Fig. 8). To make bark cloth of *Poulsenia armata*, a large piece of bark is removed from the trunk. The fibres are derived from the inner bark as shown on Fig. 9. According to Ferdon (1956), the Coaiques wore bark clothing until very recently. The traditional clothing of both the Cayapas and Colorados were probably made of cotton. Western clothes typically made of synthetic fabrics are usually the first sign of acculturation. Natural fibres are replaced by nylon in fishing nets and plaited items such as hammocks. Nylon is inexpensive, tougher than plant fibres and more resistant to decay.

	Tribe	Part of plant/purpose/(AAU voucher)
Vascular cryptogams		
<i>Blechnum volubile</i>	Cayapa	/string for construction/(48060)
Araceae		
<i>Heteropsis oblongifolia</i>	Colorado	/baskets/(40001)
<i>Philodendron verrucosum</i>	Cayapa	/string, not very strong/(48191)
Arecaceae		
<i>Astrocaryum standleyanum</i>	Cayapa	Leaves/hammocks/(60078)
<i>Desmoncus serifera</i>	Coaiquer	Stem/baskets/(41455)
<i>Oenocarpus mapora</i>	Cayapas	Leaf base/baskets/(60102)
Bignoniaceae		
<i>Amphilophium paniculatum</i>	Coaiquer	Stem/baskets/(48787)
Bromeliaceae		
<i>Aechmea magdalena</i>	Cayapa	Leaves/widely used previously for fishing nets/(48386)
Cyclanthaceae		
<i>Carludovica palmata</i>	Cayapa	Petiole/baskets, mats and fans/(40419)
<i>Ludovia integrifolia</i>	Cayapa	Aerial roots/baskets/(48281)

Tabel 10 – Continued

	Tribe	Part of plant/purpose/(AAU voucher)
Malvaceae		
<i>Gyssopium barbadense</i>	Cayapa	Cotton/previously used for making clothing/(40584)
Marantaceae		
<i>Calathea</i> sp.	Cayapa	Petioles/hats/(40467)
<i>Ischnosiphon leucophaeus</i>	Cayapa	Stem/hats/(40780, 48902)
Moraceae		
<i>Poulsenia armata</i>	Cayapa	Bark/bark cloth/(48343, 48985)
Sapindaceae		
<i>Paullinia</i> sp.	Coaiquer	Stem/string for tying logs together/(41435B)
Urticaceae		
<i>Cecropia</i> sp.	Cayapa	Cortex/string previously used for many purposes e. g. hammocks/(48433)

Table 11. Dipilatories. One representative of the few, non-bambusoid grasses in the understorey of the rainforest is used to remove facial hair. The narrow, cylindrical spike is passed over the skin. Hairs are caught between the glumes and torn out. It can be concluded from our own experiments that the treatment is efficient, though painful.

	Tribe	(AAU voucher)
Poaceae		
<i>Streptochaeta sodiroana</i>	Colorado	(40212, 40714)
<i>S. sodiroana</i>	Cayapa	(40315, 41079, 60108)

Table 12. Latex. The latex extracted from the stem of certain moraceous species is either used as a waterproofer or as rubber (Fig. 9).

	Tribe	Comments/(AAU voucher)
Moraceae		
<i>Brosimum utile</i>	Cayapa	Latex used to waterproof canoes/(41037)
<i>Castilla elastica</i>	Cayapa	Rubber/(48214)
<i>C. elastica</i>	Coaiquer	Rubber/(48994)

Table 13. Soap and shampoo. Washing hair with herbal preparations may not serve a hygienic purpose only. The informants related several times that a particular hair wash also enhanced hair growth.

	Tribe	Part of plant/preparation/comment/ (AAU voucher)
Vascular cryptogams		
Elaphoglossum herminieri	Cayapa	Leaves/ground in cold water/ stimulate hair growth/ (40533)
E. sp.	Cayapa	Leaves//stimulate hair growth/(40826)
Nephrolepis sp 1.	Coaiquer	Leaves/boiled/stimulate hair growth/(48837)
N. sp. 2	Coaiquer	Crude leaves//stimulate hair growth/(48845)
Polypodium sp. 1	Cayapa	//stimulate hair growth/(40795)
P. sp. 2	Cayapa	/// (48436)
Trichomanes coralliatum	Colorado	//stimulate hair growth/40147
Genus A (Aspleniaceae)	Cayapa	Leaves/fresh//(48301)
G. B (Polypodiaceae)	Cayapa	Leaves/fresh//(48303)
Agavaceae		
Dracaena fragrans	Cayapa	Leaves/ground in cold water/ previously used for soap/(41046)
Araceae		
Anthurium spp.	Cayapa	//stimulate hair growth/(40417, 48106, 48342)
Capparidaceae		
Podandrogynae brachycarpa	Colorado	//wash of body/(40017)
Malvaceae		
Sida acuta	Colorado	//stimulate hair growth/(40036)
Phytolaccaceae		
Phytolacca rivinoides	Colorado	//wash/(40003)
P. rivinoides	Coaiquer	Fruits/crushed in water/detergent for washing clothes/ (48830)
Piperaceae		
Piper marginatum	Colorado	//soap for washing the body/(40012)
Rubiaceae		
Hamelia macrantha	Colorado	//makes hair grow faster/(40076)

Table 14. Perfumes. A distinction is not always made between aphrodisiacs and perfumes. The Cayapas believe that some plants used for perfume also have magical effects that can be directed exclusively to the desired person.

	Tribe	Part of plant/preparation/comments/ (AAU voucher)
Alstroemeriaceae		
Bomaria edulis	Cayapa	Fruits//aromatic smell/(40814)
B. sp.	Cayapa	Fruits/perfume extracted/strong smell that can be detected from a long distance/(48059)
Lamiaceae		
Hyptis mutabilis	Colorado	Entire plant/body rubbed//(40039)
Melastomataceae		
Miconia sp.	Coaiquer	Flowers/perfume extracted/very pleasant smell/(41610)
Orchidaceae		
Vanilla planifolia	Cayapa	Flowers///(40340)
Piperaceae		
Peperomia sp. 1	Colorado	Inflorescence///(40169)
P. sp. 2	Cayapa	Leaves/woman's body rubbed/ irresistible to young men/(40506)
P. sp. 3	Cayapa	Leaves/crushed and mixed with another unidentified ingredient/aphrodisiac/(48076)
Solanaceae		
Solanum sp.	Cayapa	Flowers/crushed and body rubbed//(40522)

Table 15. Dyes. This category comprises plants that are used for dyeing both clothing and skin. Colorados mainly use *Bixa orellana* and *Genipa americana* for their traditional bodypaint. They also use *Bixa orellana* for creating the distinctive, red, cap-like hairstyle (Fig. 8).

	Tribe	Part of plant/preparation/purpose/(AAU voucher)
Arecaceae		
Chamaedorea pinnatifrons	Colorado	Leaves/ground in water/dyes fabrics black/(40198)
Geonoma cuneata	Colorado	Leaves/ground in water/dyes fabrics black/(40207)
Synecanthus warscewiczianus	Colorado	Leaves/ground in water/dyes fabrics black/(40205)
Bixaceae		
Bixa orellana	Colorado	Fruits//dyes hair red/(40045)
B. orellana	Coaiquer	Fruits//dyes wood red/(48897)
Oxalidaceae		
Oxalis sp.	Coaiquer	Leaves/ground while fresh/dyeing of fabrics, skin, etc./(41580)
Piperaceae		
Piper sp.	Cayapa	Leaves/ground while fresh into a paste/ colours applied directly to paint various items/(41026)
Rubiaceae		
Genipa americana	Colorado	Seeds and pulp of fruits/crushed and juice extracted/black stripes on skin/(49120)

Table 16. Ornamental plants. A number of plants are cultivated as ornaments surrounding the houses in Cayapa villages. Nearly all of the plants that the Colorados grow as ornaments are also used in their ritual baths and are not listed below.

	Tribe	(AAU voucher)		Tribe	(AAU voucher)
Amaranthaceae			Lythraceae		
Amaranthus sp.	Cayapa	(48391)	Cuphea strigulosa	Cayapa	(40546)
Amaryllidaceae			Malvaceae		
genus indet.	Colorado	(40623)	Hibiscus sp. 1	Cayapa	(40429, 40464)
Apocynaceae			Pavonia fruticosa	Cayapa	(40555)
Allamanda cathartica	Colorado	(40504, 40719)	Mimosaceae		
Araceae			Calliandra angustifolia	Cayapa	(40556)
Anthurium anorenum	Coaiquer	(41489)	Ochnaceae		
Asteraceae			Sauvagesia erecta	Cayapa	(40589)
Dahlia sp.	Colorado	(40642)	Polemoniaceae		
Balsaminaceae			Polemonium sp.	Cayapa	(48364)
Impatiens balsamina	Cayapa	(48362)	Polygalaceae		
Cannaceae			Polygala mollaginifolia	Cayapa	(40588)
Canna indica x generalis	Cayapa	(40530)	P. paniculata	Cayapa	(40590)
Commelinaceae			Portulacaceae		
Callisia repens	Cayapa	(48394)	Portulaca spp.	Cayapa	(48378, 48380)
Cyclanthaceae			Rubiaceae		
Cyclanthus sp.	Coaiquer	(48850)	Ixora sp.	Cayapa	(40463)
Euphorbiaceae			Scrophulariaceae		
Acalypha sp.	Colorado	(40648)	Alonsoa sp.	Cayapa	(40560)
Hydrangeaceae			Solanaceae		
Hydrangea sp.	Colorado	(40641)	Solanum jamicense	Cayapa	(40469)
Lamiaceae			Zingiberaceae		
Coleus x hybridus	Cayapa	(48357)	Hedychium coronarium	Coaiquer	(41639)

Table 17. Hedges. Only the Colorados plant hedges around their dwellings and between fields. The most important species are listed below.

	Tribe	(AAU voucher)
Euphorbiaceae		
Euphorbia cotinifolia	Colorado	(40177)
Fabaceae		
Erythrina edulis	Colorado	(40646)
E. smithiana	Colorado	(40632)

Table 18. Hallucinogens. This category comprises very powerful and dangerous plants. For some of them it is important to prepare mentally for the strong psycho-active effects that they provoke. This is particularly true for *Banisteriopsis caapii*. The Cayapas use this species as the main ingredient in the hallucinogenic decoction named *pindé*. Other complimentary plants are added to modify the effects or to remove the bitter taste. The Cayapas believe that only the shaman has the power to control this plant. It takes several years for a shaman apprentice to prepare for the visions that the plant drug induce. The Colorados call the hallucinogenic decoction of *Banisteriopsis caapii* for *nepé*. Usually, they prepare it with no other plants. Traditionally, *nepé* is used by all male members of the tribe. It is notable that the Colorados use *Banisteriopsis caapii* as a laxative too (Table 43). *Brugmansia versicolor* is an extremely powerful and dangerous plant drug that according to our knowledge is no longer in use among the Cayapas.

	Tribe	Part of plant/preparation/treatment/ purpose/ (AAU voucher)
Acanthaceae		
Justicia sterea	Cayapa	Leaves/boiled with stems of <i>Banisteriopsis caapii</i> /decoction drunk/makes the decoction taste less bitter/(40535)
Malpighiaceae		
Banisteriopsis caapii	Cayapa	Bark/grated, boiled/5 teaspoonfuls drunk in evening with sugar cane brandy/induces visions, shaman only/ (40299, 40582)
B. caapii	Colorado	Stem/grated and boiled/some glasses drunk warm/induces visions/(40722)
Piperaceae		
Piper variegatum	Cayapa	Leaves/ground, mixed with hot water/ drunk/induces hallucinations/(40325)
Rubiaceae		
Psychotria viridis	Cayapa	Leaves/boiled with stems of <i>Banisteriopsis caapii</i> / drunk/to enhance the hallucinogenic effect and make the decoction taste less bitter/(40595, 48368)
Solanaceae		
Brugmansia versicolor	Cayapa	Leaves/ground in cold water/a teaspoon of the extract drunk/to induce strong hallucinations/(40581, 41050)
Thymelaeaceae		
Schoenobiblus panamensis	Cayapa	Leaves/boiled with stems of <i>Banisteriopsis caapii</i> / drunk/enables the shaman to see the spirits clearly/(48317)

Table 19. Antifertility agents. This category includes contraceptives, abortifacients and agents that cause permanent sterilization in women. Due to strong taboos we only learned a few things about the plants that are used for these purposes. More work is needed. Information was obtained on two additional antifertility plants that have not been included in the list below. One is allegedly very powerful and highly acclaimed. We never saw it during our fieldwork despite our efforts. According to the description it is a rare fungus or achlorophyllous plant that is found where trees have recently been uprooted. The other plant is a particular coconut variety that bears small aborted fruits. The liquid endosperm from these is said to have antifertility effects which is probably an example of the Doctrine of Signature.

	Tribe	Part of plant/preparation/treatment/ purpose/(AAU voucher)
Fabaceae		
Desmodium uncinatum	Colorado	Pods/boiled/drank/induces abortion/(40895)
Lauraceae		
Persea americana	Colorado	Seeds/boiled/decoction of 1 seed drunk once a day/prevents pregnancy. Will eventually cause sterilisation/(49118)
Zingiberaceae		
Renealmia sp.	Colorado	Rhizome/ground, boiled/a glass of decoction drunk daily for a year/causes sterilisation/(49121)

Table 20. Ritual ornaments. During curing rituals performed by the shaman, the patient's house is often decorated with ornaments that are believed to oust evil spirits and thereby increase the chances of being healed. Plant ornaments are also hung above the bed of mentally disturbed persons.

	Tribe	Comments/(AAU voucher)
Araceae		
Anthurium sp.	Cayapa	Decoration in connection with curing ceremonies/(40377)
Bromeliaceae		
Guzmania testudinis	Coaiquer	Hung above patient during curing ceremonies/(48856)
Ericaceae		
Cavendishia engleriana	Coaiquer	Hung above bed/(48925)
C. grandifolia	Coaiquer	Hung above bed/(48965)
C. sp.	Coaiquer	Hung above patient during curing ceremonies/(48806)
Psammisia ferruginea	Coaiquer	Hung above patient during curing ceremonies/(48792)
Gesneriaceae		
Besleria solanoides	Coaiquer	Hung above patients suffering from mental disorders (48735)

Table 21. Magic plants. The Colorados use a number of plants to improve their luck. The Cayapas often carry a little bag with magic plants that are supposed to bring luck during hunting.

	Tribe	Part of plant/comments/(AAU voucher)
Apocynaceae		
Odontonema strictum	Colorado	Flowers//(40023)
Aristolochiaceae		
Aristolochia pichingensis	Colorado	Leaves/magic ritual said to clean the house for bad luck/(40718)
Asteraceae		
genus indet.	Colorado	Flowers//(40024)
Malvaceae		
Hibiscus sp.	Colorado	Flowers/mixed with other species/ (40027)
Nyctaginaceae		
Mirabilis jalapa	Colorado	Flowers//(40025)
Peperomiaceae		
Peperomia sp.	Colorado	Leaves//(40638)
Rubiaceae		
Amphidasya sp.	Cayapa	Stem stripped for leaves and kept in a special sack during hunting, said to help finding animal and make the hunt successful/(40339, 41059)

Table 22. Pedagogy. This category comprises plants that are used to improve misconduct by children. Many are used according to the Doctrine of Signature and thus have a psychological effect. The calming effects of some species can not be ruled out, however.

	Tribe	Comments/(AAU voucher)
Acanthaceae		
<i>Justicia pectoralis</i>	Cayapa	On the first Monday after full moon the mouth is washed with a cold extract of the leaves/(48144)
Euphorbiaceae		
<i>Phyllanthus stipularis</i>	Cayapa	Applied to eyes of children who cry too much and cannot sleep/(40392)
<i>P. sp.</i>	Cayapa	Twigs placed on forehead, said to promote sleep/(48231)
Flacourtiaceae		
<i>Carpotroche platyptera</i>	Colorado	Stringed and worn around neck. For children that cry too much/(40060)
Melastomataceae		
<i>Triolena sp.</i>	Cayapa	Feet rubbed with fruits to encourage walking of children/(48032)
Mimosaceae		
<i>Acacia riparia</i>	Cayapa	The eyes are covered by a piece of fresh leaf, said to encourage sleep/(40483)
<i>Mimosa pudica</i>	Cayapa	Green leaves placed on forehead, said to promote sleep/(48324)
Rubiaceae		
<i>Borreria ocymoides</i>	Cayapa	In the morning the mouth is washed with a cold extract of ground leaves to prevent dirty language and desobidience/(48226)
Urticaceae		
<i>Urera caracasana</i>	Coaiquer	Green leaves soaked in water, skin rubbed to stop weeping of children/(41508)
Verbenaceae		
<i>Aegiphila sp.</i>	Cayapa	Mouth rubbed with leaves at dawn after full moon to prevent bad language and desobidience/(40397)

Table 23. Staple diet. Listed below are only the staple crops of slash-and-burn or slash-and-mulch fields (Fig. 11). Plantains and corn are the most important crops of both the Coaiques and the Cayapas. The Colorados cultivate much cacao and coffee. The African Oil Palm is widely cultivated in the region.

	Tribe	Common name in English/(AAU voucher)
Araceae		
<i>Colocasia esculenta</i>	Cayapa	Taro/(48145)
Convolvulaceae		
<i>Ipomoea batatas</i>	All groups	Sweet potato/(48305, 40422)
Dioscoreaceae		
<i>Dioscorea esculenta</i>	Cayapa	Yams/(48331)
Euphorbiaceae		
<i>Manihot esculentum</i>	All groups	Cassava/(48330, 48329)
Fabaceae		
<i>Phaseolus vulgaris</i>	Cayapa	Bean/(40516)
Musaceae		
<i>Musa x paradisiaca</i>	All groups	Plantains/(not vouchered)
Poaceae		
<i>Saccharum officinarum</i>	All groups	Sugarcane/(not vouchered)
<i>Zea mays</i>	All groups	Corn/(40525)

Table 24. Edible fruits and seeds. The fruits of numerous plants are eaten. Some species are cultivated in orchards near houses or in fallows. When travelling in the forest, the Indians usually collect and eat a wide variety of fruits.

	Tribe	Comments/ local name/(AAU voucher)
Actinidiaceae		
<i>Saurauia brachybotrys</i>	Coaiquer	Sweet/"Moquillo" [Spanish]/(41621)
Anacardiaceae		
<i>Spondias mombin</i>	Colorado	Cultivated/"Ciruela" [Spanish]/(49100)
<i>S. purpurea</i>	Cayapa	Highly esteemed, cultivated/"Ovo" [Spanish], "Hocos boca" [Cayapa]/(48140, 40428)
Annonaceae		
<i>Annona muricata</i>	Cayapa	Highly esteemed, cultivated/"Oa-na-sa-tapé"[[Cayapa]/(48103)
<i>Rollinia mucosa</i>	Cayapa	Much eaten, cultivated/"chichibilia-fin-chumo-boca" [Cayapa]/(40608)
<i>R. mucosa</i>	Colorado	Cultivated/"Pastanu" [Colorado], "Chirimoya" [Spanish]/(40046)
<i>R. mucosa</i>	Coaiquer	/"Churimono" [Coaiquer], "Chirimoya" [Spanish]/(48989)
Apocynaceae		
<i>Bonafousia longitubulosa</i>	Coaiquer	Sweet and rich/"Oyap saya" [Coaiquer]/(41632)
<i>B. spp.</i>	Cayapa	Sweet and acid/"Do-pistcha" [Cayapa]/(48057, 48206)
<i>Tabernaemontana tetrastachya</i>	Cayapa	/"Do-pistcha" [Cayapa]/(40750,40775)
<i>T. spp.</i>	Cayapa	Sweet/"Do-pistcha" or "Do-pistcha bamo boca" [Cayapa]/(40351, 40426, 40517, 40732, 40739)
genus indet.	Cayapa	Sweet, keeps up to 3 weeks/"Do-pistcha" [Cayapa]/(41044)

Tabel 24 – Continued

	Tribe	Comments/ local name/(AAU voucher)
Areceaceae		
<i>Astrocaryum standleyanum</i>	Cayapa	Edible mesocarp/(60078)
<i>Bactris gasipaes</i>	Cayapa	Boiled or eaten fresh/(60113)
<i>B. setosa</i>	Cayapa	Boiled/«Pi-cani-chi» [Cayapa]/(60110)
<i>B. setulosa</i>	Coaiquer	//(60010)
<i>Desmoncus serifera</i>	Coaiquer	Crude/«Bora negra»[Spanish]/(41455)
<i>Euterpe chaenostachys</i>	Cayapas	Crude/«Mamba-san-chi» [Cayapa]/(60103)
<i>Geonoma cuneata</i>	Cayapa	//“Yah-a!-chi” or “Yo ya chi” [Cayapa] (40753, 48351, 60099)
<i>Phytelephas aequatorialis</i>	Cayapa	Liquid endosperm and inner mesocarp/«Din-chi» [Cayapa]/(60111)
<i>Wettinia quinaria</i>	Cayapa	Crude endohastorium/“Ban-chi” [Cayapa], “Palmira” [Spanish]/(41074, 60112)
<i>Socratea exorrhiza</i>	Coaiquer	Boiled/«Gualte crespo» [spanish]/(60007)
<i>Synecanthus warscewiczianus</i>	Coaiquer	//“Bora negra” [Spanish]/(41455)
<i>S. warscewiczianus</i>	Cayapa	Boiled// (60076)
Aristolochiaceae		
<i>Aristolochia pilosa</i>	Colorado	//“Iyu qunto” [Colorado], “Grenadilla de rosa” [Spanish]/(40235)
Bombacaceae		
<i>Quararibea coloradorum</i>	Colorado	//“Dédo” [Colorado]/(40015, 40131)
<i>Q. cordata</i>	Cayapa	Cultivated/“Sapote tapé” [Cayapa]/(40580)
<i>Q. soegenii</i>	Cayapa	//“Gé sapote” [Cayapa]/(40773)
<i>Q. soegenii</i>	Coaiquer	//“Zapote” [Spanish]/(41660)
Campanulaceae		
<i>Burmeistera vulgaris</i>	Cayapa	//“Sjchi-vesj-tchapé” [Cayapa]/(41031)
Caricaceae		
<i>Carica papaya</i>	Colorado	Cultivated/“Papayó” [Colorado], “Papaya” [Spanish]/(40159)
<i>Carica papaya</i>	Cayapa	Cultivated/“Papalla finchuno boca”/(40485)
Clusiaceae		
<i>Chrysochlamys dependens</i>	Cayapa	A childrens favorite/“Nan-boca” [Cayapa]/(40409)
<i>Clusia sp. 1</i>	Cayapa	//“A- ba -boca” [Cayapa]/(40908)
<i>C. sp.2</i>	Cayapa	White flesh of mature fruits/“A-ba n-cho-boca” [Cayapa]/(48234)
<i>Rheedia edulis</i>	Coaiquer	Sweet taste/“Madroño” [Spanish]/(41575, 41342)
<i>R. edulis</i>	Cayapa	Sweet and tasteful/“Sji-pistcha-ka-bocaca” [Cayapa]/(48363)
<i>Tovomitopsis</i>	Cayapa	Acid, with sugar or salt/“Nan-bo!-chi” [Cayapa]/(48192)
<i>Rheedia sp.</i>	Cayapa	//“Madroño”[Spanish]/(40334)
genus indet.	Cayapa	//“Niang-boca” [Cayapa]/(60100)
Cucurbitaceae		
<i>Luffa aegyptica</i>	Cayapa	Boiled. Cultivated but uncommon/ “Tebabo quillachi-remedio-tapé” [Cayapa]/(40597)
<i>Rytidostylis carthaginensis</i>	Cayapa	//“Chin-laqpè” [Cayapa]/(48051)

Tabel 24 – Continued

	Tribe	Comments/ local name/(AAU voucher)
Cycadaceae		
<i>Zamia lindenii</i>	Cayapa	Seeds ground to flour for special bread/"Sa-oa-pa-chi" [Cayapa]/(48155)
Cyclanthaceae		
<i>Cyclanthus bipartitus</i>	Colorado	/"Pinta" [Colorado]/(40221)
Dioscoreaceae		
<i>Dioscorea</i> sp.	Coaiquer	/"Chirma" [Coaiquer]/(48826)
Ericaceae		
<i>Psammisia caloneura</i>	Coaiquer	/"Guish" [Coaiquer], "Ava de monte" [Spanish]/(48920)
Flacourtiaceae		
<i>Carpotroche platyptera</i>	Colorado	/"Vehica" [Colorado]/(40060)
<i>Casearia</i> sp.	Cayapa	/"Pique lanboca" [Cayapa]/(40445)
Genus A	Cayapa	/"Ya-sa-te-pistcha" [Cayapa]/(48169)
Genus B	Coaiquer	/"Morcillo silvestre" [Spanish]/(48702)
Gesneriaceae		
<i>Codonanthe crassifolia</i>	Cayapa	White berries collected from ground/ "Abanchola finchuno bugu" [Cayapa]/ (40479)
<i>Columnnea tenella</i>	Coaiquer	//(41577)
Lacistemataceae		
<i>Lacistema aggregata</i>	Coaiquer	Taste like mango/"Pailde" [Coaiquer]/(48796)
Lauraceae		
<i>Persea americana</i>	Colorado	Cultivated/"Alán" [Colorado], "Aguacate" [Spanish]/(49118)
Malpighiaceae		
<i>Bunchosia cornifolia</i>	Cayapa	//(48031)
Melastomataceae		
<i>Ossaea micrantha</i>	Colorado	/"Pichi ri chide" [Spanish]/(40162)
Meliaceae		
<i>Carapa guianensis</i>	Coaiquer	/"Aray" [Spanish]/(41667)
Menispermaceae		
<i>Cissampelos tropaeolifolia</i>	Cayapa	/"Pin tsu ruro chua" [Cayapa]/(40851)
Mimosaceae		
<i>Inga edulis</i>	Colorado	Cultivated/"Pitsa" [Colorado], "Guaba"[Spanish]/(40042)
<i>I. edulis</i>	Cayapa	Cultivated many cultivars/"Pu shilló" [Cayapa], "sichi jaquie" [Cayapa], "pichiche" [Cayapa]/(40353, 40450, 40778, 48200)
<i>I. marginata</i>	Cayapa	/"Pichillo" [Cayapa]/(40733)
<i>I. ruizana</i>	Cayapa	/"Minga shi chi tapé" [Cayapa]/(40898)
<i>I. spectabilis</i>	Cayapa	(40772)
Myrsinaceae		
<i>Ardisia romeroi</i>	Cayapa	/"Kapo-chin-boca-(tapé)" [Cayapa]/ (40542, 40906)
<i>A. ronseroi</i>	Cayapa	Tasteful and sweet/"Ka-bo-chin-boca-tapé" [Cayapa]/(48325)
<i>A. sp.</i>	Cayapa	/"Yasa shi pij cha" [Cayapa]/(40817)

Tabel 24 – Continued

	Tribe	Comments/ local name/(AAU voucher)
Myrtaceae		
<i>Psidium</i> sp.	Cayapa	/"Yunqui tapé" [Cayapa]/(40404)
Passifloraceae		
<i>Passiflora auriculata</i>	Colorado	/"Wero quinto" [Colorado], "Grenadilla de loro" [Spanish]/(40218)
<i>P. edulis</i>	Colorado	Cultivated/"Maracuya" [Spanish]/(40026)
<i>P. foetida</i>	Cayapa	"Shin lápe" [Cayapa]/(40387)
<i>P. maliformis</i>	Cayapa	Cultivated/"Cho-ro-ro-fin-choni-boca" [Cayapa]/(40539)
<i>P. quadrangularis</i>	Colorado	Cultivated/"Na wa quinto" [Colorado], "grenadilla" [Spanish]/(40174)
<i>P. quadrangularis</i>	Cayapa	Sweet and tasteful/"Bandé-cho-ro-ro-chua" [Cayapa], "Bad- ea" [Spanish]/(40355, 48187, 48429)
<i>P. sp.</i>	Coaiquer	/"Grenadilla" [Spanish]/(48857)
Rhamnaceae		
<i>Gouania lupuloides</i>	Cayapa	Sweet taste/"Shui pu chua" [Cayapa]/(40744)
Rubiaceae		
<i>Pentagonia grandiflora</i>	Coaiquer	Sweet taste/"Cham" [Coaiquer]/(41599)
<i>P. macrophylla</i>	Cayapa	/"Pé-dju-pistcha-tapé" [Cayapa]/(40451, 48361)
<i>P. sp. 1</i>	Cayapa	(40375)
<i>P. sp. 2</i>	Cayapa	Crude/"Pé-dju-pistcha-tapé" [Cayapa]/(41001)
<i>Sabicea villosa</i>	Coaiquer	Taste like apple/(41623)
<i>Arachnothryx inconstans</i>	Coaiquer	/"Mocillo" [Spanish]/(48768)
Rutaceae		
<i>Citrus</i> sp.	Colorado	Cultivated/"Lansa" [Colorado], "Naranja" [Spanish]/ (40721)
Sapindaceae		
<i>Allophylus</i> sp.	Colorado	/"Unilo piyo" [Colorado]/(40181)
<i>Talisia</i> sp.	Cayapa	/"A-chi-boca" [Cayapa]/(40820)
Sapotaceae		
<i>Chrysophyllum argenteum</i>	Colorado	Cultivated/"Caimitos" [Colorado]/(40289)
<i>Pouteria caimito</i>	Cayapa	/"A-cuña" [Cayapa]/(40415)
<i>P. collina</i>	Coaiquer	/"Caimitillon" [Spanish]/(41673)
<i>P. torta</i>	Coaiquer	/"Piast" [Spanish]/(41629)
Solanaceae		
<i>Cestrum baenitzii</i>	Coaiquer	/"Chalmolan" [Spanish]/(41650)
<i>Physalis angulata</i>	Cayapa	Sweet/"Ba-pist-chi" or "Papicha-finoboca-chi" [Cayapa]/ (40609, 48385)
<i>P. pubescens</i>	Cayapa	/"Casena" [Cayapa]/(40311)
<i>Solanum candidum</i>	Colorado	/"Uwica" [Colorado]/(40165)
<i>S. canense</i>	Colorado	(40016)
<i>S. mammosum</i>	Coaiquer	/"Estacudo" [Spanish]/(41452)
<i>S. quitoensis</i>	Coaiquer	Cultivated/"Naranjilla" [Spanish]/(41586)
<i>S. sessiliflorum</i>	Cayapa	/"Larajilla tapé" [Cayapa]/(40509)
<i>S. sp. 2</i>	Coaiquer	/"Yalté" [Spanish]/(48829)

Table 24 – Continued

	Tribe	Comments/ local name/(AAU voucher)
Sterculariaceae		
<i>Herrania baluensis</i>	Colorado	/"Apilon" [Colorado], "Cacao de monte" [Spanish]/(40666)
<i>H. baluensis</i>	Cayapa	/"É cacabo chi" [Cayapa]/(40416)
<i>Theobroma bicolor</i>	Cayapa	/"Chis po yo" [Cayapa]/(40418)
<i>T. gileri</i>	Cayapa	Taste like cacao/"Llyoko-pistehi" [Cayapa]/(48430)
Urticaceae		
<i>Pourouma guianensis</i>	Colorado	Sweet like candy/"Lati" [Colorado], "Uva de monte" [Spanish]/(40677)
<i>P. hirsutipetiolata</i>	Cayapa	Sweet/"Yapistchi" [Cayapa], "Palo diura" [Spanish]/(41009)
Verbenaceae		
<i>Aegiphila</i> sp.	Coaiquer	/"Manga mora" [Spanish]/(48779)

Table 25. Vegetables. Especially the Cayapa Indians use many leaves collected from the wild in their traditional dishes. These are typically prepared with porc rind before serving.

	Tribe	Part of plant/preparation/(AAU voucher)
Vascular cryptogams		
<i>Dennstaedtia</i> sp. 1	Cayapa	Juvenile fronds/boiled with fat/(48299)
<i>D.</i> sp. 2-3	Coaiquer	FronDS/boiled with fat and salt/(48847, 48884)
<i>D.</i> sp. 4	Colorado	Juvenile fronds/boiled/(49036)
<i>Diplazium fraseri</i>	Cayapa	Juvenile fronds/ground with fat/(48049)
<i>Dryopteris</i> sp.	Coaiquer	FronDS/boiled with fat and salt/(48887)
<i>Hypolepis hostilis</i>	Cayapa	FronDS/midrib boiled with fat or black protuberances on stem grated and used like noodles in soups/(40527, 41070, 48176)
<i>Nephelea cuspidata</i>	Cayapa	Rhizomes/grated and boiled/(40442)
genus indet. (Polypodiaceae)	Cayapa	Juvenile fronds/boiled/(40431)
genus indet. (Dennstaedtiaceae)	Cayapa	Juvenile fronds/ground with fat/(48048)
genus indet. (Hymenophyllaceae)	Coaiquer	Juvenile fronds/boiled with fat and salt/(48848)
Araceae		
<i>Anthurium lancea</i>	Cayapa	FronDS/cut into pieces and boiled with fat/(41048)
<i>A. versicolor</i>	Cayapa	Juvenile fronds/boiled with fat/(48098)
<i>A.</i> sp. 1	Cayapa	Juvenile fronds/boiled/(40357)
<i>A.</i> sp. 2	Cayapa	Juvenile fronds/dried/(40850)
Areaceae		
<i>Aiphanes gelatinosa</i>	Coaiquer	Palm heart/(60003)
<i>Bactris gasipaes</i>	Cayapa	Palm heart/(60113)
<i>B. setosa</i>	Cayapa	Palm heart/(60110)
<i>B. setulosa</i>	Coaiquer	Palm heart/(60010)
<i>Euterpe chaunostachys</i>	Coaiquer	Palm heart/(60001)
<i>E. chaunostachys</i>	Cayapa	Palm heart/(60103)
<i>Geonoma</i> sp.	Coaiquer	Palm heart/(48916)
<i>Iriartea deltoidea</i>	Cayapa	Palm heart/(60097)
<i>Jessenia bataua</i>	Coaiquer	Palm heart/(60006)
<i>Prestoea sejuncta</i>	Cayapa	Palm heart/(60107)
<i>Socratea exorrhiza</i>	Cayapa	Palm heart/(60007)

Tabel 25 – Continued

	Tribe	Part of plant/preparation/(AAU voucher)
Asteraceae		
genus indet	Colorado	Fronds// (40103)
Begoniaceae		
Begonia sp.	Cayapa	Petioles/peeled, pith with salt or sugar/taste very acidic/ (48421)
Campanulaceae		
Burmeistera vulgaris	Cayapa	Leaves/prepared with fat/ (41031)
B. spp.	Cayapa	Leaves/boiled or crushed and fried/ (40343, 40876, 48070)
Caricaceae		
Carica spp.	Colorado	Leaves/boiled/ (40088, 40158, 40195)
Costaceae		
Costus spp.	Coaiquer	Pith of stem/fresh/ (48860, 48907, 48917)
Cucurbitaceae		
Rytidostylis carthaginensis	Cayapa	Leaves/with fat/ (48365)
genus indet.	Coaiquer	Distal 10 cm of shoots/boiled/ (41579)
Lecythydaceae		
Gustavia dodsonii	Cayapa	Leaves/boiled/ (40340)
G.a sp.	Cayapa	Leaves/boiled with fat/ (48141)
Marantaceae		
Calathea lutea	Cayapa	Young apical leaves/fresh or boiled/ (48181)
Melastomataceae		
Anthrostema ciliatum	Cayapa	Young shoots/with salt/from fields/ (40461, 48053)
Phytolaccaceae		
Phytolacca rivinoides	Cayapa	Leaves/boiled/ (40454)

Table 26. Edible flowers. Only the Cayapas include flowers, flowerbuds and inflorescences in their diet.

	Tribe	Part of plant/preparation/comments/ (AAU voucher)
Bignoniaceae		
Schlegelia chocoensis	Cayapa	/// (48404)
S. fastigiata	Cayapa	White part of flowers/crude// (41069)
Ericaceae		
Cavendishia spp.	Cayapa	Flowers//as vitamins/ (40309, 40520)
Psammisia ataberrans	Cayapa	Flowers/with salt/very tasty/ (48250)
P. sp.	Cayapa	Flowers/crude/sweet taste/ (48061)
Gesneriaceae		
Drymonia coriacea	Cayapa	Flowers//sweet taste/ (40550)
Marantaceae		
Calathea sp.	Cayapa	Inflorescences/boiled// (40433)
Melastomataceae		
Blakea subconnata	Cayapa	Flower buds/sucked/like candy/ (40297)
Rubiaceae		
Amphidasya sp.	Cayapa	Flowers/with salt/very tasty/ (48248)
Pentagonia sp.	Cayapa	Calyx, receptacle//sweet and rich/ (41082)

Table 27. Larvae from palms. The Cayapas and the Coaiqueres eat the larva of a weevil, *Rhynchoporus palmarum* (Fig. 12). The larva is collected from decaying stems of several palm species. It reveals its presence by producing an intense, pungent odor that can be detected from some distance. The larva is considered a delicacy. It is either eaten raw on the spot (the mandibles are first removed) or brought home for frying. The taste is rather neutral except for a soap-like aftertaste.

	Tribe	(AAU voucher)
Arecaceae		
Bactris gasipaes	Cayapa	(60113)
B. setulosa	Coaiquer	(60010)
Iriartea deltoidea	Coaiquer	(not vouchered)
I. deltoidea	Cayapa	(60097)
Socratea exorrhiza	Coaiquer	(60007)
S. exorrhiza	Cayapa	(not vouchered)
Wettinia quinaria	Coaiquer	(60005)
W. quinaria	Cayapa	(60112)

Table 28. Beverages. A somewhat arbitrary distinction is made between the plants listed in this category and the plants that are used to fight fever chills (table 71). The plants included here are used for infusions or decoctions and are prepared mainly for their taste and stimulating effects. Coffee and cacao are important sources of income for many Colorados. The Cayapas rarely sell their surplus of these two cash crops.

	Tribe	Part of plant/preparation/comments/ (AAU voucher)
Acanthaceae		
Mendoncia sp.	Cayapa	Stem/dried, mixed with sugar cane brandy/(40813)
Capparidaceae		
Capparis ecuadoriana	Colorado	Woody stem/ground, boiled/ stimulant/(40097)
Euphorbiaceae		
Acalypha sp.	Colorado	//warm drink to fight cold chills/(40725)
Lamiaceae		
Coleus x hybridus	Coaiquer	Leaves/ground/for fatigue/(41476)
Hyptis capitata	Cayapa	Leaves/boiled, mixed with sugar/for taste only/(40544)
Ocimum campechianum	Colorado	Leaves/boiled/hot drink/(40616)
Lecythidaceae		
Grias peruviana	Colorado	Wood/boiled/said to give strength/(40220, 40121)
Orchidaceae		
Epidendron difforme	Colorado	Leaves/boiled/warms the body/(40102)
Scaphyglottis prolifera	Cayapa	Leaves/boiled/like tea/(40855)
Passifloraceae		
Passiflora foetida	Colorado	Leaves/boiled/(40660)
Rubiaceae		
Coffea arabica	Cayapa	//for domestic use and as cash crop/(40470)
C. arabica	Colorado	//cash crop/(40645)
Rutaceae		
Citrus sp. 1	Colorado	Fruits//for a juice/(40720)
C. sp. 2	Cayapa	Leaves/boiled with sugar/stimulant/(48194)

Tabel 28 – Continued

	Tribe	Part of plant/preparation/comments/ (AAU voucher)
Solanaceae		
Cestrum sp.	Colorado	Stem/boiled/for warming the body/(40092)
Solanum candidum	Colorado	Fruits//juice/(40656)
S. sessiliflorum	Cayapa	Fruits//juice/(40509)
Sterculiaceae		
Theobroma cacao	Cayapa	//for domestic use and as cash crop/(40460)
T. cacao	Colorado	//cash crop/(40618)

Table 29. Food flavouring. One of the favorite flavours is that of *Eryngium foetidum* which is widely used in soups. All groups cultivate a number of chili pepper varieties.

	Tribe	Part of plant/use/comments/(AAU voucher)
Araceae		
Genus indet.	Cayapa	Leaves/added to corn flour for a better taste/(40482)
Apicaceae		
Eryngium foetidum	Cayapa	Leaves/ spice in soup/(48926, 48359, 40427)
Cucurbitaceae		
Rytidostylis carthaginensis	Cayapa	Leaves//cultivated/(40607, 40462)
Lamiaceae		
Ocimum sp.	Coaiquer	Leaves/for soups/cultivated/(48982)
Phytolaccaceae		
Phytolacca rivinoides	Cayapa	Leaves///(48101)
Portulacaceae		
Talinum paniculatum	Cayapa	Leaves/for soups/cultivated/(40559)
Solanaceae		
Capicum frutescens	Colorado	Fruits/spice/cultivated/(40201)
C. frutescens	Cayapa	Fruits/spice/several cultivars collected/(40456, 40565, 40566, 40586)
C. frutescens	Coaiquer	Fruits/spice/cultivated/(89988)

Table 30. Food colouring. Only two species of *Bixa* are used for this purpose. The red dye is extracted from inside the fleshy capsule. *Bixa orellana* has been approved as a food additive in the industrialized world where it is used to colour butter, among other things.

	Tribe	Part/use/cultivated/(AAU voucher)
Bixaceae		
Bixa orellana	Colorado	Fruits/for food/cultivated/(40045, 40704)
B. orellana	Cayapa	Fruits/for soups/many cultivars/(40473, 40474, 40602)
B. platycarpa	Cayapa	Seeds/to dye food yellow/(40810)

Table 31. Fodder and fish bait. Fruits from different plants are used as fish bait by the Cayapas and the Coaiqueres. They often constitute the natural food for fish in the periodically flooded forest. *Pseuderanthenum* is also fed to chickens for medicinal purposes. The fish locally named "sabalo" is probably a representative of the genus *Brycon*.

	Tribe	Comments/(AAU voucher)
Acanthaceae		
<i>Pseuderanthenum micranthum</i>	Coaiquer	Leaves used to feed chicken/(48935)
Araceae		
<i>Anthurium</i> sp.	Coaiquer	Fruits used as fish bait/(48782)
<i>Philodendron</i> sp.	Coaiquer	Fruits used as fish bait/(41652)
Arecaceae		
<i>Chamaedorea pinnatifrons</i>	Coaiquer	Fruits used to feed chicken/(48908)
Asteraceae		
<i>Wulffia baccata</i>	Cayapa	For feeding domesticated animals/(48167)
Clusiaceae		
<i>Tovomitopsis</i> sp.	Coaiquer	Fruits used as fish bait/(41616)
Euphorbiaceae		
<i>Alchornea</i> sp.	Coaiquer	Boiled fruits used as fish bait/(41631)
<i>Hieronima chochoensis</i>	Coaiquer	Fruits used as fish bait/(48772)
Flacourtiaceae		
<i>Carpotroche platyptera</i>	Cayapa	Seeds uses for fishing "sábalo"(40873, 40366)
Moraceae		
<i>Ficus insipida</i>	Cayapa	Fruits used as fish bait/(41080, 48056)
Rubiaceae		
<i>Raritebe palicoureoides</i>	Cayapa	Fruits used as fish bait/(48066)
Sapindaceae		
<i>Cupania cinerea</i>	Cayapa	Seeds used as fish bait/(41046)
Solanaceae		
<i>Solanum contertiseriatum</i>	Coaiquer	Fruits used as fish bait/(41601)

Table 32. Wildlife attractants. The Coaiqueres and the Cayapas possess detailed knowledge on the behaviour and the ecology of the animals they hunt. Our informants often told us about the animals that were known to feed specifically on a given plant species. This information was not collected systematically. When no other use came to the informant's mind, the plant's importance as a game attractant was often mentioned.

	Tribe	Animals/comments/(AAU voucher)
Acanthaceae		
<i>Ruellia tubiflora</i>	Cayapa	Birds/visit flowers/(48402)
Apocynaceae		
<i>Mandevilla dodsonii</i>	Cayapa	Birds/visit flowers/(48307)
<i>Tabernaemontana heterophylla</i>	Cayapa	Birds/eat fruits/(48123)
Araceae		
<i>Anthurium caulorrhizum</i>	Cayapa	Birds/eat fruits/(48243)
<i>A. gracile</i>	Cayapa	Birds/eat berries/(48232)
<i>A. spp.</i>	Cayapa	Birds/eat berries/(48095, 48239)

Tabel 32 – Continued

	Tribe	Animals/comments/(AAU voucher)
<i>Philodendron verrucosum</i>	Cayapa	Birds/eat fruits/(48191)
<i>Xanthosoma daguense</i>	Cayapa	Birds, turtles/eat rhizomes/(48189)
<i>X. sagittifolia</i>	Cayapa	Turtles/feed on young leaves and caught at night in slash-and-burn fields using flashlights/(48332)
genus indet.	Cayapa	Birds/eat fruits/(48246)
Araliaceae		
<i>Schefflera</i> spp.	Coaiquer	Birds/eat fruits/(41606, 48718, 48803, 48913)
Areceaceae		
<i>Chamaedorea pinnatifrons</i>	Coaiquer	Birds (“gallina de monte”)/fruits/(48908)
<i>Hyospathe elegans</i>	Cayapa	Birds/eat fruits/(48273)
Asteraceae		
<i>Wulffia baccata</i>	Coaiquer	Birds/eat fruits/(48851)
Bignoniaceae		
<i>Schlegelia dresleri</i>	Cayapa	Birds/visit flowers/(48404)
<i>S. fastigiata</i>	Cayapa	Birds/visit flowers/(48111)
Bromeliaceae		
<i>Guzmania scherzeriana</i>	Cayapa	Opossums/eat leaves/(48395)
Campanulaceae		
<i>Burmeistera</i> sp. 1	Cayapa	Birds/visit flowers/(48102)
<i>B.</i> sp. 2	Coaiquer	Birds/eat fruits/(48696)
<i>B.</i> sp. 3	Coaiquer	Birds/eat fruits/(48707)
Capparidaceae		
<i>Capparis</i> sp.	Cayapa	Squirrels/eat fruits/(48119)
Clusiaceae		
<i>Clusia</i> sp. 1	Coaiquer	Birds/eat fruits/(48932)
genus indet.	Coaiquer	Birds/eat fruits/(48835)
genus indet.	Coaiquer	Birds/eat fruits/(48962)
Cucurbitaceae		
<i>Rytidostylis carthaginensis</i>	Cayapa	Birds/eat fruits/(48328)
Cyclanthaceae		
<i>Asplundia</i> sp.	Cayapa	Birds/eat fruits/(48175)
Euphorbiaceae		
<i>Cleidion castaneifolium</i>	Colorado	Parrots/eat leaves/(40077)
Flacourtiaceae		
<i>Tetrathylacium macrophyllum</i>	Cayapa	Birds/eat fruits/(48425)
genus indet	Cayapa	Birds/suck sap from fruits/(48171)
Gesneriaceae		
<i>Drymonia coriacea</i>	Cayapa	Hummingbirds/visit flowers/(48083)
<i>D. serrulata</i>	Cayapa	Hummingbirds/visit flowers/(48081)
Heliconiaceae		
<i>Heliconia wagneriana</i>	Cayapa	Hummingbirds/visit flowers and fruits/(48274)

Tabel 32 – Continued

	Tribe	Animals/comments/(AAU voucher)
Icacinaceae		
<i>Discophora guianensis</i>	Cayapa	Many different birds/eat fruits/(48168)
Marcgraviaceae		
<i>Marcgravia</i> sp.	Cayapa	Birds/ripe fruits// (48337)
Melastomataceae		
<i>Blakea punctulata</i>	Coaiquer	Mammals/eat bark/ (41613)
<i>B. punctulata</i>	Coaiquer	Birds/eat fruits/(48987)
<i>B. subconnata</i>	Cayapa	Birds/visit flowers/(48336)
<i>Conostegia montana</i>	Coaiquer	Birds/ eat fruits/ (48785)
<i>Miconia oraria</i>	Cayapa	Birds/eat fruits/(48216,48339)
<i>Tococa spadiciflora</i>	Coaiquer	Birds/eat fruits/(48701)
<i>T. symphyandra</i>	Coaiquer	Birds/eat fruits(48725)
<i>Topobea calycularis</i>	Coaiquer	Birds/eat fruits/(48901)
<i>T. caudata</i>	Coaiquer	Birds/eat fruits/(48797, 48918)
Menispermaceae		
genus indet	Cayapa	Toucans/eat fruits// (48237)
Moraceae		
<i>Ficus obtusifolia</i>	Colorado	Birds/eat figs/(40047)
<i>F. schippii</i>	Cayapa	Many different birds/eat figs/(48424)
Myrtaceae		
genus indet.	Cayapa	Many different birds/eat fruits/(48401)
Piperaceae		
<i>Peperomia omnicola</i>	Coaiquer	Lizards/eat inflorescences/(48986)
<i>Piper</i> sp.	Cayapa	Birds/visit inflorescences/(48338)
Rubiaceae		
<i>Cephaelis</i> sp. 1	Cayapa	Birds/eat fruits/(48208)
<i>C.</i> sp. 2	Coaiquer	Birds/eat fruits/(48904)
<i>Isertia pittieri</i>	Cayapa	Squirrels/eat fruits/(48278)
<i>Palicourea guianensis</i>	Cayapa	Hummingbirds/visit flowers/(48205)
<i>P.</i> spp.	Coaiquer	Birds/eat fruits/ (41619, 48721, 48727)
<i>Psychotria brachiata</i>	Cayapa	Hummingbirds/visit flowers/(48112)
<i>P. racemosa</i>	Cayapa	Birds/eat fruits/(48215)
Sapindaceae		
<i>Paullinia nobilis</i>	Cayapa	Birds/visit flowers/(48341)
Solanaceae		
<i>Cestrum</i> sp.	Cayapa	Birds/eat fruits/(48166)
<i>Lycianthes</i> sp.	Coaiquer	Bird ("paleton")/eat fruits/(48867)
<i>Solanum triplinervium</i>	Coaiquer	Birds/eat fruits/(48914)
genus indet.	Cayapa	Birds and squirrels/eat fruits/(48405)
Tropaeolaceae		
<i>Tropaeolum repandum</i>	Cayapa	Birds/visit flowers/(48306)
Urticaceae		
<i>Coussapoa contorta</i>	Coaiquer	Birds and fish/eat fruits/(41626)
Zingiberaceae		
<i>Renealmia cuatrecassii</i>	Coaiquer	Parrots/eat fruits/(41588)

Table 33. Utilitarian poisons. For hunting, fishing, or pest control. The identity of the arrow poison tree of the Colorados is uncertain since we only obtained sterile material. According to the Cayapa informants, a species of *Naucleopsis* has previously been used for arrow poison. In tropical South America the common word for fish poison plants is "barbasco". Leaves, stems roots or fruits from these plants are crushed and thrown into the water. The fish are immediately paralyzed and may eventually die of asphyxiation. The water is typically led through manmade dams on the riverbank (Fig. 14). The fish are collected at the outlets of these dams. The active compounds in the fish poison are saponins that are unharmed to humans.

	Tribe	Use/part of plant/comments/(AAU voucher)
Asteraceae		
Clibadium sp.	Colorado	"Barbasco"/leaves/crushed/(49095)
Cannaceae		
Canna sp.	Colorado	Previously used to kill enemies/sap/ very poisonous/(49051)
Euphorbiaceae		
Phyllanthus anisolobus	Colorado	"Barbasco"/leaves/crushed/(40010, 49102)
P. anisolobus	Cayapa	"Barbasco"/leaves/crushed/(40394, 48370)
P. anisolobus	Coaiquer	"Barbasco"/leaves/crushed/(48880)
Sapium peruvianum	Cayapa	"Barbasco"/bark/ground and thrown in river very efficient/(48414, 41041)
S. peruvianum	Colorado	"Barbasco"/bark/crushed/(49098)
Fabaceae		
Lonchocarpus sp.	Colorado	"Barbasco"/root/ground/(49107, 49105)
Moraceae		
Castilla elastica	Colorado	Latex used as a poison//causes an intense allergic reaction on the skin/40096
Ficus obtusifolia	Colorado	Latex poisonous///(40047)
Naucleopsis amara	Coaiquer	Arrow poison/latex/(48912)
N. sp.	Colorado	Previously used for arrow poison/latex// (49112)
Oxalidaceae		
Biophytum dendroides	Cayapa	Previously used in warfare//entire plant very poisonous(40577)
Polygonaceae		
Polygonum hydropiperoides	Cayapa	"Barbasco"/leaves/very strong/(40494, 40491, 48412)
Solanaceae		
Solanum mammosum	Coaiquer	Insecticide to control cockroaches/fruit/(41452)

Table 34. Notorious poisons. This category comprises all plants indicated as being poisonous and not serving any purpose.

	Tribe	Comments/(AAU voucher)
Oxalidaceae		
Oxalis sp.	Coaiquer	Causes rash particularly in children/ (41433)
Solanaceae		
Solanum sp.	Coaiquer	Fruits said to be poisonous/(48817)
Urticaceae		
genus indet	Cayapa	Causes itching of skin/(48050)

Table 35. Anaemia. Symptoms such a fatigue are often referred to as anaemia by the Cayapas. The treatment is typically systemic.

	Tribe	Part of plant/preparation/treatment/(AAU) voucher
Vascular cryptogams		
<i>Polypodium piloselloides</i>	Cayapa	/ground, mixed with tepid water/taken 4 times a day/(40302)
<i>Tectaria nicotianifolia</i>	Cayapa	Leaves/ground and mixed with a cup of water/2 teaspoonfuls taken 3 times a day/ (40441)
<i>Thelypteris</i> sp.	Cayapa	Leaves/ground, cold extract// (48222)
<i>Trichomanes elegans</i>	Cayapa	Leaves/ground, hot water added//(40882)
Begoniaceae		
<i>Begonia semiovata</i>	Cayapa	Leaves/boiled/bath/(48064)
Caesalpinaceae		
<i>Cassia papillora</i>	Cayapa	Leaves/ground with cold water/ massage or extract drunk/(40751, 40543)
<i>Senna dariensis</i>	Cayapa	Leaves/ground in cold water/1 cup is taken at noon after bath in the river/(41087)
Costaceae		
<i>Costus lima</i>	Cayapa	Pith of stem/ground, mixed with water/cold bath/(48093)
Piperaceae		
<i>Peperomia</i> sp. 1	Cayapa	Leaves/ground, heated in water// (40506)
<i>P. urocarpa</i>	Cayapa	Leaves/ground, boiled/2 teaspoonfuls taken 2 times a day/(40531)

Table 36. Blood circulation. Plants belonging to this category are used to treat symptoms allegedly caused by poor blood circulation. It is notable that one particular kind of symptom has the same name as the snake *Lacheis muta*, which produces a hemolytic poison.

	Tribe	Part of plant/preparation/treatment/comments/(AAU voucher)
Bignoniaceae		
<i>Crescentia cujete</i>	Colorado	Fruits/juice mixed with salt/drunk/ improves bad blood circulation/(40728)
Sapindaceae		
<i>Allophylus exelsus</i>	Coaiquer	Sap/mixed with hot water/drunk/child disease causing rash/(41504)
Solanaceae		
<i>Brugmansia versicolor</i>	Coaiquer	Leaves/ground with a little water/ drunk/symptoms called »guamuca«/(48930)
Zingiberaceae		
<i>Renealmia</i> sp.	Coaiquer	Root/ground with water/drunk/symptoms called »guamuca«/(48924)

Table 37. Gangrene. Plants in this category are used to treat various ailments ranging from minor afflictions to very serious health threats such as lymphingitis.

	Tribe	Part of plant/preparation/treatment/symptoms/ (AAU voucher)
Begoniaceae		
Begonia semiovata	Cayapa	Leaves/ground eventually mixed with urine/compress/fever and swollen legs, possibly bloodpoisoning/(41029, 48276)
B. sp.	Cayapa	Leaves/ground, soaked in water with a little urine/lower part of body washed/possibly gangrene/(48310)
Bromeliaceae		
Pitcairnia sp.	Coaiquer	Leaves//rubbing of skin/infection of arteries (phlebitis)/(41496)
Costaceae		
Costus spp.	Cayapa	Leaves/ground, mixed with urine/bath/gangrene, bloodpoisoning/(48097, 48146)
Gesneriaceae		
Monopyle sodiroana	Cayapa	Leaves//to bathe legs of old people with gangrene// (40877)
Lamiaceae		
Hyptis capitata	Cayapa	Flowers/ground, heated/applied to wounds/to cure a disease causing heavy eczema and wounds/(48356)

Table 38. Blood tapping. Blood tapping was probably once used by some shamans to cure various ailments. We never witnessed such a practice, however, and doubt that it is very common. The *Heliconia* leaf is tightly rolled to form a slender tube. This is placed near the incision in order to collect the blood.

	Tribe	(AAU voucher)
Heliconiaceae		
Heliconia longa	Cayapa	(48180)

Table 39. Gums and teeth. The plants included in this category are all used to fight infectious conditions of the mouth or to relieve toothache. No information was obtained regarding plants used for preventive measures.

	Tribe	Part of plant/preparation/treatment and purpose/ (AAU voucher)
Vascular cryptogams		
Trichomanes polypodioides	Coaiquer	Leaves/ground to a paste/applied to aching gums/(48839)
Amaranthaceae		
Achyranthus aspera	Coaiquer	Leaves/ground in a cup of cold water/gargling for toothache/(41649)
Amaryllidaceae		
genus indet	Coaiquer	Rhizome and leaf-sheaths/died or taken fresh/for toothache/(41604)
Asteraceae		
Spilanthes sp.	Coaiquer	Flowers/crude/chewed for toothache/ (41485)
Ericaceae		
Cavendishia complecteus	Coaiquer	Leaves/boiled/placed on jaw for toothache/(41502)
Menispermaceae		
Cissampelos tropaeolifolia	Coaiquer	Leaves/ground while fresh, mixed with fat/placed on aching gums/(41472)
Portulacaceae		
Portulaca sp.	Cayapa	Leaves/crushed/applied to aching gums/ (48379)
Zingiberaceae		
Zingiber officinale	Colorado	Rhizome/ground, sap extracted/for toothache/(49116)

Table 40. Liver and spleen. The informants did not make a clear distinction between the kidney (urinary system, Table 69) and the liver (digestive system). We have tried to separate the two categories here to reveal eventual differences in usage patterns for the two organ groups.

	Tribe	Part of plant/preparation/treatment/purpose/ (AAU voucher)
Vascular cryptogams		
Polypodium phyllitidis	Cayapa	Leaves/ground, mixed with water/drunk before meals/ pain, liver and spleen/(40806)
Saccoloma elegans	Cayapa	Petiole/soaked in water, slime extracted and mixed with water/drunk/liver diseases/(48223)
Thelypteris gigantea	Cayapa	Leaves/ground, mixed with cold water/2 glasses a day, morning and evening/pains in spleen and swelled liver/ (40318, 40867, 48069)
T. reticulata	Cayapa	Vascular bundles extracted/soaked in water/infusion drunk 3 times daily/ swelling and pains of liver/(48298)
Araceae		
Monstera sp.	Cayapa	Leaves/ground with cold water/drunk 3 times daily/liver pains/(40436)
Asteraceae		
genus indet.	Cayapa	Leaves/boiled/1 cup of hot mixture drunk/liver pains/ (40574)

Tabel 40 – Continued

	Tribe	Part of plant/preparation/treatment/purpose/ (AAU voucher)
Commelinaceae		
<i>Tripogandra serrulata</i>	Cayapa	Sap/extracted/drank cold/liver diseases/(48089)
Costaceae		
<i>Costus</i> sp.	Colorado	Sap//drunk/liver and kidney pains/(40678)
Lamiceae		
<i>Salvia coccinea</i>	Cayapa	Leaves/ground in hot water/4-5 tea-spoonfuls drunk at dawn/liver pains/ (40564)
Monimiaceae		
<i>Siparuna</i> sp.	Colorado	Leaves/ground, sap mixed with water/drank/ liver and kidney diseases/(40216)
Moraceae		
<i>Brosimum utile</i>	Colorado	Latex/mixed with water/drank/pains in liver and kidney/(49110)
Piperaceae		
<i>Piper</i> sp.	Colorado	Leaves/ground and mixed with water/ drunk/pains in liver/(49043)
Rubiaceae		
<i>Psychotria williamsii</i>	Colorado	Leaves/ground/drank/liver and kidney diseases/(49044)
Scrophulariaceae		
<i>Lindernia crustacea</i>	Colorado	Leaves/boiled/drank cool/liver pains/(40636)
Urticaceae		
<i>Pilea</i> spp.	Colorado	Leaves/boiled or sap mixed with water/ drunk/liver pains/(40062, 40107, 40217, 40682)

Table 41. Stomach infections. Symptoms accompanied by diarrhoea and abdominal pains. A potion is prepared from the plant in nearly all cases. Diarrhoea is a common health problem, especially among children.

	Tribe	Part of plant/preparation/treatment and purpose/ (AAU voucher)
Vascular cryptogams		
<i>Asplenium</i> sp.	Colorado	Leaves/ground in cold water/drank/ (49032)
<i>Bolbitis nicotiafolia</i>	Cayapa	Leaves//warm extract drunk 3 times a day/stomach pains in connection with colds, particularly for children/(48219)
<i>Campyloneuron</i> sp.	Colorado	Leaves/ground/drank/(49037)
<i>Lomariopsis japurenis</i>	Colorado	Leaves//cold extract drunk/(40163)
<i>L. nigropaleata</i>	Cayapa	Vascular bundles/boiled/drank 3 times a day to treat stomach pains of children/(48284, 48125)
<i>L. nigropaleata</i>	Colorado	Rhizome/ground and boiled/drank/(40020)
<i>Pityrogramma calomelanos</i>	Coaiquer	Leaves/boiled/drank/(48752)
<i>Thelypteris torresiana</i>	Cayapa	Leaves/body massage/for diarrhoea/(48130)
genus indet. (Polypodiaceae)	Coaiquer	Leaves/boiled/drank/(48757)
Acanthaceae		
<i>Sanchezia parviflora</i>	Cayapa	Leaves/ground, mixed with a little water/drank/(40398)

Tabel 41 – Continued

	Tribe	Part of plant/preparation/treatment and purpose/ (AAU voucher)
Amaryllidaceae		
Crinum amabile	Cayapa	Leaves/ground, mixed with cold water/drunk/(40547)
Apiaceae		
Eryngium foetidum	Colorado	Root/boiled/drunk/(40038)
Aristolochiaceae		
Aristolochia sp.	Cayapa	Stem/ground/drunk with sugarcane rum, 2 teaspoons twice a day/(40523)
Asteraceae		
genus indet.	Colorado	Roots/boiled/drunk warm / (40034A)
genus indet.	Colorado	Leaves/sap// (40037)
genus indet.	Colorado	Leaves/boiled/drunk/(40647)
genus indet.	Colorado	Leaves/sap squeezed out and boiled/ about 1 glass drunk/ (40707)
Bignoniaceae		
Schlegelia sp.	Cayapa	Flowers/ground with water/drunk/ (40329)
Bromeliaceae		
Guzmania lingulata	Cayapa	Leaves/boiled/drunk cold in the morning before eating/ (48377)
Guzmania melinonis	Cayapa	Leaves/boiled/drunk before meals/ (40885)
G. sp.	Cayapa	//drunk 3 times a day/(41019)
genus indet.	Cayapa	Leaves/boiled/small cup drunk 3 times daily/(48396)
Chenopodiaceae		
Chenopodium ambrosioides	Cayapa	/boiled/1 cup drunk/(40575, 40857)
Commelinaceae		
Tripogandra serrulata	Cayapa	Leaves/ground, some water added/extract taken 3 times daily before meals/(41032)
Costaceae		
Costus sp.	Coaiquer	Flowers/ground/taken with a little water/(41457)
Cucurbitaceae		
Gurania sp.	Cayapa	Leaves/decoction from fresh leaves/ drunk in the morning and the evening/(48107)
Erythroxylaceae		
Erythroxylum novogranatense	Coaiquer	Leaves/infusion/drunk/(41584)
Flacourtiaceae		
genus indet.	Coaiquer	Leaves/crushed, juice dissolved in water/ drunk/(41509)
Gesneriaceae		
Alloplectus sprucei	Colorado	Leaves/ground, water added/drunk/(49052)
Haemodoraceae		
Xiphidium caeruleum	Cayapa	Leaves/ground, mixed with warm water/drunk/(40374)

Tabel 41 – Continued

	Tribe	Part of plant/preparation/treatment and purpose/ (AAU voucher)
Lamiaceae		
<i>Hyptis obtusiflora</i>	Cayapa	Leaves/ground, water added/drunk 4 times a day, only by adults/(40294)
<i>Ocimum campechianum</i>	Colorado	Leaves/boiled/drunk hot/(40616)
genus indet.	Cayapa	/boiled/drunk/(40854)
genus indet.	Cayapa	Leaves/boiled/drunk/(40861)
Loganiaceae		
<i>Spigelia</i> sp.	Cayapa	Leaves/ground and boiled in a little water/drunk 3 times a day, only by children/(40293)
Loranthaceae		
genus indet.	Colorado	Leaves/boiled/at least 1 cup drunk/ (40634)
Melastomataceae		
<i>Clidemia discolor</i>	Cayapa	Leaves/mixed with a little tepid water/ drunk 4 times a day/(40307)
Orchidaceae		
<i>Vanilla odorata</i>	Cayapa	Leaves/boiled/extract taken cold in the morning and the evening/(48236)
Piperaceae		
<i>Peperomia</i> sp.	Colorado	//a cold drink made/(40137)
<i>Piper multiplinervium</i>	Colorado	Roots/boiled/drunk/(40059)
<i>P.</i> sp. 1	Coaiquer	Leaves/boiled/drunk/(41600)
<i>P.</i> sp. 2	Colorado	Leaves/ground, water added/drunk fresh/(49043)
Rubiaceae		
<i>Bertiera guianensis</i>	Colorado	Stem/boiled/drunk/(40069, 40156)
<i>Psychotria williamsii</i>	Colorado	Leaves/ground, water added/drunk fresh/(49044)
<i>P.</i> sp.	Cayapa	/ground with tepid water/drunk/ (40322)
Scrophulariaceae		
<i>Lindernia</i> sp.	Coaiquer	Leaves/decoction or infusion /(48722)
genus indet.	Cayapa	/boiled/drunk/(40812)
genus indet.	Cayapa	Leaves/boiled for 2 hours/drunk at regular intervals during day/(41028)
genus indet.	Cayapa	/boiled in ca. 3 liter water/drunk over a day/(48148)
genus indet.	Cayapa	Leaves/ground, mixed with warm water/drunk, only by adults/(40300)
Solanaceae		
<i>Solanum canense</i>	Colorado	Leaves/sap squeezed out and mixed with hot water/drunk/ (40016, 40724)
<i>S. leptorhachis</i>	Colorado	Stems/boiled/drunk/(40073)
<i>S. confertiseriatum</i>	Coaiquer	Leaves/ground/extract drunk/ (48695)
Verbenaceae		
genus indet.	Cayapa	Leaves/boiled and mixed with 2 other plants/drunk while still hot/(41007)

Table 42. Antiemetics. Prevent nausea and vomiting.

	Tribe	Part of plant/preparation/treatment/comments/ (AAU voucher)
Acanthaceae		
Ruellia riopalenquensis	Cayapa	Leaves/ground to a paste/mixed with water and drunk for 3 days/for vomiting with blood/(40365, 48238)
Boraginaceae		
Cordia spinescens	Coaiquer	Leaves/ground in water/extract drunk//(41498)
Lamiaceae		
Hyptis verticillata	Cayapa	Leaves/ground in water/ a small cup drunk 3 times a day/only for children/(41083)
Poaceae		
Coix lachryma-jobi	Coaiquer	Fruits/crushed/taken with a small amount of water// (48716)
Scrophulariaceae		
genus indet.	Cayapa	Leaves/boiled/3 spoonfulls drunk//(48444)
Verbenaceae		
Verbena litoralis	Cayapa	Leaves/ground, mixed with water/drunk//(40401)

Table 43. Laxatives. It is notable that the Colorados use the strongly hallucinogenic liana *Banisteriopsis caapi* as a laxative.

	Tribe	Part of plant/preparation/treatment/(AAU voucher)
Euphorbiaceae		
Jatropha curcas	Colorado	Fruits/crushed/drunk/(40633)
Malpighiaceae		
Banisteriopsis caapi	Colorado	Stems/ground and boiled/some glasses of mixture drunk/(40722)

Table 44. Intestinal parasites. Intestinal parasites such as tapeworm (*Taenia sp.*) and roundworm (*Ascaris lumbricoides*) are common health problems especially among children. In this category there are several examples of the Doctrine of Signature. One example is *Monolena primulaeflora*, which is probably used because the petiole resembles a red worm.

	Tribe	Part of plant/preparation/treatment/comments/ (AAU voucher)
Vascular cryptogams		
Asplenium sp.	Coaiquer	Leaves//extract drunk//(48744)
Dicranopteris pectinata	Cayapa	////(48323)
Thelypteris exuta	Coaiquer	Leaves/boiled/drunk//(48804)
genus indet. (Polypodiaceae)	Coaiquer	Young leaves/boiled/eaten//(41617)
genus indet. (Dennstaedtiaceae)	Coaiquer	Leaves/ground/drunk with a little water//(48840)
Begoniaceae		
Begonia glabra	Coaiquer	/boiled/drunk//(48819)
Euphorbiaceae		
Jatropha curcas	Colorado	Fruits/sap squeezed out/drunk//(40633)
Melastomataceae		
Monolena primulaeflora	Coaiquer	Petioles//eaten fresh/intestinal worms killed or expelled by vomiting/(41582, 48974)
Moraceae		
Ficus insipida	Cayapa	Latex//3-4 drops of latex taken with a teaspoon of water twice a day//(40900, 48056)
Scrophulariaceae		
Scoparia dulcis	Cayapa	Leaves/boiled/5 teaspoons of decoction drunk at dawn/intestinal worms expelled by vomiting/(40567)

Table 45. Deficiency symptoms. The informants related that the symptoms treated in this category were caused by an unbalanced diet.

	Tribe	Part of plant/preparation/treatment/(AAU voucher)
Asteraceae		
Mikania sp.	Coaiquer	Leaves/ground/juice drunk with water/(41501)
Passifloraceae		
Passiflora auriculata	Colorado	Sap/mixed with sugar cane brandy/drunk/(40105)
P. quadrangularis	Colorado	Leaves//drunk hot/(40174)

Table 46. Ant bites. The large and aggressive *conga* ants (*Paraponera* sp.) have a painful bite that is treated with plants from the families Araceae and Cyclanthaceae. The crude sap is squeezed from the stem and applied directly to the bite.

	Tribe	Part/preparation/(AAU voucher)
Araceae		
Dieffenbachia seguine	Cayapa	Leaves/sap extracted from petiole close to the leaf base/(40756, 48154, 48348)
Philodendron inequilaterum	Colorado	Leaves//(40171)
P. sp.	Colorado	Leaves//(40115)
Syngonium crassifolium	Cayapa	Leaves/ground to a paste used as ointment/(40330)
genus indet.	Cayapa	Leaves//(60101)
Cyclanthaceae		
Cyclanthus bipartitus	Cayapa	Root//(48078)
Evodianthus funifer	Colorado	Roots//(40050)

Table 47. Insect bites. General.

	Tribe	Part of plant/preparation/treatment/comments/(AAU voucher)
Cucurbitaceae		
Melothria perdula	Cayapa	Leaves/ground/compress/said to absorb pus from bites on legs and arms (unidentified insect called "nacido")/(40480)
Piperaceae		
Piper augustum	Cayapa	Leaves/ground/humid, hot compress/ removes larvae from skin (disease called "tábano")/(40303)
P. tricuspe	Cayapa	Leaves/ground/hair wash/removes lice and heals a lice transmitted fungal infection that causes a rash (called "rasquinia")/ (40859)
P. tuberculatum	Cayapa	Leaves/ground/cold bath and hairwash/kills lice/(40455, 48375)
Solanaceae		
Cestrum sp.	Colorado	Leaves/boiled//for bites in general that itch/(40164)
Lycianthes amatitlanensis	Colorado	Leaves/ground/compress/generally for bites that itch/(40172)

Table 48. Snake bites. Topical. Under *purpose* are listed the specific effects that the treatment has according to the informants, e.g. to absorb the venom, reduce the swelling, stop bleeding, relieve the pain, prevent infections or to cool the infected area down. See also snake bites under table 49, and table 50. The vernacular names for snakes probably correspond to the following scientific names: *verrugosa*, *guamaca* or *oalcama* = *Lacheis muta*; *papagayo*, *dormilona* = *Bothrops schlegelii*; *equis* = *Bothrops atrox*; *coral* = *Micrurus sp.*; *pudredora* = *Bothrops bilineatus*; *vibora* = *Bothrops nasuta*. The *coral* snake (Fig. 16) has a neurotoxic poison and electric shocks from generators are sometimes used as part of the therapy.

	Tribe	Part of plant/preparation/treatment/purpose/snake/ (AAU voucher)
Vascular cryptogams		
Adiantum obliquum	Cayapa	Leaves/ground/compress///(48133)
Adiantum sp.	Colorado	Leaves/boiled/warm bath///(40689)
Asplenium sp.	Colorado	Leaves/boiled/warm bath///(40697)
Blechnum sp.	Coaiquer	Leaves/boiled/tepid bath//“equis”/(48942)
Campyloneuron sp.	Coaiquer	Leaves/boiled/cool compress/swelling/“coral”/(48844)
Ctenitis sp.	Colorado	/boiled/cold bath///(40145)
Danaea sp.	Coaiquer	Leaves/boiled/tepid bath//“equis”/(48941)
Dicranoglossum polypodioides	Colorado	Leaves/ground/sap used for compress///(40649)
Diplazium sp.	Colorado	/boiled/cold bath///(40168)
Hymenophyllum sp.	Coaiquer	Leaves/boiled/bath//“equis”/(48754)
Lycopodium sp.	Coaiquer	/boiled/ cool compress//“papagallo”/(48834)
Nephrolepis sp.1	Coaiquer	Leaves/boiled/compress//“coral”/(48846)
N. sp. 2	Coaiquer	Leaves/boiled/bath//“equis”/(48998)
Oleandra sp.	Coaiquer	Leaves/boiled/cool compress/swelling/“coral”/(48843)
Polypodium percussum	Colorado	Leaves//cold bath///(40196, 40219)
Schizaea sp.	Coaiquer	/boiled/bath//“coral”/(48765)
Selaginella sp.	Cayapa	Leaves/ground/compress//“equis”/(40878)
Stigmatopteris sp.	Cayapa	/boiled/bath//“equis”/(48300)
Tectaria sp.	Coaiquer	Leaves/boiled/bath//“equis”/(48947)
Thelypteris francoana	Cayapa	Leaves/ground/compress/absorbs venom/“dormilona”/ (48294)
T. gigantea	Coaiquer	Leaves/boiled/compress//“equis”/(41435A, 48885)
Trichomanes collariatum	Colorado	/boiled/bath///(40695)
T. elegans	Coaiquer	Leaves/ground/compress//“coral”/(48759)
T. punctatum	Cayapa	Leaves/ground/compress/swelling/“dormilona”/(48345)
T. sp. 1	Coaiquer	Leaves/boiled/hot compress///(41630)
T. sp. 2	Cayapa	Leaves/ground/compress/swelling/“dormilona”/(48408)
genus indet. (Gleicheniac.)	Coaiquer	Leaves/boiled/bath//“coral”/(48950)
Amaranthaceae		
Alternanthera sessilis	Cayapa	Leaves/ground/compress/ swelling/vibora/(40890)
Amaryllidaceae		
genus indet.	Coaiquer	Corm/grounded/compress///(48712)
Araceae		
Anthurium bakeri	Coaiquer	Leaves/boiled/compress///(41417)
A. scandens	Cayapa	Leaves/boiled/massage/swelling//(40465)
Monstera dubia	Cayapa	Leaves/ground/compress/absorb venom/“equis”/(48105)
M. spruceana	Cayapa	Leaves/ground/compress/absorb venom/“equis”/(40843)
Philodendron sp.	Cayapa	Leaves/boiled/massage/swelling/“equis”/(48347)
Syngonium sp.	Cayapa	Leaves/ground in cold water/compress//“equis”/(40768)
Xanthosoma daguense	Cayapa	Leaves/ground/compress/absorb venom/“equis”/(48270)
genus indet.	Cayapa	Leaves/boiled/massage/swelling/“equis”/(40789)

Tabel 48 – Continued

	Tribe	Part of plant/preparation/treatment/purpose/snake/ (AAU voucher)
Asteraceae		
Mikania sp.	Colorado	Leaves//compress//“pudredora”/(40348)
genus indet.	Colorado	Leaves, flowers/boiled/bath///(40702)
Bigoniaceae		
Schlegelia sulfurea	Colorado	/boiled/bath///(40127)
Bromeliaceae		
Tillandsia sp.	Cayapa	/ground/compress//“equis”/(40869)
Commelinaceae		
Dichorisandra hexandra	Cayapa	Leaves/ground/compress/swelling/“equis”/(48188)
genus indet.	Cayapa	/ground/compress//“equis”/(48090)
Costaceae		
Costus pulverulentus	Colorado	Roots/boiled/hot bath///(40116)
Cyclanthaceae		
Asplundia sp.	Colorado	Stem/boiled/bath///(40118)
Ericaceae		
Macleania rotundifolia	Cayapa	Leaves/boiled/bath//“equis”/(48376)
Sphryspermum sp.	Coaiquer	Leaves/boiled/compress//“equis”/(48777)
Euphorbiaceae		
Dalechampia sp.	Cayapa	Leaves/boiled/massage//“verrugosa”/(48213)
Fabaceae		
genus indet.	Cayapa	/boiled/massage//“equis”/(48195)
Gesneriaceae		
Alloplectus panamensis	Cayapa	Leaves/boiled/bath//“equis”/(48120)
A. sprucei	Cayapa	Leaves/boiled/compress/absorb venom and lower swelling/“verrugosa” / (40844, 41081, 48082)
A. tetragonoides	Coaiquer	Leaves/boiled/compress//“equis”/(48732, 48813)
Besleria barbata	Coaiquer	Leaves/boiled///“coral”/(48734)
B. barclayi	Cayapa	/ground/compress/pain, swelling/“verrugosa”/(41011, 48415)
B. sp.	Coaiquer	Leaves/boiled/compress/swelling/(41427)
Chrysothemis friedrichsthaliana	Cayapa	Leaves/ground/compress/swelling/“verrugosa”/(40361, 48080)
Columnea bilabiata	Cayapa	Leaves/ground/compress/pain, swelling, absorb venom/“equis”/(40519, 40600, 40816, 48416)
C. densibracteata	Cayapa	Leaves/boiled/compress and massage/absorb venom/“equis”/(48084)
C. angustata	Colorado	Leaves/boiled/warm bath///(40709)
C. dissimilis	Cayapa	Leaves/ground/compress//“equis”/(48178)
C. kienastiana	Cayapa	Leaves/mixed with sugar cane brandy/drank//“equis”/(48383)
C. eburnea	Cayapa	Leaves/ground/compress/bleeding/“equis”/(40870, 48218)
C. fililoba	Coaiquer	Leaves/boiled or fresh/compress, cold bath//“equis”/(41641, 48997)

Tabel 48 – Continued

	Tribe	Part of plant/preparation/treatment/purpose/snake/ (AAU voucher)
<i>C. parviflora</i>	Coaiquer	Leaves/fresh/bath//“coral”/(48937)
<i>C. picta</i>	Cayapa	Leaves/ground, boiled/compress or bath/stops bleeding/ “equis”/(40760, 40871, 48086)
<i>C. picta</i>	Coaiquer	Leaves/fresh//“equis”/(48730)
<i>C. rubriacuta</i>	Colorado	Leaves/boiled or sap extracted/compress or bath/// (40074, 40675)
<i>C. rubriacuta</i>	Cayapa	Leaves/boiled or ground/compress/stops bleeding, lower swelling and absorbs venom/“verrogosa” and “equis”/ (40872, 40880, 48738)
<i>C. rubribracteata</i>	Cayapa	Leaves/ground in alcohol/bath//“equis”/(48420)
<i>C. spathulata</i>	Cayapa	Leaves/ground/compress/bleeding/“equis”/(40797)
<i>C. sp.</i>	Coaiquer	Leaves/boiled/hot compress//“equis”/(48739)
<i>Creosperma hirsutissimum</i>	Coaiquer	Leaves/boiled or fresh/compress or bath//“coral”/(41422, 41437, 48737)
<i>C. nobile</i>	Coaiquer	Leaves/boiled/compress//“equis”/(48976)
<i>C. reldioides</i>	Coaiquer	Leaves/boiled/compress//“equis”/(48980)
<i>Diastema affine</i>	Coaiquer	Leaves/boiled/compress//“equis”/(48990)
<i>Drymonia alloplectoides</i>	Cayapa	Leaves/boiled or ground/compress or massage/stops bleeding/“equis”/(48212)
<i>D. coriacea</i>	Colorado	Leaves/boiled/ bath///(40673)
<i>D. macrophylla</i>	Colorado	Leaves/boiled/ bath///(40167)
<i>D. rhodoloma</i>	Colorado	/boiled/ bath///(40108)
<i>D. serrulata</i>	Cayapa	Leaves/ground or mixed with sugar cane brandy/compress (to stop bleeding) or drunk, highly estimated///(48393)
<i>D. serrulata</i>	Coaiquer	Leaves/ground/compress//“equis”/(48773)
<i>D. turrialvae</i>	Coaiquer	Leaves/boiled/compress///(41638)
<i>D. warszewicziana</i>	Colorado	/boiled/ bath///(40080)
<i>D. warszewicziana</i>	Cayapa	Leaves/ground or boiled/ bath or compress/antivenom/ “equis”/(48121, 48311, 48419)
<i>D. warszewicziana</i>	Coaiquer	Leaves/boiled/ bath//“equis”/(48991)
<i>Gasteranthus corallinus</i>	Cayapa	Leaves/ground/compress/venom/“equis”/(48094)
<i>G. crispus</i>	Colorado	Leaves/boiled/bath///(40701)
<i>Gloxinia dodsonii</i>	Coaiquer	Leaves/boiled/hot compress///(41462)
<i>G. dodsonii</i>	Cayapa	Leaves/ground/compress//“equis”/(48279)
<i>Kohleria x hybrid</i>	Cayapa	Leaves/ground or boiled/compress or warm bath, applied twice to bite, highly valued///(40576)
<i>Monopyle sodiroana</i>	Cayapa	Leaves/ground or warmed/compress on bite, changed 3 times a day//“equis”/(40513, 48127)
<i>Neomortonia rosea</i>	Coaiquer	Leaves/boiled/ bath///(41477)
<i>Paradrymonia sp. 1</i>	Coaiquer	Leaves/boiled/compress//“equis”/(48963)
<i>P. sp. 2</i>	Coaiquer	Leaves/fresh/ bath///(41635)
genus indet.	Cayapa	Leaves/fresh/massage or bath//“equis”/(41005)
Haemodoraceae		
<i>Xiphidium caeruleum</i>	Cayapa	// bath//“equis”/(48417)
Lamiaceae		
genus indet.	Coaiquer	Leaves/boiled/compress///(41416)

Tabel 48 – Continued

	Tribe	Part of plant/preparation/treatment/purpose/snake/ (AAU voucher)
Loganiaceae		
Spigelia anthelmia	Cayapa	Leaves/ground/compress/swelling/"equis"/(48388)
S. anthelmia	Colorado	//cold bath///(40142)
Melastomataceae		
Aciotis caulialata	Cayapa	//compress/swelling/"verrugosa"/(40745)
A. sp.1	Cayapa	Leaves/ground/compress/anti venom/"dormilona"/ (48316)
A. sp. 2	Cayapa	Leaves/ground/compress/swelling/"dormilona"/(41016)
Blakea subconnata	Colorado	Leaves/ground/compress///(40049)
Clidemia crenulata	Cayapa	Leaves/ground/compress/swelling/"equis"/(48077)
Miconia sp.	Coaiquer	Leaves/boiled/compress/for cooling/"coral", "equis"/ (48708)
Pilocosta oerstedii	Cayapa	Leaves/ground/compress/infection/"dormilona"/(48387)
Triolena barbeyana	Cayapa	Leaves/ground/compress/infection, pain/"verrugosa"/ (40344, 41084)
T. obliqua	Coaiquer	Leaves/boiled/hot compress///(41642, 41418)
T. sp.	Coaiquer	Leaves/boiled/compress///(41434)
Orchidaceae		
Erythrodes ecuadoriensis	Cayapa	Leaves/ground/compress/"verrugosa"/(40788)
Cranichis sp.	Coaiquer	Leaves/fresh/ bath/"guamaca"/(48927)
Scaphyglottis prolifera	Cayapa	Leaves/boiled/compress/"verrugosa"/(48196)
Psymorchis pusilla	Cayapa	Leaves/ground/compress/antivenom/"equis"/(41043)
Piperaceae		
Peperomia macrostachya	Cayapa	Leaves/boiled/massage/"equis"/(48202)
P. serpens	Cayapa	Leaves/ground/compress/swelling/"equis"/(48210)
P. serpens	Coaiquer	/boiled/compress/"equis"/(41419, 48825)
P. sp. 1	Cayapa	Leaves/boiled/cold bath/"equis"/(48369)
P. sp. 2	Coaiquer	Leaves/boiled/ bath///(48705)
P. sp. 3	Coaiquer	Leaves/fresh/cold bath/"coral"/(48719)
P. sp. 4	Coaiquer	Leaves/fresh/bath/"coral"/(48869)
P. sp. 5	Coaiquer	/ground/compress///(41625)
P. sp. 6	Coaiquer	/boiled/compress///(41645)
P. sp. 7	Cayapa	Leaves/ground/compress/swelling/"equis"/(48193)
P. sp. 8	Coaiquer	/boiled/compress/used cold/"equis", "oalcama"/(48906)
Piper angustum	Cayapa	Leaves/boiled/compress/"vibora"/(40452, 40738)
P. filistylum	Cayapa	Leaves/ground or boiled/compress/ venom/"coral", "vibo- ra"/(40746, 48116)
P. florencianum	Cayapa	Leaves/warmed in hot water/compress/"equis"/(40338)
P. squamulosum	Coaiquer	Leaves/fresh/ bath///(41640)
P. sp. 1	Cayapa	Leaves/boiled/compress/swelling/"equis"/(40752)
P. sp. 2	Cayapa	Leaves/boiled/compress/swelling/"equis"/(40793)
P. sp. 3	Coaiquer	Leaves/boiled/compress///(41420)
P. sp. 4	Coaiquer	Leaves/boiled/compress///(41421)
P. sp. 5	Cayapa	Leaves/boiled/compress/"equis"/(48113)
P. sp. 6	Cayapa	Leaves/boiled/hot compress/"equis"/(48157)
P. sp. 7	Cayapa	Leaves/ground/compress/venom/"equis"/(48346)
P. sp. 8	Coaiquer	/boiled/compress/"equis"/(48824)
P. sp. 9	Coaiquer	/boiled/cold compress/"coral"/(48858)

Tabel 48 – Continued

	Tribe	Part of plant/preparation/treatment/purpose/snake/ (AAU voucher)
P. sp. 10	Cayapa	Leaves/boiled/ bath//“verrugosa”/(40369)
P. sp. 11	Coaiquer	Leaves/boiled/cool bath//“equis”/(48724)
P. sp. 12	Coaiquer	Roots/ground/ bath//“equis”/(48909)
P. sp. 13	Coaiquer	Leaves/boiled/hot compress///(41589)
Trianaeopiper sp. 1	Cayapa	Leaves/boiled/compress/venom/“equis”/ (41068)
T. sp.2	Cayapa	Leaves/ground/compress//“dormilona”/(48161)
Rubiaceae		
Sabicea villosa	Colorado	Roots/boiled/ bath///(40184)
Scrophulariaceae		
genus indet.	Cayapa	Leaves/ground/compress//“equis”/(48230)
genus indet.	Coaiquer	Leaves/boiled/cold compress//“coral”/(48863)
Solanaceae		
Lycianthes amatitlanensis	Colorado	/boiled/ bath///(40087)
Solanum medusocalyx	Coaiquer	Leaves/fresh/ bath///(41628)
S. sp. 1	Coaiquer	Leaves/boiled/hot compress///(41648)
S. sp. 2	Cayapa	Leaves/ground/compress/swelling/“equis”/(48406)
genus indet.	Cayapa	Leaves/boiled/massage//“equis”/(48240)
Theophrastaceae		
Clavija eggersiana	Colorado	Leaves// bath///(40708)
Urticaceae		
Pilea sp. 1	Cayapa	Leaves/ground/compress///(40378)
Zingiberaceae		
Renealmia oligosperma	Cayapa	Leaves/boiled/cool bath///(40160)

Table 49. Snake bites. Systemic. Decoctions drunk for snake bites. *Erythroides weberana* and *Kohleria x hybrid* were claimed to be particularly valuable. The latter is cultivated both by the Colorados and the Cayapas and it is often sold. See also snake bites under Tables 48 & 50. For snake names, see the legend of Table 48.

	Tribe	Part of plant/preparation/treatment/snake/ (AAU voucher)
Vascular cryptogams		
Asplenium sp. 1	Colorado	Rhizomes/boiled/drunk// (40075)
A. sp. 2	Colorado	Leaves/boiled/// (40697)
A. sp. 3	Colorado	Rhizome/boiled/drunk// (49035)
Dicranoglossum polypodioides	Colorado	Leaves/boiled/drunk// (40170)
D. polypodioides	Colorado	Leaves/ground/juice drunk// (40649)
D. sp.	Colorado	/boiled/drunk// (40234)
Trichomanes collariatum	Colorado	/boiled/drunk warm// (40695)
genus indet. (Polypodiaceae)	Colorado	Leaves/ground/drunk// (49029)
Costaceae		
Costus pulverulentus	Colorado	Rhizomes/boiled/drunk// (40116)

Tabel 49 – Continued

	Tribe	Part of plant/preparation/treatment/snake/ (AAU voucher)
Gesneriaceae		
<i>Alloplectus dodsonii</i>	Colorado	Roots/boiled/drunk//(40053)
<i>Creмосperma hirsutissimum</i>	Coaiquer	Leaves/ground in alcohol/drunk//(41426)
<i>Columnnea angustata</i>	Colorado	Root/boiled/drunk//(49106)
<i>C. dissimilis</i>	Cayapa	Leaves/ground/teaspoon taken twice a day//(48178)
<i>C. eburnea</i>	Cayapa	Leaves/ground/extract drunk twice a day/"equis"/(48218)
<i>C. picta</i>	Colorado	////(40230)
<i>C. purpurimarginata</i>	Cayapa	Leaves/ground, mixed with water/drunk 3 times a day/"equis"/(48085)
<i>C. rubriacuta</i>	Colorado	Leaves//decoction or sap drunk//(40074)
<i>C. rubriacuta</i>	Cayapa	Leaves/ground/cold extract drunk 3 times a day/"equis"/(40880, 48088, 48128)
<i>C. rubribracteata</i>	Cayapa	Leaves/ground/drunk with alcohol/"equis"/(48420)
<i>C. spathulata</i>	Cayapa	Leaves/ground, soaked in alcohol/drunk/"equis"/(48344)
<i>Drymonia coriacea</i>	Cayapa	Leaves/ground, mixed with water/cold extract drunk 3 times a day/"equis"/(48092)
<i>D. rhodoloma</i>	Colorado	Leaves/boiled///(40108)
<i>D. serrulata</i>	Cayapa	Leaves/ground, mixed with water or alcohol/extract drunk 3 times a day/"equis"/(48087, 48393)
<i>Gasteranthus crispus</i>	Colorado	Leaves/boiled///(40701)
<i>G. oncogastrus</i>	Colorado	//drunk warm//(40233)
<i>Kohleria x hybrid</i>	Cayapa	Leaves/ground or boiled/2 teaspoons taken twice after a bite//(40576, 40723)
Melastomataceae		
<i>Triolena barbeyana</i>	Colorado	Leaves and roots/boiled/drunk hot//(40094, 40157)
<i>T. pustulata</i>	Colorado	Leaves/boiled/drunk//(40071)
Orchidaceae		
<i>Erythroides weberana</i>	Cayapa	Leaves/ground, mixed with alcohol/ drunk//(40879)
<i>Stelis</i> sp.	Cayapa	Leaves/boiled/drunk once a day in the morning/"equis"/(48247)
Oxalidaceae		
<i>Oxalis microcarpa</i>	Colorado	Leaves/boiled/1 cup drunk//(40726)
Piperaceae		
<i>Peperomia</i> sp.	Coaiquer	//juice drunk//(41645)

Table 50. Snake bites. Others. Plants in this category were indicated as useful for treating snake bites but the informants did not elaborate further on the treatment. The Cayapas use some yet unidentified saplings of shrubs or trees to prevent snakebites. See also snake bites under Tables 48 & 49. For snake names, see the legend of Table 48.

	Tribe	comment/(AAU voucher)
Vascular cryptogams		
<i>Campyloneuron angustifolium</i>	Colorado	Ground and boiled/(49039)
<i>Nephrolepis pectinata</i>	Cayapa	Previously used/(48135)
<i>Pteris pungens</i>	Cayapa	/(48283)
<i>Selaginella</i> sp.	Coaiquer	Boiled and used for "equis"/(48831)
Araceae		
<i>Dracontium</i> sp.	Coaiquer	Rhizome dried, grounded with alcohol/(41597)
Gesneriaceae		
<i>Columnnea nariniana</i>	Coaiquer	Boiled, decoction used for "coral"/(48815)
Melastomataceae		
<i>Triolena obliqua</i>	Coaiquer	Boiled, used for "coral"/(48807)
Piperaceae		
<i>Peperomia</i> sp.	Coaiquer	Leaves boiled and used for "equis"/(48821)
<i>Piper</i> sp.	Coaiquer	Leaves boiled/(41637)
family indet.		
1	Cayapa	Feet and legs rubbed to produce smell to protect against snakes ("equis")/(40317)
2	Cayapa	Legs rubbed to protect against snakes/(40893)
3	Cayapa	Feets rubbed to prevent bites of "equis" snakes/(48184)

Table 51. Wounds. Plants listed in this category are used to stop the bleeding of cuts, to promote healing and, to fight infections. Infected wounds are a major health problem. The Coaiqueres use the latex of *Vismia* (*Sangre de gallina*) as liquid bandages. It supposedly seals the wound from infections and speeds recovery. When no other use is indicated, the plants are ground into a green paste (Fig. 15). This paste is used as a compress on the bleeding wound and if necessary with a piece of cloth wrapped around it to keep it in place. Under *comments* the type of wound which is treated is mentioned as well as the kind of effect that the treatment is expected to have.

	Tribe	Part of plant/preparation/treatment/comments/(AAU voucher)
Vascular cryptogams		
<i>Danaea humilis</i>	Cayapa	Leaves/ground///(48062)
<i>Polypodium percussum</i>	Colorado	Leaves/ground//cuts/(40629)
<i>P. piloselloides</i>	Cayapa	Leaves/dried and pulverised//make wounds heal faster, does not prevent inflammation/(40475)
<i>P. piloselloides</i>	Colorado	Leaves/chewed/compress/(40236)
<i>Selaginella</i> sp.	Cayapa	Leaves/ground//cuts/(40505)
<i>Trichomanes membranaceum</i>	Cayapa	Leaves/ground/compress/promote healing/(40822)
<i>T. punctatum</i>	Cayapa	Leaves/ground/compress/said to absorb the infection/(48345)
<i>T. sp.1</i>	Cayapa	Leaves/ground/humid compress/deep wounds/(40432, 48892, 48893)
<i>T. sp. 2</i>	Cayapa	Leaves/ground/humid compress/(48838)
<i>Vittaria</i> sp.	Cayapa	Leaves/ground/compress/promote healing/(40842)

Tabel 51 – Continued

	Tribe	Part of plant/preparation/treatment/comments/ (AAU voucher)
Amaranthaceae		
<i>Achyranthes aspera</i>	Cayapa	Leaves/dried and pulverized/applied/ healing of wounds/ (40420)
Apiaceae		
<i>Eryngium foetidum</i>	Cayapa	Leaves/ground/compress/said to absorb the pus over night/(48359)
Apocynaceae		
<i>Tabernaemontana macrocalyx</i>	Coaiquer	Stem/latex/applied while fresh/wounds caused by burns/ (48933)
Araceae		
<i>Anthurium scandens</i>	Cayapa	Leaves/warmed/applied/lower swelling/(40601)
Araliaceae		
<i>Dendropanax arboreus</i>	Cayapa	Leaves/warmed by body heat (placed near heart)/applied directly/for inflammation and pains/(40899)
Asteraceae		
<i>Erato polymnioides</i>	Coaiquer	Leaves/boiled/applied/for infections/(41505)
<i>Mikania</i> sp.	Cayapa	Leaves/ground/compress/for infections/(41036)
<i>Wulffia baccata</i>	Cayapa	Leaves//mixed with 2 other plants/for infections of deep wounds/(48054)
genus indet.	Colorado	Leaves/ground/compress/promotes healing/(40104)
genus indet.	Colorado	Leaves/ground/wet compress// (40152)
genus indet.	Colorado	Leaves/ground/compress/promotes healing/(40161)
genus indet.	Cayapa	Leaves/ground/wet compress/against swelling and inflam- mation of cuts on the feet/(40553)
genus indet.	Colorado	Leaves/boiled/applied/for cleaning wounds/(40662)
Begoniaceae		
<i>Begonia glabra</i>	Colorado	Leaves/boiled/cold compress/inflammation/(40696)
Capparidaceae		
<i>Podandroyne brevipedunculata</i>	Colorado	Leaves/ground/paste applied as plaster/for badly inflamed wounds/(40057, 40166)
Clusiaceae		
<i>Clusia dixonii</i>	Coaiquer	Twigs/latex/applied while fresh/promote healing/(48790)
<i>C. sp. 1</i>	Coaiquer	Twigs/latex/ applied while fresh// (41456)
<i>C. sp. 2</i>	Coaiquer	Twigs/latex/applied while fresh/promote healing/(48781)
<i>C. sp. 3</i>	Coaiquer	Twigs/latex/applied while fresh/promote healing/(48799)
<i>Vismia obtusa</i>	Coaiquer	Fruit peel/latex/applied while fresh/infected wounds/ (41494)
Commelinaceae		
<i>Geogenanthus rhizanthus</i>	Cayapa	Entire plant/burned/ash applied/prevents infections/ (48068)
Convolvulaceae		
<i>Ipomoea</i> sp.	Colorado	Leaves///healing of small wounds/(40005)

Tabel 51 – Continued

	Tribe	Part of plant/preparation/treatment/comments/ (AAU voucher)
Cucurbitaceae		
Gurania eggersii	Colorado	Leaves/ground/compress/for bruises/(40052)
Cycadaceae		
Zamia lindenii	Colorado	Leaves/sap/applied while fresh/promotes healing/(40203)
Euphorbiaceae		
Acalypha diversifolia	Colorado	Leaves/ground//mainly cuts/(40011, 40155)
A. diversifolia	Cayapa	Leaves/ground//cuts/(40346, 40735, 40875)
A. villosa	Cayapa	Leaves/ground//cuts/(40424, 40466, 40838)
A. sp. 1	Colorado	Leaves///(40055)
A. sp. 2	Colorado	Leaves/chewed/compress/serious bleeding/(40228)
A. sp. 3	Cayapa	Leaves/ground/compress/prevents infections/deep wounds/(41030)
A. sp. 4	Coaiquer	Leaves/ground//deep wounds/(41473)
A. sp. 5	Cayapa	Leaves/ground/compress// (48182)
A. sp. 6	Cayapa	Leaves/ground/compress/prevents infections of deep wounds/(48360)
Fabaceae		
genus indet.	Cayapa	Leaves/ground, mixed with <i>Wulffia baccata</i> /compress/infections of deep wounds/(48058)
Gesneriaceae		
Columnnea kienastiana	Cayapa	Leaves/ground/compress/removes pains and prevents inflammation/(40458)
C. laevis	Coaiquer	Leaves/ground/cold compress/for burns/(48794)
C. minor	Coaiquer	Leaves/dried and ground// for infections/(41428)
Heliconiaceae		
Heliconia curtispatha	Cayapa	Young leaves/ritual healing//wound covered with a leaf and through this the shaman uses his mouth to suck up the infection/(40434)
Meliaceae		
Carapa guianensis	Colorado	Fruit/inner parts grated and boiled/applied to wound// (40703)
Moraceae		
Brosimum utile	Colorado	Branches, trunk/latex/applied directly/infections or swellings/(40664)
Piperaceae		
Peperomia sp.	Coaiquer	Leaves/ground/compress/burns/(48793)
Piper phytolaccaefolium	Cayapa	Leaves/ground/humid compress/deep fissures (“chan-cha”)/(40468)
P. cararense	Cayapa	Entire plant/dried and pulverized or burned/powder or ash applied directly/promote healing of small wounds/(41021, 48174, 48244)
P. sp.	Cayapa	Entire plant/burned/ash applied directly// (40370)
Pothomorphe peltata	Colorado	Leaves//healing// (40004)

Tabel 51 – Continued

	Tribe	Part of plant/preparation/treatment/comments/ (AAU voucher)
Rubiaceae		
<i>Coffea arabica</i>	Colorado	Fruit/crushed/compress/for cuts/(not vouchered)
Scrophulariaceae		
<i>Scoparia dulcis</i>	Colorado	Root////(40028)
Solanaceae		
<i>Cuatresia riparia</i>	Colorado	Leaves/ground/warm compress/superficial wounds/ (40655, 40687)
<i>Cyphomandra hartwegii</i>	Colorado	Stem/sap extracted by pressure/applied directly/infections/ (40191)
<i>Solanum dolichorrhachis</i>	Cayapa	Leaves//leaves wrapped around/open wounds at joints in connection with open fractures/(40437)
Verbenaceae		
<i>Lantana sp.</i>	Cayapa	Leaves/dried, crushed/applied directly/bruises and small wounds/(41077)

Table 52. Swellings from bruises. Unless otherwise mentioned, only the leaves are used for this purpose.

	Tribe	Preparation/treatment/(AAU voucher)
Araceae		
<i>Anthurium scandens</i>	Cayapa	Boiled/compress that are changed every 6 hour/(41040)
<i>A. sp. 1</i>	Coaiquer	/applied while fresh, mixed with chicken fat/(41458)
<i>A. sp. 2</i>	Cayapa	Boiled/used as a cold plaster/(48075)
Arecaceae		
<i>Geonoma cuneata</i>	Cayapa	Stem ground and heated/applied to relieve the pain/ (48351)
Asteraceae		
<i>Clibadium cuneata</i>	Coaiquer	Heated in water/wrapped around swelled tissue/(48698)
<i>Sciadocephala schultze-rhonhofiae</i>	Coaiquer	/applied while fresh like a plaster/(41481)
genus indet. A	Cayapa	/applied warm/(40396)
genus indet. B	Cayapa	Warmed in water/applied after cooling/(40863)
genus indet. C	Cayapa	/plaster, changed often, said to dry up the swelling/(48152)
Begoniaceae		
<i>Begonia glabra</i>	Coaiquer	Heated/applied while still hot/(48818)
Bromeliaceae		
genus indet.	Colorado	Stem sliced/applied to sole of feet/(40197)
Clusiaceae		
<i>Clusia sp.</i>	Cayapa	Boiled/wrapped around swelling/(48242)
Costaceae		
<i>Costus pulverulentus</i>	Cayapa	Entire plant ground and boiled/body rubbed to remove swelling/(40373)

Tabel 52 – Continued

	Tribe	Preparation/treatment/(AAU voucher)
Fabaceae		
genus indet.	Cayapa	Ground with citrus leaves/ compress, said to absorb swelling/(48350)
Gesneriaceae		
<i>Columnnea eburnea</i>	Coaiquer	Heated/wrapped around swelling/(48742)
<i>C. gigantifolia</i>	Coaiquer	/affected area rubbed with fresh leaves/(41587)
<i>Gloxinia dodsonii</i>	Cayapa	Boiled/whole body massaged/(40367)
Loranthaceae		
<i>Phthirusa pyifolia</i>	Cayapa	Boiled/wrapped around swelling/(40345, 48151)
<i>Phoradendron chrysocladon</i>	Cayapa	Mixed with warm water// (40350)
Melastomataceae		
<i>Leandra granatensis</i>	Cayapa	Ground, mixed with tepid water/bath, for blows of children/(40326)
Orchidaceae		
<i>Encyclia fragrans</i>	Colorado	Stems ground/hot compress/(40668)
Piperaceae		
<i>Peperomia</i> sp.	Coaiquer	Dried/applied to swelling/(41593)
Solanaceae		
<i>Brugmansia versicolor</i>	Cayapa	Warmed/wrapped around swelling/(40581)
<i>Jaltomata procumbens</i>	Colorado	Ground/compress/(40013)

Table 53. Abscesses and tumors. The informants did not make any distinction between the different conditions that can produce swelling in layers of the skin. Most plants are used for tumors, abscesses and postules, a few are used for acne. The leaves are used, where nothing else is indicated. A compress consisting of layers of ground leaves is normally wrapped around the swelled tissues.

	Tribe	Preparation/treatment/comments/(AAU voucher)
Acanthaceae		
<i>Justicia ianthina</i>	Cayapa	Ground/compress/for swelling/(48384)
Asteraceae		
<i>Sciadocephala</i> sp.	Cayapa	Ground in cold water/compress replaced every 4 to 5 hours//(41024)
Capparidaceae		
<i>Podandroyne brevipedunculata</i>	Colorado	Ground/warm compress//(40209)
Fabaceae		
<i>Desmodium</i> sp.	Cayapa	Dried and crushed//for swelling/(41075)
genus indet.	Cayapa	Ground/compress/for swelling/(48382)
Heliconiaceae		
<i>Heliconia aemygdiana</i>	Colorado	Fruits crushed/paste applied to affected area with a leaf wrapped around//(40120)
Malvaceae		
<i>Pavonia castaneifolia</i>	Cayapa	Ground/compress/for acne/ (48204)
Marantaceae		
<i>Calathea marantifolia</i>	Colorado	Bracts used///(40117)
Oxalidaceae		
<i>Oxalis</i> sp.	Cayapa	Ground/compress/for acne/(48333)
Solanaceae		
<i>Brugmansia versicolor</i>	Cayapa	Boiled/used as a plaster//(41050)
<i>Witheringia solanacea</i>	Cayapa	Boiled/leaves used to wash hands, decoction used for bath/(40376)

Table 54. Fungal infections. The Spanish term for depigmentation of the skin is *manchas blancas*. Plants used for such symptoms are generally ground and applied to the affected area as a compress (Fig. 15).

	Tribe	Part of plant/preparation/treatment/ (AAU voucher)
Amaryllidaceae		
Urceolina grandiflora	Colorado	Bulb/burned/ash applied to affected area of the skin/ (40214)
Apocynaceae		
Plumeria rubra	Cayapa	Leaves/ground/compress/(40594)
Boraginaceae		
Cordia spinescens	Cayapa	Leaves/crushed to a paste and boiled /hot compress applied to affected area 3 times daily/(40495, 40390, 41062, 48052)
Commelinaceae		
Dichorisandra angustifolia	Colorado	Leaves/ground and boiled/compress/(40698)
Cucurbitaceae		
Cayaponia glandulosa	Colorado	/ground/compress/(40100)
Euphorbiaceae		
Euphorbia cotinifolia	Colorado	Latex// especially for fungal infections affecting the feet/ (40177)
Fabaceae		
Cassia reticulata	Cayapa	Leaves/warmed/humid compress/(40568)
Lamiaceae		
Hyptis capitata	Cayapa	Leaves/ground/for rubbing of the skin/ (40389)
Marantaceae		
Calathea metallica	Cayapa	Leaves/boiled or ground, eventually mixed with lime and salt/compress or ointment, hot or cold/(40321, 40349, 48117, 48245)
Piperaceae		
Piper sp.	Cayapa	Leaves/dried and burned/ash applied to affected area/(40782)
Rubiaceae		
Hamelia sp.	Cayapa	Leaves/ground in hot water/applied while still hot to infections between toes/(41051)
Solanaceae		
Jaltomata procumbens	Colorado	/ground/applied to the skin/(40101)
Ulmaceae		
Trema integerrima	Cayapa	Leaves/ground to a paste/heated and applied to the skin/ (48309)
Verbenaceae		
Cornutia sp.	Cayapa	Leaves/boiled/rubbing between toes and fingers for infections/ (40356)

Tabel. 55. Skin reactions. Allergies, eczema, and dandruff. The Coaiquers use a number of plants for treating eczemas that allegedly are caused by the plant itself. They do not necessarily believe that the patients have been in physical contact with the plant itself. The plant may house a powerful spirit that can cause the disorders from a distance. The malevolent spirits are driven out using the plants in which they are believed to dwell. Typically, the leaves are burned and the ash is applied to the affected area of the skin. The Spanish term for this treatment is *Baño de seco*.

	Tribe	Preparation/treatment/symptoms/(AAU voucher)
Acanthaceae		
Dicliptera sp.	Coaiquer	Boiled/applied to skin//(48770)
Amaranthaceae		
Achyranthes aspera	Cayapa	Dried, pulverized/applied to skin//(40420, 40499)
Araceae		
Anthurium sp. 1	Coaiquer	Dried/applied to skin//(41503)
A. sp. 2	Coaiquer	Leaves, dried/applied to skin/rash/(48717)
Monstera lechiriana	Coaiquer	///(41633)
genus indet.	Coaiquer	///(48711)
Asteraceae		
genus indet.	Colorado	Ground/humid compress/break-out caused by lice or fungi, a symptom called "rasquinia"/(40152)
genus indet.	Colorado	Ground//itching/(40104)
Begoniaceae		
Begonia glabra	Colorado	Boiled/applied to skin after cooling//(40696)
B. semiovata	Coaiquer	Boiled/decoction applied to skin//(41479, 48704)
B. sp.	Coaiquer	Boiled/applied to skin//(48783)
Clusiaceae		
Tovomita sp.	Coaiquer	Boiled/decoction used for bath//(41453)
Commelinaceae		
Aneilema umbrosum	Cayapa	Ground/sap applied to skin//(40296)
Geogenanthus rhizanthus	Cayapa	Leaves ground/face and arms rubbed/for type of eczema called "sarna"/(40319)
Costaceae		
Costus laevis	Cayapa	Sap extracted/cold bath//(41002)
Cucurbitaceae		
Melothria pendula	Colorado	Ground//allergic reactions/(40098)
Euphorbiaceae		
Acalypha villosa	Cayapa	Ground/compress//(40838)
genus indet.	Coaiquer	Sap extracted/applied to skin//(41491)
Fabaceae		
Desmodium adscendens	Coaiquer	Dried/applied to skin//(41578)
Gesneriaceae		
Alloplectus sprucei	Cayapa	Ground/applied to skin//(40342)
A. sprucei	Coaiquer	Burned/"baño de seco"/for diseases caused by the same species/(48795)
A. teuscheri	Coaiquer	Burned/"baño de seco"/for conditions caused by the same species/(48961)
Besleria barbata	Coaiquer	Burned/"baño de seco"/for conditions caused by the same species/(48802)

Tabel 55 – Continued

	Tribe	Preparation/treatment/symptoms/(AAU voucher)
<i>Columnea byrsina</i>	Coaiquer	Burned/"baño de seco"/for conditions caused by the same species/(48731)
<i>C. fimbricalyx</i>	Coaiquer	Burned/"baño de seco"/for conditions caused by the same species/(48971)
<i>C. lehmannii</i>	Coaiquer	Burned/"baño de seco"/for conditions caused by the same species/(48983)
<i>C. minor</i>	Coaiquer	//plant irritant/(48740)
<i>C. minutiflora</i>	Coaiquer	//plant irritant/(48970)
<i>C. parviflora</i>	Coaiquer	Ground, sap extracted/hair wash/ eczema/(48741)
<i>C. rubriacuta</i>	Cayapa	/rubbed with warm leaves//(40359)
<i>C. rubricalyx</i>	Coaiquer	Ground in water/cure dandruff//(48741)
<i>C. fimbricalyx</i>	Coaiquer	Burned/"baño de seco"/for conditions caused by the same species/(48923)
<i>C. sp.1</i>	Coaiquer	Burned/"baño de seco"/for conditions caused by the same species/(48733)
<i>Creмосperma congruens</i>	Coaiquer	Burned/"baño de seco"/for conditions caused by the same species/(48979)
<i>C. humidum</i>	Coaiquer	Burned/"baño de seco"/for conditions caused by the same species/(48977)
<i>C. muscicola</i>	Coaiquer	Burned/"baño de seco"/for conditions caused by the same species/(48978)
<i>Drymonia warszewicziana</i>	Coaiquer	Burned/"baño de seco"/for conditions caused by the same species/(48728)
<i>Gasteranthus oncogastrus</i>	Cayapa	/fresh leaves used for rubbing of skin//(41000)
<i>Gloxinia dodsonii</i>	Coaiquer	Burned/"baño de seco"/for conditions caused by the same species/(48729)
<i>Nautilocalyx sp. 1</i>	Coaiquer	Burned/"baño de seco"/for conditions caused by the same species/(48936)
<i>N. sp. 2</i>	Coaiquer	Burned/"baño de seco"/for conditions caused by the same species/(48964)
Lamiaceae		
<i>Hyptis capitata</i>	Cayapa	Ground/rubbing of skin/for symptom called "nigua" (an eczema)/(40389)
Melastomataceae		
<i>Aciotis caulialata</i>	Coaiquer	Boiled/applied to affected area of the skin//(41478)
<i>Clidemia serpens</i>	Cayapa	Ground/for rubbing of skin//(40371)
Meliaceae		
<i>Carapa guianensis</i>	Colorado	Inner parts of fruit grated and boiled/applied to the affected area of the skin//(40703)
Piperaceae		
<i>Peperomia urocarpa</i>	Cayapa	Ground and mixed with lukewarm water///(40301)
<i>P. sp.</i>	Cayapa	Ground/for rubbing of skin//(40313)
<i>Piper cararense</i>	Cayapa	Dried and ground to powder/applied to affected area of the skin//(41021)
<i>P. sp.</i>	Cayapa	Ground, boiled/decoction drunk 3 times a day//(40295)

Tabel 55 – Continued

	Tribe	Preparation/treatment/symptoms/(AAU voucher)
Rubiaceae		
<i>Sabicea villosa</i>	Coaiquer	Burned/smoke blown on skin// (41506)
Solanaceae		
<i>Brugmansia versicolor</i>	Colorado	Ground/compress// (40624)
<i>Cestrum</i> sp.	Colorado	Boiled/applied to affected area of the skin/for itching eczema/ (40164)
<i>Cuatresia riparia</i>	Colorado	Ground/compress/for allergy/ (40099, 40687)
<i>Jaltomata procumbens</i>	Colorado	Ground/compress/for allergy/ (40101)
<i>Lycianthes amatitlanensis</i>	Colorado	Ground/compress/for itching eczema/ (40172)
<i>Witheringia solanacea</i>	Colorado	Ground/compress/for itching eczema and allergies/ (40009, 40110)
<i>W. solanacea</i>	Cayapa	Ground, mixed with cold water/1 bath a day// (41053, 48115)
<i>W. sp.</i>	Cayapa	Ground and soaked in water/bath, immediately after wash of body with soap// (48349)
Urticaceae		
<i>Pouzolzia</i> sp.	Cayapa	Ground and warmed/compress// (40477)
Verbenaceae		
<i>Aegiphila</i> sp.	Coaiquer	Boiled/decoction used for bath/severe eczema/ (41511)
<i>Lantana</i> sp.	Cayapa	Dried, crushed/applied to affected area of the skin// (41077)

Table 56. Rheumatism. Rheumatic pains are generally treated by macerating plants to a paste which is spread around the affected joints as a plaster. In all the cases listed below, it is the leaves that are used.

	Tribe	Preparation/treatment/(AAU voucher)
Vascular cryptogams		
<i>Selaginella</i> sp. 1	Colorado	Boiled/decoction used for bath/ (40093)
<i>S. sp. 2</i>	Colorado	Boiled/decoction used for warm bath/ (40186)
Agavaceae		
<i>Cordyline terminalis</i>	Colorado	/applied while warm to treat joints/ (40640)
Annonaceae		
<i>Rollinia mucosa</i>	Colorado	// (40046)
Araceae		
<i>Anthurium gracile</i>	Cayapa	Ground/used for rubbing the skin/ (40320)
Asteraceae		
<i>Clibadium</i> sp. 1	Cayapa	Heated/applied to skin/ (40347)
<i>C. sp. 2</i>	Cayapa	Ground in warm water/wrapped around affected joint/ (40807)
<i>C. sp. 3</i>	Cayapa	Ground with a little bit of water/ compress/ (41025)
<i>C. sp. 4</i>	Cayapa	Ground while fresh/compress/ (48209)
genus indet.	Cayapa	Boiled/compress/ (40554)
Bixaceae		
<i>Bixa orellana</i>	Colorado	// (40045)

Tabel 56 – Continued

	Tribe	Preparation/treatment/(AAU voucher)
Gesneriaceae		
<i>Columnea rubriacuta</i>	Colorado	Boiled/decoction used for bath and drinking/(40675)
Malvaceae		
<i>Abelmoschus moschatus</i>	Cayapa	Ground and boiled/compress/(40336, 48150)
Orchidaceae		
<i>Encyclia fragrans</i>	Colorado	Ground, warmed/compress/(40668)
<i>Erythrodies sp.</i>	Cayapa	Ground/used for rubbing of skin/(40352)
Piperaceae		
<i>Piper angustum</i>	Colorado	Boiled/decoction drunk/(40090)
<i>P. imperiale</i>	Colorado	/warm leaves wrapped around the legs, especially below the knees/(40199)
<i>P. trianae</i>	Cayapa	Boiled/knees rubbed/(41020)
<i>Pothomorphe peltata</i>	Cayapa	Ground/humid compress/(40393)
<i>Trianaeopiper sp.</i>	Cayapa	/fresh leaves used for rubbing of joints/(48104)
Poaceae		
<i>Coix lachryma-jobi</i>	Cayapa	Boiled/used for massage/(40540)
Portulacaceae		
<i>Portulaca oleracea</i>	Cayapa	Ground/compress (only used by African Ecuadorians according to the Cayapas)/(40604)
Verbenaceae		
<i>Lantana</i>	Coaiquer	Fresh leaves ground/compress/(41468)
Zingiberaceae		
<i>Renealmia oligosperma</i>	Colorado	Ground/warm leaves wrapped around joints/(40160, 40712)

Table 57. Injured joints. The leaves are invariably used in this category.

	Tribe	Preparation/treatment/(AAU voucher)
Vascular cryptogams		
genus indet. (Aspleniaceae)	Cayapa	Heated/wrapped around joint/(48437)
Araceae		
Anthurium trinerve	Cayapa	Ground/compress/(40808)
Commelinaceae		
Dichorisandra hexandra	Cayapa	Boiled/wrapped around swelled joint/(48407)
Gesneriaceae		
Columnnea longinervosa	Coaiquer	/applied while fresh to injured joint/(41507)
Loranthaceae		
Oryctanthus occidentalis	Coaiquer	Ground/juice extracted and drunk/(41510)
Phthirusa pyrifolia	Cayapa	Boiled/wrapped around joint/(48151)
Phoradendron piperoides	Cayapa	Boiled/wrapped around swelled joint and worn for some days/(48367)
Orchidaceae		
Sobralia macrophylla	Cayapa	Boiled/compress on swelling/(48091)
Notylia rimbachii	Cayapa	/fresh leaves wrapped around joint, said to lower swelling/(48143)
Pleurothallis picta	Cayapa	Ground/compress/(48432)

Table 58. Nervous system. Anaesthetics, epilepsy, cramps, dizziness and mental disorders. This is one of the the more weakly defined categories. It includes a number of symptoms that, apparently, are related to the nervous system.

	Tribe	Part of plant/preparation/treatment/purpose/(AAU voucher)
Vascular cryptogams		
Selaginella geniculata	Cayapa	Leaves/ground in water/placed on forehead/convulsions with loss of consciousness (epilepsy?)/(48131, 48207)
Selaginella sp.	Colorado	/ground, water added/drunk/mental disorders/(49115)
Asteraceae		
genus indet.	Cayapa	Leaves/ground, water added/placed on forehead/to calm nervous persons/(48443)
Bromeliaceae		
Guzmania sprucei	Coaiquer	Leaves//cold bath/mental disorders/(48693)
Lamiaceae		
Ocimum sp.	Cayapa	Leaves/ground/placed on forehead/to calm nervous persons/(48445)
Melastomataceae		
Clidemia crenulata	Cayapa	//body patted with plant/dizziness/(41060)
Ossaea laxivenula	Cayapa	//used in ritual of shaman/cramps and epilepsy/(48173)
Moraceae		
Maclura tinctoria	Colorado	Latex//aching teeth/local anaesthetic/(49060)
Clarisia racemosa	Colorado	Latex//aching teeth/local anaesthetic/(40713)
Scrophulariaceae		
genus indet.	Cayapa	Leaves/boiled/drunk/nervous conditions/(48444)

Tabel 58 – Continued

	Tribe	Part of plant/preparation/treatment/purpose/ (AAU voucher)
Solanaceae		
<i>Solanum schlectendalianum</i>	Cayapa	//used for rituals of shaman/convulsions with loss of consciousness (epilepsy?)/(48233)
Urticaceae		
<i>Pilea</i> sp.	Colorado	Roots/boiled/drunken/calming effect on people with mental disorders/(40185)
<i>Urera baccifera</i>	Colorado	Leaves//massage/calming effect on people with mental disorders/(40669)

Table 59. Menstruation. Most of the plants in this category are used to prevent excessive bleeding due to menstruation.

	Tribe	Part of plant/preparation/treatment/purpose/ (AAU voucher)
Vascular cryptogams		
<i>Thelypteris</i> sp.	Colorado	Rhizome/boiled/drunken/stops excessive menstrual bleeding/(40138)
Boraginaceae		
<i>Cordia spinescens</i>	Colorado	Leaves/boiled/drunken/stops excessive menstrual bleeding/(40663)
Clusiaceae		
<i>Tovomita weddelliana</i>	Cayapa	Leaves/boiled/1 cup drunk in morning, said to be bitter and somewhat intoxicating/said to induce the first menstruation of young girls, and to reduce bleeding of older women/(48335)
Cucurbitaceae		
genus indet.	Cayapa	Leaves/infusion from fresh leaves/3 cups a day (morning, noon, evening/infections of vagina and lower parts/(41071)
Lamiaceae		
<i>Hyptis capitata</i>	Colorado	Roots and flowers/boiled/drunken/stops excessive menstrual bleeding/(40635)
Lythraceae		
<i>Cuphea strigulosa</i>	Colorado	Roots////(40031)
Malvaceae		
<i>Pavonia fruticosa</i>	Colorado	Roots////(40029)
Marantaceae		
<i>Calathea metallica</i>	Colorado	Roots/boiled/drunken/stops excessive menstrual bleeding/(40650)
Urticaceae		
<i>Urera baccifera</i>	Colorado	Roots/boiled/drunken// (40669)
Verbenaceae		
<i>Verbena litorales</i>	Colorado	Roots/boiled/eaten/alleviation of menstrual pains/(40208)
Vitaceae		
<i>Cissus</i> sp.	Cayapa	Flowers/dried, pulverized and, mixed with water/extract drunk 3 times a day/stops excessive menstrual bleeding/(40500)

Table 60. Birthgiving. The use of *Heteranthera reniformis* to promote the healing of the umbilical cord is probably an example of the Doctrine of Signature. The leaf petiole of this plant somewhat resembles an umbilical cord in the way that it is attached to the kidney shaped leaf.

	Tribe	Part of plant/preparation/treatment/purpose/ (AAU voucher)
Alstromeriaceae		
Bomarea sp.	Cayapa	Leaves/ground and boiled/mixture drunk with salt and lime/stops excessive bleeding under birthgiving/(40331)
Cucurbitaceae		
Gurania megistantha	Cayapa	Leaves/boiled/drunk every morning/relieves pain after birthgiving/(48308)
Marantaceae		
Calathea sp.	Cayapa	Young leaves//boiled/relieves pain after birthgiving/(40435)
Menispermaceae		
Cissampelos sp.	Cayapa	Leaves/ground, water added/cold extract drunk 3 times daily/pains and indisposition before birthgiving/(48153)
Pontederiaceae		
Heteranthera reniformis	Cayapa	Leaves/warmed/applied to umbilical cord for four days after birthgiving/promotes healing/(40388, 48390)
H. reniformis	Coaiquer	/heated/applied to scar from umbilical cord/to prevent infections and malformation/(48776)

Table 61. Lactation. The plant usages listed in this category are probably entirely a product of the Doctrine of Signature. Plants with milky latex are thus believed to stimulate womens' milk production while nursing.

	Tribe	Part of plant/preparations/treatment/purpose/ (AAU voucher)
Apocynaceae		
Odontadenia macrantha	Cayapa	Leaves/boiled/drunk/initiates milk secretion after birthgiving/(40895)
Prestonia portobellensis	Cayapa	Leaves/boiled/breasts rubbed 3 times a day/stimulate milk production / (40831, 41052)
P. rotundifolia	Cayapa	Leaves/boiled/breasts pounded softly with twigs/initiates milk secretion after birthgiving/(40786)
Asclepiaceae		
Fischeria aequatorialis	Cayapa	Leaves/boiled, salt added/breasts rubbed for one hour/initiates milk secretion after birthgiving/(48334)

Table 62. Nosebleed.

	Tribe	Part of plant/preparation/use/(AAU voucher)
Convolvulaceae		
Ipomoea sp.	Cayapa	Flowers/crude/placed in nostrils/(40476)
Gesneriaceae		
Drymonia alloplectoiedes	Colorado	Roots/boiled/decoction drunk/(40061)
Piperaceae		
Peperomia pellucida	Cayapa	Leaves/ground, mixed with hot water/nose drop/(48287)
P. sp.	Cayapa	Leaves/ground and heated/nose drop/(48314)

Table 63. Pulmonary diseases. The distinction between this category and *Coughs and other respiratory disorders* (Table 64) is not clear. The present category includes plants that are used to treat severe health problems apparently related to infectious conditions of the lungs.

	Tribe	Part of plant /preparation/treatment/purpose/ (AAU voucher)
Acanthaceae		
Blechum brownei	Colorado	/boiled/bath of torso/pneumonia/(40183)
Razisea sp.	Cayapa	Leaves/crushed in cold water/extract drunk 3 times a day/severe lung infections, coughing of blood/(41056)
Ruellia riopalenquensis	Cayapa	Leaves/ground and dissolved in a glass of water/extract drunk twice a day/for aching lungs, coughing of blood/(40365, 48067)

Table 64. Respiratory disorders. Under this category are listed plants that are used to treat symptoms of the respiratory system especially coughs and chest pains. Note that plants used for the curing of common colds and influenza are not included here, but in Table 65.

	Tribe	Part of plant/preparation/treatment/comments/ (AAU voucher)
Vascular cryptogams		
Lomariopsis nigropaleata	Cayapa	Central part of rhizome/boiled/drunk/respiratory problems/(40333)
Apocynaceae		
Mandevilla hirsuta	Cayapa	Leaves/boiled/throat softly pounded/for babies that cough blood/(40800)
Fabaceae		
Desmodium adscendens	Colorado	Roots///chest pains/(40022)
Icacinaeae		
Discophora guianensis	Cayapa	Leaves/ground to paste, water added/drunk in morning/coughs, taste very bitter/(40410,40741,41022, 48168)
Marantaceae		
Calathea metallica	Cayapa	Roots/ground, mixed with water/drunk/cough with blood/(40362)
Meliaceae		
genus indet.	Cayapa	Leaves/ground, juice extracted/drunk once a day in the morning before eating/ for symptoms like those of tuberculosis/(48289)
Myrtaceae		
Eugenia sp.	Colorado	Fruits//breathing difficulties/(40044)
Schrophulariaceae		
genus indet.	Coaiquer	/ground under water/extract drunk/for aching lungs/(41461)
Solanaceae		
Witheringia solanacea	Cayapa	Leaves/ground, mixed with lukewarm water/drunk 5 times a day/for coughs with blood/(40308)
Verbenaceae		
Aegiphila alba	Cayapa	Leaves/ground/compress on breast/febrifuge applied to coughing patients/(40538)

Table 65. Colds and influenza. Plants used for conditions with symptoms atypical of cold and influenza are included in Table 64.

	Tribe	Part of plant/preparation/treatment/comment/ (AAU voucher)
Vascular cryptogams		
Lycopodiella trianae	Coaiquer	Stem /crushed, juice extracted/drunk/for colds/(41499)
Polybotrya caudata	Cayapa	Vascular bundles/boiled/small cup drunk 3 times a day/for severe throat infections/(41058)
Polypodium fraxinifolium	Cayapa	/boiled/drunk/removes mucus from throat and nose/(40798)
Tectaria acutiloba	Cayapa	Leaves/boiled/drunk/remove mucus/(40825)
Asteraceae		
genus indet.	Colorado	Leaves/chewed/throat gargled with juice (taste unpleasant)/inflamed throat/(40152)
Commelinaceae		
Dichorisandra sp.	Coaiquer	Leaves//eaten fresh/for colds/(41484)
Costaceae		
Costus sp.	Coaiquer	Stem/juice extracted/drunk pure/for colds/(41585)
Lamiaceae		
genus indet.	Cayapa	Leaves/boiled/drunk/to speed up recovery after influenza or colds/(40861)
Malvaceae		
Urena lobata	Colorado	Roots/boiled/decoction drunk/for colds/(40041)
Monimiaceae		
Siparuna sp.	Coaiquer	/burned/smoke inhaled/relieves congestions/(48903)
Piperaceae		
Peperomia sp.	Colorado	Leaves/boiled/drunk/for colds/(40079)
Piper sp.	Colorado	Leaves/boiled/drunk while still hot (also used for bath)/for colds/(40670)
Plantaginaceae		
Plantago major	Cayapa	Leaves/boiled/drunk/throat infections, mainly used by African Ecuadoreans/(40599)
Poaceae		
Pharus latifolius	Cayapa	/boiled//small cup drunk for colds twice a day/(60106)
Verbenaceae		
Lantana sp.	Cayapa	Leaves/herbal infusion/one cup drunk burning hot/for colds/(40548)

Table 66. Eye infections and vision.

	Tribe	Part of plant/preparation/use/ (AAU voucher)
Amaryllidaceae		
Urceolina grandiflora	Cayapa	Leaves/ground with a little water/eyedrops for infection/ (40335, 40853)
Costaceae		
Costus laevis	Colorado	Leaf rachis/juice/applied to infected, swollen eyes/(40678)
C. pulverulentus	Colorado	/juice/applied to inflamed eyes, also for improving vision/ (40700, 49103)
C. sp.	Colorado	Stem/juice extracted by grinding/ applied to inflamed and swelled eyes/(49113)
Cyperaceae		
Fimbristylis dichotoma	Cayapa	Leaves/cold extract/applied to aching, red, swollen eyes/ (48353)
F. miliacea	Cayapa	Leaves/cold extract/applied to aching, red, swollen eyes/ (48358)
Melastomataceae		
Aciotis caulialata	Cayapa	Leaves/ground, mixed with luke-warm water/eyedrops/ (40314)
Poaceae		
Paspalum conjugatum	Cayapa	Stem/juice squeezed out/eyedrops for aching and inflamed eyes / (40399, 41015, 48147)
Zingiberaceae		
Zingiber officinale	Colorado	Rhizome/ground, juice extracted/to treat blindness/ (49116)

Table 67. Ear infections and hearing. Earaches and improvement of hearing. *Gurania spinulosa* is probably used for this purpose because of its ear shaped leaves.

	Tribe	Part of plant/preparation/treatment/purpose/ (AAU voucher)
Acanthaceae		
genus indet.	Coaiquer	Stem/juice/ear drops/deafness/ (41482)
Cucurbitaceae		
Gurania spinulosa	Cayapa	Leaves/boiled/eardrops/earache/ (48156, 48170)

Table 68. Urination. Plants that are used for various complications related to urination are included here.

	Tribe	Part of plant/preparation/treatment/purpose/ (AAU voucher)
Vascular cryptogam		
Campyloneuron sp.	Colorado	Leaves/ground in water/drunk/for urination problems/ (49037)
Alstroemeriaceae		
Bomerea edulis	Cayapa	Leaves/boiled/glass drunk 3 times a day before meals/in- fections of urinary tract/(41039)
Bignoniaceae		
Mansoa hymenaea	Colorado	Stems, leaves/ground, mixed with water/drunk/urination pains with blood/(49089)
Caryophyllaceae		
Drymaria cordata	Colorado	Leaves/ground/drunk/promotes urination and relieves pain/(40179, 49096)
Commelinaceae		
Dichorisandra hexandra	Cayapa	Leaves/boiled/drunk/urination pains/(40372)
Costaceae		
Costus laevis	Colorado	Juice//drunk//(40678)
Ericaceae		
Cavendishia engleriana	Cayapa	Leaves/ground/boiled/3 teaspoons 3 times a day//(40537)
Gesneriaceae		
Diastema affine	Colorado	Leaves/ground/drunk//(49111)
Monimiaceae		
Siparuna sp. 1	Colorado	Juice/mixed with water/drunk/bladder infections/(40693)
S. sp. 2	Colorado	Leaves/ground, mixed with water/ drunk/urination with pain/(49088)
Orchidaceae		
Scaphyglottis graminifolia	Cayapa	Leaves/boiled/4 teaspoons 3 times a day/painful urination (gonorrhoea?)/(48318)
Piperaceae		
Piper sp.	Colorado	Leaves/ground while fresh/drunk fresh//(49043)
Rubiaceae		
Psychotria williamsii	Colorado	Leaves/ground while fresh/drunk fresh//(49044)

Table 69. Kidney. Note that the informants did not make a clear distinction between the kidney (urinary system) and the liver (digestive system). Some of the plants listed in this table could also have been referred to Table 40.

	Tribe	Part/preparation/treatment/purpose/(AAU voucher)
Vascular cryptogams		
Tectaria sp.	Cayapa	Leaves/ground with water/drunk before morning meal/(48435)
Costaceae		
Costus laevis	Colorado	//juice drunk/liver and kidney pains/(40678)
Monimiaceae		
Siparuna sp. 1.	Colorado	Leaves/ground, juice extracted and mixed with water/drunk/liver and kidney conditions/(40216)
S. sp. 2.	Colorado	Juice/mixed with water/drunk/kidney conditions/(40693)
Moraceae		
Brosimum utile	Colorado	Latex/mixed with water/drunk/pains in liver and kidney/(49110)
Rubiaceae		
Psychotria williamsii	Colorado	Leaves/ground/drunk/liver and kidney diseases/(49044)

Table 70. General. Systemic I. Miscellaneous pains. Headache conditions are also referred to this usage category.

	Tribe	Part of plant/preparation/treatment/type of pains/(AAU voucher)
Vascular cryptogam		
Polypodium repens	Colorado	Leaves/ground, boiled//miscellaneous/(40672)
Thelypteris sp. 1	Coaiquer	Leaves/boiled/eaten/back pains/(41594)
T. sp.2	Coaiquer	Vascular bundles//eaten crude/back pains/(48745)
Acanthaceae		
genus indet.	Coaiquer	Entire plant/ground under water/extract drunk/headache/(41459)
Amaryllidaceae		
genus indet.	Coaiquer	Corm and leafsheaths//eaten/miscellaneous/(41604)
Capparidaceae		
Cleome sp.	Cayapa	Leaves/boiled/a half, hot cup 3 times a day/miscellaneous, cultivated/(40593)
Chenopodiaceae		
Chenopodium ambrosioides	Cayapa	/boiled/drunk/stomach and headache/(40857)
Cyperaceae		
Cyperus luzulae	Colorado	Roots//eaten/headache/(40035)
Gesneriaceae		
Napeanthus robustus	Colorado	Entire plant/ground in cold water/drunk/miscellaneous/(40671)
Melastomataceae		
Ossaea micrantha	Colorado	Leaves/boiled/drunk/loin pains/(40048)
Piperaceae		
Peperomia urocarpa	Cayapa	Leaves/ground in cold water/drunk/heart pains/(41018)

Table 70 – Continued

	Tribe	Part of plant/preparation/treatment/type of pains/ (AAU voucher)
P. sp. 1	Cayapa	Leaves/ground in cold water/drunk, 2 teaspoons/heart pains/(40578)
P. sp. 2	Cayapa	Leaves/ground, mixed with water/drunk/heart pains/(40777)
P. sp. 3	Cayapa	Leaves/ground, dissolved in water/1 glass drunk/for children's pains/(48072)
<i>Piper hispidum</i>	Colorado	/boiled/drunk/miscellaneous/(40222)
<i>P. imperiale</i>	Colorado	/boiled/drunk/miscellaneous/(40091)
<i>P. mexiae</i>	Colorado	Leaves/heated /drunk, warm/ miscellaneous/(40206)
P. sp. 1	Colorado	/boiled/drunk/miscellaneous/(40109)
P. sp. 2	Colorado	Leaves/ground, mixed with water from bamboo/head-ache/(40341)
<i>Trianaeopiper mexiae</i>	Colorado	Leaves/boiled/drunk, hot/miscellaneous/(40667)
Poaceae		
<i>Lasiacis</i> sp.	Coaiquer	Caryops/boiled/eaten/headache/(41469)
Solanaceae		
<i>Browallia americana</i>	Colorado	Roots/boiled/drunk/miscellaneous/(40040)
<i>Physalis</i> sp.	Coaiquer	Fruits//eaten crude/miscellaneous/(41460)
<i>Witheringia solanacea</i>	Cayapa	Leaves/ground/juice, drunk with water/dizziness and head-ache/(40328)

Table 71. General. Systemic II. Febrifuges.

	Tribe	Part of plant/preparation/treatment/(AAU voucher)
Vascular cryptogams		
<i>Polypodium phyllitidis</i>	Colorado	/boiled/drunk/(40095)
Acanthaceae		
<i>Justicia</i> sp.	Coaiquer	Entire plant/ground, juice extracted/drunk/(41483)
Asteraceae		
genus indet.	Cayapa	Flowers/dampened/placed in rectum/(40554)
Gesneriaceae		
<i>Diastema affine</i>	Colorado	// cold drink/(40140)
Loranthaceae		
<i>Struthanthus</i> sp.	Colorado	Leaves/boiled/drunk/(40084)
Piperaceae		
<i>Peperomia pteroneura</i>	Colorado	//drunk/(40089)
Rubiaceae		
genus indet.	Cayapa	Leaves/ground, water added//(40400)
genus indet.	Cayapa	// cold drink/(40685)
Solanaceae		
<i>Solanum confertiseriatum</i>	Coaiquer	Leaves/ground/extract drunk/(48695)
<i>S. nudum</i>	Cayapa	Leaves/ground in cold water/1 small cup drunk 2 times a day (important not to drink more)/(41078, 48271)
Verbenaceae		
<i>Lantana</i> sp.	Cayapa	Leaves/boiled/1 warm cup drunk/(40548)

Table 72. General. Topical I. Compresses, baths, massage. Miscellaneous pains. External treatments for internal pains. Leaves are used except in a few cases. The normal treatment comprises the bathing of the entire body or the specific part of the body where the pain is centred. The preparation, *soaked in pond*, is ritualistic and described in the text (p. 25). The water in which the leaves have been soaked is used to prepare the bath.

	Tribe	Part of plant/preparation/purpose/additional treatments/ (AAU voucher)
Vascular cryptogams		
Adiantum petiolatum	Cayapa	Leaves//stomach ache//(40571)
A. sp.	Coaiquer	Leaves/boiled/back pains//(48953)
Asplenium laetum	Cayapa	Leaves//stomach ache//(48320)
Blechnum sp. 1	Coaiquer	Leaves/ground/back pains//(48940)
B. sp. 2	Coaiquer	Leaves/boiled/back pains//(48945)
Campyloneurum sp.	Coaiquer	Leaves/boiled/back pains//(48749)
Dennstaedtia sp.	Coaiquer	Leaves/boiled, cooled/sore body//(48889)
Elaphaglossum sp.	Coaiquer	Leaves/ground/headache and nosebleed/compress on forehead/(48842)
Hemidictyum marginatum	Colorado	Rhizomes//headache//(40134)
Polypodium repens	Colorado	Leaves/boiled/sore body//(40672)
Pteris sp.	Cayapa	Leaves//stomach ache//(48224)
Tectaria ucusa	Cayapa	Leaves/soaked in pond/stomach ache/(48322)
Thelypteris francoana	Cayapa	Leaves/with cold water/stomach ache//(40570)
T. resinifera	Cayapa	Leaves//stomach ache//(48296)
T. sp. 1	Cayapa	Leaves/soaked in pond/stomach ache//(48411)
T. sp. 2	Coaiquer	Leaves/ground with water/headache//(48761)
T. sp. 3	Coaiquer	Leaves/ground with water/headache//(48762)
T. sp. 3	Coaiquer	Leaves/boiled/back pains//(48952)
Trichipteris bipinnata	Coaiquer	Leaves/boiled/back pains//(48943)
genus indet. (Aspleniaceae)	Cayapa	Leaves//stomach ache//(48297)
Acanthaceae		
Aphelandra attenuata	Coaiquer	Leaves/ground/headache//(48898)
Amaranthaceae		
Alternanthera porrigens	Coaiquer	Leaves/ground in water/headaches caused by colds//(41620)
Gomphrena globosus	Cayapa	Leaves//chest pains//(40561)
Amaryllidaceae		
Crinum amabile	Cayapa	Leaves/warmed/stomach ache//(40496)
Apocynaceae		
Prestonia rotundifolia	Colorado	Leaves/boiled, cooled/sore body//(40674)
Thevetia peruviana	Cayapa	Leaves//chest pains//(40545)
Araceae		
Anthurium falcatum	Cayapa	Leaves//sore legs//(40304)
A. napaeum	Colorado	//sore body//(40676)
Philodendron sp.	Cayapa	Leaves/warmed in hot water/sore body//(40310)
Areaceae		
Geonoma linearis	Cayapa	Leaves//stomach ache//(60115)
Asteraceae		
Pseudelephantopus puratis	Cayapa	Leaves/boiled/miscellaneous pains//(48381)
Tagetes sp.	Cayapa	Leaves/ground in cold water/headache//(40488)
genus indet.	Cayapa	Leaves/ground in cold water/headache//(40563)

Tabel 72 – Continued

	Tribe	Part of plant/preparation/purpose/additional treatments/ (AAU voucher)
Begoniaceae		
<i>Begonia semiovata</i>	Cayapa	Leaves/ground with hot water/back pains// (40298)
Bromeliaceae		
genus indet.	Colorado	Leaves/ground/sore soles of the feet// (40043)
Caesalpinaceae		
<i>Cassia reticulata</i>	Colorado	Leaves/ground/back pains// (40625)
<i>C. sp.</i>	Coaiquer	Leaves//sore legs// (41465)
Campanulaceae		
<i>Burmeistera sp.</i>	Coaiquer	Leaves/used fresh/back pains// (41463)
Chloranthaceae		
<i>Hedyosmum scoterrimum</i>	Coaiquer	Leaves/used fresh/back pains// (41474)
Costaceae		
<i>Costus laevis</i>	Cayapa	Interior of stem//sore body// (40312)
Cyperaceae		
<i>Eleocharis retroflexa</i>	Cayapa	Leaves/ground/stomach ache// (48327)
Ericaceae		
<i>Thibaudia paniculata</i>	Coaiquer	Leaves and flowers//sore body// (41475)
<i>Sphyrospermum cordifolium</i>	Cayapa	Leaves/ground/chest pains// (40830)
Gesneriaceae		
<i>Alloplectus panamensis</i>	Coaiquer	Leaves//miscellaneous pains// (48870)
<i>Columnnea rubricalyx</i>	Coaiquer	Leaves/ground in water/sore body// (41466)
<i>C. tenella</i>	Coaiquer	Leaves//stomach ache// (41577)
<i>Creмосperma congruens</i>	Coaiquer	Leaves/ground in water/headache// (41591)
<i>Gasteranthus oncogastrus</i>	Cayapa	Flowers, leaves/ground/sore body// (40327, 41000)
<i>Napeanthus robustus</i>	Colorado	Entire plant/ground in cold water/headaches and others// (40671)
Heliconiaceae		
<i>Heliconia latispatha</i>	Cayapa	Leaves//stomach ache// (48228)
Icacinaceae		
<i>Discophora guianensis</i>	Cayapa	Leaves//sore body// (40305)
Lamiaceae		
<i>Hyptis mutabilis</i>	Colorado	//sore body// (40039)
<i>H. verticillata</i>	Coaiquer	Leaves/ground while fresh/stomach ache// (41429)
<i>H. sp.</i>	Coaiquer	Entire plant/burned, ash bath/tired, swollen legs// (48720)
Lythraceae		
<i>Cuphea tetrapetala</i>	Cayapa	Twigs//stomach ache// (40402, 40552)
<i>C. tetrapetala</i>	Coaiquer	Twigs//headache/body padded/ (48699)
Malvaceae		
<i>Hibiscus sp.</i>	Cayapa	Leaves/ground/headache// (40579)
Melastomataceae		
<i>Diplarpea paleacea</i>	Coaiquer	Leaves/fresh/stomach ache/placed on aching part of stomach (48723)

Tabel 72 – Continued

	Tribes	Part of plant/preparation/purpose/additional treatments/ (AAU voucher)
Miconia theaezans	Coaiquer	Leaves/lightly dried/stomach ache// (41495)
M. sp.	Coaiquer	Leaves/boiled and cooled/neck pains// (41500)
Menispermaceae		
Cissampelos tropaeolifolia	Colorado	//sore body// (40030)
Moraceae		
Brosimum utile	Colorado	Latex//liver and kidney pains// (40664)
Piperaceae		
Peperomia sp. 1	Cayapa	Leaves/ground, with water/chest pains// (40784)
P. sp. 2	Coaiquer	Leaves/dried, alcohol added/headache// (41454)
Piper eustylum	Colorado	//sore body// (40237)
P. obliquum	Colorado	/boiled/sore body// (40210)
P. sp. 1	Coaiquer	Leaves/ground/headache// (48726)
P. sp. 2	Coaiquer	Leaves//sore body// (48853)
P. sp. 3	Coaiquer	Leaves//headache// (48861)
Rubiaceae		
Gonzalagunia cornifolia	Cayapa	//stomach ache// (48227)
Hamelia axillaris	Cayapa	//stomach ache// (48225)
genus indet.	Cayapa	//sore body// (40292)
genus indet.	Coaiquer	Leaves//fresh on forehead with fat// (41497)
Solanaceae		
Brugmansia versicolor	Coaiquer	Leaves//headache// (41618)
Physalis sp.	Coaiquer	Leaves//headache// (48801)
Solanum lepodotum	Cayapa	Leaves//headache/forehead massaged, body tapped/ (40306, 40536)
S. mammosum	Cayapa	Mature fruits//sore body// (40487)
S. schlechtendahliaum	Cayapa	Leaves//headache// (41067)
Zingiberaceae		
Renealmia cylindrica	Cayapa	Leaves/ground in cold water/for headache, but entire body bathed// (41042)

Table 73. General. Topical II. Compresses, baths and massage. Regulation of body temperature. The Colorados use many plants in ritual bath treatments. The *Baño de fresco* allegedly reduces fever, whereas *Baño de caliente* raises the body temperature of patients experiencing cold. This warm and cold bath system can also be used to treat other imbalances that are not related to the body temperature of the patient. The plants used in *Baño de fresco* are sometimes prepared by boiling, but the bath is usually cold or lukewarm. The actual effect of the bath treatment depends on the ritual performed. A few plant species are used both in cool and warm baths. Under *purpose* is indicated whether the treatment cited is supposed to raise (+) or lower (÷) the temperature.

	Tribe	Part of plant/preparation/purpose and additional treatment/(AAU voucher)
Vascular cryptogams		
Adiantum macrophyllum	Colorado	//÷/(40111)
Asplenium serratum	Colorado	Leaves//÷/(40717)
Blechnum volubile	Colorado	Leaves/ground/÷/(49038)
Bolbitis nicotianifolia	Colorado	//÷/(40146)
Dennstaedtia arborescens	Colorado	//÷/(40085)
Diplazium cristatum	Colorado	Rhizomes//÷/(40149)
D. striatastrum	Colorado	Leaves//÷/(40051)
D. striatum	Colorado	Leaves/ground/÷/(49041)
D. sp. 1	Colorado	//÷/(40215)
D. sp. 2	Colorado	//÷/(40238)
Elaphoglossum sp.	Colorado	Leaves//÷/(40133)
Hemidictyum marginatum	Colorado	Entire plant//÷/(40128)
Huperzia linifolia	Cayapa	/boiled, warm foot bath/+(40610)
Lonchitis hirsuta	Colorado	Entire plant//÷/(40130)
Lomariopsis japurensis	Colorado	Leaves//÷/(40163)
L. nigropaleata	Colorado	//÷/(40229)
L. nigropaleata	Colorado	Leaves//+(40223)
Polypodium crassifolium	Colorado	//÷/(40639)
Polypodium phyllitidis	Colorado	/boiled/+(40095)
P. piloselloides	Colorado	//÷/(40617)
Saccoloma elegans	Colorado	//÷/(40225)
Selaginella sp. 1	Colorado	Shoots//+(40200)
S. sp. 2	Colorado	Leaves/ground, boiled/+(49033)
S. sp. 3	Colorado	/ground, boiled/+(49042)
Tectaria nicotianifolia	Colorado	//÷/(40144, 40686)
Thelypteris sp. 1	Colorado	Leaves//÷/(40132)
T. sp. 2	Colorado	Leaves/ground/÷/(49030)
T. sp. 3	Colorado	Leaves/ground/÷/(49031)
Trichomanes sp.	Colorado	//÷/(40086)
Dennstaedtia sp.	Colorado	Leaves/ground/÷/(49036)
Acanthaceae		
Aphelandra sp.	Colorado	//÷/(40710)
Odontonema strictum	Colorado	Leaves//÷/(40023)
Pseuderanthemum lanceolatum	Colorado	//÷/(40211)
Razisea spicata	Colorado	Entire plant/ground/÷/(40083)
Sanchezia parvifolia	Colorado	Leaves//+(40189)
S. sp.	Coaiquer	Leaves/boiled/÷/(41464)
Amaranthaceae		
Alternanthera mexicana	Colorado	Leaves//÷/(40653)
Apocynaceae		
Allamanda cathartica	Colorado	//÷/(40719)

Tabel 73 – Continued

	Tribe	Part of plant/preparation/purpose and additional treatment/(AAU voucher)
Araceae		
Anthurium napaeum	Colorado	//÷/(40676)
A. ortegeanum	Colorado	Leaves//÷/(40202)
A. oveophilum	Colorado	Roots//÷/(40129)
A. trinerve	Colorado	//÷ or +/(40141, 40231)
A. sp. 1	Colorado	/boiled/÷/(40136)
A. sp. 2	Colorado	//÷/(40150)
A. sp. 3	Cayapa	Leaves/ground, boiled/÷, also massage/(40737)
Monstera adansonii	Colorado	Leaves/ground/÷/(49054)
Philodendron tenue	Colorado	//÷/(40226)
Araliaceae		
Nothopanax fruticosus	Colorado	//÷/(40612)
Aristolochiaceae		
Aristolochia pichingensis	Colorado	Leaves//÷/(40718)
Asteraceae		
genus indet.	Colorado	Leaves//÷/(40024)
genus indet.	Colorado	Sap/squeezed out of plant/÷/(40337)
genus indet.	Colorado	Leaves//+/(40190)
Begoniaceae		
Begonia sp.	Colorado	Leaves/ground/÷/(49059)
Bixaceae		
Bixa orellana	Colorado	Leaves//+/(40704)
Bombacaceae		
Matisia coloradorum	Colorado	Leaves//÷ or +/(40131, 40187)
Commelinaceae		
Aneilema umbrosum	Colorado	Leaves//÷/(40033)
Geogenanthus rhizanthus	Colorado	//÷/(40106)
Cyclanthaceae		
Asplundia sp.	Colorado	Young leaves//÷/(40188)
Euphorbiaceae		
Acalypha sp. 1	Colorado	//÷/(40657)
A. sp. 2	Colorado	//+/(40725)
Codiaeum variegatum	Colorado	Leaves//÷/(40615)
Fabaceae		
Crotalaria nitens	Colorado	Leaves//+/(40727)
Desmodium adscendens	Colorado	Roots//+, also compress on breast/(40032)
Gesneriaceae		
Alloplectus sprucei	Colorado	Leaves/sap squeezed out/÷/(40706)
Columnnea kienastiana	Cayapa	Leaves/boiled extract/+/(48162)
C. spathulata	Cayapa	Leaves/boiled/+, also massage for general indisposition in the morning/(40481)
Diastema scabrum	Colorado	Leaves/ground/÷/(49092)
Drymonia rhodoloma	Colorado	Leaves//÷/(40716)
D. turrialvae	Colorado	//÷/(40224)
Gasteranthus corallinus	Colorado	÷/(40665)

Tabel 73 – Continued

	Tribe	Part of plant/preparation/purpose and additional treatment/(AAU voucher)
Monopyle sodiroana	Cayapa	Leaves//to feverish malaria patients, the leaves are also warmed in water and wrapped around feet/(40316)
Napeanthus robustus	Colorado	Leaves/ground/lower stomach temp./(49108)
Heliconiaceae		
Heliconia curtispatha	Colorado	Young leaves//÷/(40119)
Hydrocotylaceae		
Hydrocotyle leucocephala	Colorado	Entire plant//÷/(40193)
Lamiaceae		
Hyptis obtusiflora	Colorado	Leaves//+/(40180)
Lauraceae		
Persea americana	Colorado	Leaves//+/(40715)
Loranthaceae		
Phthirusa pyrifolia	Colorado	Leaves/boiled/increase stomach temp./(40056)
Oryctanthus occidentalis	Colorado	Leaves/boiled/increase stomach temp./(40058)
Malvaceae		
Hibiscus radiatus	Colorado	//÷/(40637)
H. rosa-sinensis	Colorado	//÷/(40139)
Malachra ruderalis	Cayapa	Leaves/boiled/÷/(40557, 40860)
Malvaviscus penduliflorus	Colorado	Leaves//÷/(40027)
Marantaceae		
Calathea metallica	Colorado	Roots//÷/(40204)
Melastomataceae		
Miconia venulosa	Cayapa	Leaves/ground in tepid water//(40324)
Ossaea laxivenula	Cayapa	Leaves/ground//÷, also used for compress/(40364, 41013)
O. micrantha	Colorado	Leaves/boiled/÷/(40162)
Meliaceae		
Trichilia pallida	Colorado	//÷/(40006)
Mimosaceae		
Inga edulis	Colorado	Leaves//÷/(40042)
Monimiaceae		
Siparuna laurifolia	Colorado	Leaves//÷/(40643)
Myrsinaceae		
Ardisia sp.	Colorado	Leaves//+/(40192)
Myrtaceae		
genus indet.	Colorado	Leaves/boiled/increase stomach temp./(49094)
Nyctaginaceae		
Bougainvillea sp.	Colorado	Leaves/ground/÷/(49090)
Mirabilis jalapa	Colorado	Leaves//÷/(40025)
Olacaceae		
Heisteria sp.	Colorado	Leaves//÷/(40064)
Onagraceae		
Ludwigia erecta	Colorado	Roots//÷/(40178)

Tabel 73 – Continued

	Tribe	Part of plant/preparation/purpose and additional treatment/(AAU voucher)
Orchidaceae		
Malaxis sp.	Coaiquer	Leaves/boiled, cold decoction/+/ (48709)
Piperaceae		
Peperomia pernamboucensis	Colorado	Leaves/ground/÷/ (49053)
P. urocarpa	Colorado	Leaves//÷/ (40067, 40135)
P. sp. 1	Colorado	//÷/ (40143)
P. sp. 2	Colorado	Leaves//÷/ (40169)
Piper augustum	Cayapa	Twigs//÷, also massage/ (40452)
P. augustum	Colorado	//increase stomach temp./ (40090)
P. hispidum	Colorado	Leaves//+ (40194, 40681)
P. imperiale	Cayapa	Leaves/boiled/+ , also wrapped around arms and legs/ (40596)
P. multiplinervium	Colorado	//+ (40684)
P. trianae	Colorado	Leaves/ground/÷/ (49055)
P. sp. 1	Cayapa	Leaves/boiled/+ , also wrapped around arms and legs/ (40790)
P. sp. 2	Cayapa	Leaves//+ , also wrapped around arms and legs/ (48158)
P. sp. 3	Cayapa	Leaves/ground, boiled or fresh/÷/ (40776)
P. sp. 4	Colorado	//+ (40683)
P. sp. 5	Colorado	//+ (40679)
P. sp. 6	Colorado	Leaves//+ (40711)
P. sp. 7	Colorado	Leaves/ground, boiled/+ (49056)
P. sp. 8	Colorado	//increase stomach temp./ (40227)
P. sp. 9	Colorado	Leaves/boiled/increase stomach temp./ (40699)
Trianaeopiper killipii	Cayapa	Leaves//+ , also wrapped around arms and legs/ (40755)
Poaceae		
Panicum frondescens	Colorado	Fresh roots//÷/ (40182)
Pontederiaceae		
genus indet.	Colorado	Leaves//÷/ (40070)
Rubiaceae		
Cephaelis gentryi	Coaiquer	Leaves/dried before water is added/÷/ (41493)
Chimarrhis sp.	Colorado	Leaves//÷/ (40112)
Geophila herbacea	Colorado	Leaves//÷/ (40644)
Gonzalagunia sp.	Colorado	Leaves//+ (40661)
Hamelia axillaris	Colorado	Leaves//÷ , also massage/ (40054, 40626)
H. axillaris	Cayapa	Twigs//÷/ (40484)
Hoffmannia sp.	Colorado	//÷/ (40151)
Psychotria hoffmanseggiana	Colorado	//÷/ (40153)
P. macrophylla	Colorado	Leaves//÷/ (40065, 40072, 40114)
P. stenostachya	Colorado	Leaves//÷/ (40066)
P. sp. 1	Colorado	Leaves//÷/ (40068)
P. sp. 2	Colorado	Leaves//÷/ (40082)
P. sp. 3	Colorado	//÷/ (40213)
P. sp. 4	Colorado	//÷/ (40232)
genus indet.	Colorado	//÷/ (40685)

Tabel 73 – Continued

	Tribe	Part of plant/preparation/purpose and additional treatment/(AAU voucher)
Rutaceae		
Citrus sp. 1	Colorado	Leaves//÷/(40720)
C. sp.2	Colorado	Leaves//÷/(40721)
Ruta sp.	Cayapa	Leaves/ground in cold water/heavy headaches, also compress on forehead/(40558)
Sapindaceae		
Allophylus sp.	Colorado	Leaves//+/(40181)
Solanaceae		
Brunfelsia grandiflora	Colorado	Leaves/crushed, cold water/÷/(40021)
Cestrum racemosum	Colorado	Leaves//÷/(40081, 40176)
C. sp.1	Coaiquer	Leaves/fresh in cold water/÷/(48900)
C. sp. 2	Colorado	Leaves//+/(40688)
Solanum confertiseriatum	Colorado	Leaves//÷/(40630)
S. dolichorhachis	Colorado	Leaves/boiled, warm decoction used/+(40154)
S. sp.	Colorado	//+/(40691)
Urticaceae		
Pilea sp.	Colorado	//+/(40008)
Zingiberaceae		
Renealmia cylindrica	Cayapa	Leaves/ground, mixed with water/÷/(40833)
R. oligosperma	Colorado	Leaves/boiled/÷/(40160)

Table 74. General. Topical III. Compresses, baths, massage, smoke, steam. Ritual treatment of vaguely defined or non-specific symptoms. The Coaiqueres often use the term “chutun” for general symptoms such as indisposition and body soreness not unlike influenza symptoms. It is a condition allegedly caused by malevolent spirits. According to Kempf (1982) chutun has an important socio-political role and comprises all kinds of serious ailments. Healing of chutun is done exclusively by the shaman.

	Tribe	Part of plant/preparation/treatment/ purpose/ (AAU voucher)
Vascular cryptogams		
Pityrogramma calomelanus	Cayapa	Fronds/boiled/bath// (48221)
Tectaria incisa	Cayapa	Fronds//massage// (40501, 40902)
Thelypteris curta	Cayapa	//massage// (48129)
Acanthaceae		
Justicia pectoralis	Coaiquer	Twigs//humid, massage// (48715)
Ruellia tubiflora	Cayapa	//massage// (48402)
Amaranthaceae		
Achyranthes aspera	Coaiquer	Leaves/soaked in water/ bath or, infusion sprayed on patient from the mouth/“chutun”/ (41649, 48877)
Araceae		
Anthurium subcoerulescens	Cayapa	//massage// (41054)
A. falcatum	Cayapa	//massage/mainly fever and vomiting/ (48073)
A. trisectum	Cayapa	//massage/for most diseases particularly those with headaches and high fever/ (48118, 48249)
Areaceae		
Synecanthus warscewiczianus	Cayapa	//// (60117)

Tabel 74 – Continued

	Tribe	Part of plant/preparation/treatment/ purpose/ (AAU voucher)
Asteraceae		
Erechtites valerianifolia	Coaiquer	Crude leaves//bath/“chutun”/(48866)
Pollalesta sp.	Coaiquer	Leaves/burned/smoke inhaled/for headache/(41492)
Pseudelephantopus sp. 1	Coaiquer	Root//bath/“chutun”/(41609)
Pseudelephantopus sp. 2	Coaiquer	Root/crude/bath/“chutun”/(48713)
Bixaceae		
Bixa orellana	Cayapa	Seeds/extract/sprayed on patient from the mouth// (40472)
Capparidaceae		
Podandroyne brevipedunculata	Cayapa	//massage/(40866)
Commelinaceae		
Dichorisantra	Coaiquer	Leaves/fresh/bath/“chutun”/(48706)
Crassulaceae		
Kalanchoe sp.	Cayapa	Leaves/ground/compress on forehead// (48149)
Cyclanthaceae		
Cyclanthus bipartitus	Colorado	Leaves/boiled/steam bath// (40221)
Cyperaceae		
Cyperus odoratus	Coaiquer	Roots/chewed fresh or dried/sprayed on patient from the mouth/“chutun”/(41624)
Gesneriaceae		
Columnnea fililoba	Coaiquer	Leaves/fresh or boiled/bath/“chutun”/(41641, 48997)
C. kienastiana	Cayapa	Leaves//sprayed on patient from the mouth or, massage// (40605)
C. rubriacuta	Coaiquer	Leaves/fresh/bath/“chutun”/(41432, 41622)
Creosperma hirsutissimum	Coaiquer	Leaves/fresh/massage/“chutun”/ (41581, 41611)
C. nobile	Coaiquer	Leaves/fresh/ massage/“chutun”/ (41651)
Gasteranthus oncogastrus	Cayapa	//sprayed on patient from the mouth/for fever/(40734, 48126)
Gloxinia dodsonii	Coaiquer	Leaves/fresh/massage/“chutun”/(41602)
Lamiaceae		
Hyptis sp.	Coaiquer	Leaves/burned/smoke bath// (48852)
Ocimum campechianum	Cayapa	Leaves/ground/compress// (40395)
genus indet.	Cayapa	Leaves/fresh/bath// (48142)
Lythraceae		
Cuphea tetrapetala	Coaiquer	//massage/“chutun”/(41423)
Malvaceae		
Malachra ruderalis	Cayapa	Leaves/fresh/bath// (40860)
Melastomataceae		
Clidemia purpurea	Cayapa	Twigs/fresh/massage// (40896)
C. septuplinervia	Cayapa	Twigs or leaves//massage or hot bath// (40510)
Conostegia centronioides	Cayapa	Leaves or twigs//sprayed on patient from the mouth or massage// (40528, 40779)
C. dentata	Cayapa	//massage// (48100)
Miconia barbinervis	Cayapa	Twigs//massage// (48431)
M. erioclada	Cayapa	Twigs//massage// (40569)

Tabel 74 – Continued

	Tribe	Part of plant/preparation/treatment/ purpose/ (AAU voucher)
<i>M. gracilis</i>	Cayapa	//massage//(41033)
<i>M. lugonis</i>	Cayapa	Twigs//massage//(40769)
<i>M. nervosa</i>	Cayapa	Leaves/fresh/massage//(41014, 48099)
<i>M. trinervia</i>	Cayapa	Twigs//massage//(40489)
Mimosaceae		
<i>Pithecellobium longifolium</i>	Cayapa	Twigs//massage//(48288)
<i>Zygia longifolia</i>	Cayapa	Leaves/ground/bath or massage at full moon/also said to prevent aging/(40403)
Myrtaceae		
<i>Calyptranthes</i> sp.	Cayapa	Leaves/boiled/bath//(41045)
<i>Myrcia</i> sp. 1	Coaiquer	Leaves/boiled/bath/“chutun”/(41614)
<i>M.</i> sp. 2	Cayapa	Twigs//massage//(40743)
Genus A	Cayapa	Leaves//massage//(48401)
Piperaceae		
<i>Piper angustum</i>	Cayapa	Twigs//massage//(40749)
<i>P. brachypodon</i>	Cayapa	Leaves/ground with water, glowing stones added/steam bath//(40881)
<i>P. dryadum</i>	Coaiquer	/boiled/bath/“chutun”/(41612)
<i>P. hispidum</i>	Cayapa	Leaves//infusion sprayed on patient from mouth or, bath//(40748)
<i>P. imperiale</i>	Colorado	Leaves/heated/compress on lower part of legs//(40199)
<i>P. multiplinervium</i>	Coaiquer	Leaves/fresh/bath/“chutun”/(41471, 48786)
<i>P. peltata</i>	Cayapa	Leaves/ground/compress or massage//(40393, 48159)
<i>P.</i> sp. 1	Coaiquer	Leaves/fresh/cold bath/“chutun”/(41590)
<i>P.</i> sp. 2	Coaiquer	Leaves/fresh/bath/“chutun”/(41658)
<i>P.</i> sp. 3	Coaiquer	Leaves//bath/“chutun”/(48697)
<i>P.</i> sp. 4	Coaiquer	Leaves//bath/“chutun”/(48703)
<i>P.</i> sp. 5	Coaiquer	Leaves/fresh/bath/“chutun”/(48873)
<i>P.</i> sp. 6	Coaiquer	Leaves/fresh/bath/“chutun”/(48836)
<i>P.</i> sp. 7	Cayapa	Leaves//sprayed on patient from mouth//(48163)
<i>P.</i> sp. 8	Cayapa	Leaves//sprayed on patient from mouth/exorcistic ritual performed to expel malevolent spirits//(48164)
<i>P.</i> sp. 9	Cayapa	Leaves//sprayed on patient from mouth//(48392)
<i>P.</i> sp. 10	Cayapa	//massage//(40323)
<i>Trianaeopiper</i>	Coaiquer	//bath/“chutun”/(41425)
Poaceae		
<i>Arundinella berteroniana</i>	Cayapa	//massage//(40585)
Rubiaceae		
<i>Cephaelis</i> sp.	Cayapa	//massage//(41047)
<i>Hamelia</i> sp.	Coaiquer	Leaves, branches/burned/smoke bath//(41608)
<i>Palicourea conferta</i>	Cayapa	//massage//(40518)
<i>P. guianensis</i>	Cayapa	Leaves/fresh/compress//(41003)
<i>Psychotria brachiata</i>	Cayapa	Twigs//massage//(48112)
<i>P. caerulea</i>	Cayapa	//massage//(48172)
<i>P. hoffmanseggiana</i>	Cayapa	Twigs//massage//(48315)
<i>P. macrophylla</i>	Cayapa	Twigs//massage//(48165)
<i>P.</i> sp.	Cayapa	//massage//(41055)

Tabel 74 – Continued

	Tribe	Part of plant/preparation/treatment/ purpose/ (AAU voucher)
Scrophulariaceae		
Scoparia sp.	Coaiquer	Leaves/fresh/bath/"chutun"/(41431)
Genus A	Coaiquer	Leaves/fresh/bath/"chutun"/(41430)
Genus B	Coaiquer	Leaves/fresh/bath/"chutun"/(41424)
Solanaceae		
Cestrum racemosum	Cayapa	//massage//(40391)
C. sp.	Cayapa	//massage//(48275)
Solanum nudum	Cayapa	Leaves//massage//(48304)
genus indet.	Cayapa	Leaves//sprayed on patient from mouth//(48114)
Verbenaceae		
Aegiphila alba	Cayapa	Leaves/ground/massage//(40538, 48427)
Zingiberaceae		
Alpinia purpurata	Cayapa	Leaves//sprayed on patient from mouth//(40551)
Hedychium coronarium	Coaiquer	Rhizomes/ground/bath/disease called "guamoca"/(48788)
Renealmia sp.	Cayapa	//massage//(48235)
genus indet.	Coaiquer	Leaves//cold bath/"chutun"/(48694)

Table 75. Details on the identification of the material collected

Vouchers identified to family	1480 (in 113 families)
Vouchers identified to genus	1377 (in 396 genera)
Vouchers identified to species	955 (in 576 species)
Vouchers not identified (to family)	19
Estimated no. of species	930

Table 76. Details on vernacular naming broken down for the three ethnic groups

	Coaiquer	Cayapa	Colorado	Σ
Number of vouchers collected	498	1072	421	1991
Number of uses registered ¹	369	718	423	1510
Number of vouchers of named plants	281	997	134	1412
Number of vouchers with more than one name ²	32	16	63	111
Number of names ³	235	819	181	1235

1 Note that several uses were indicated for some vouchers. Species for which a particular usage pattern has been registered repeatedly within the same ethnic group are only counted once whereas identical uses of the same plant by more than one ethnic group are registered for each of these separately.

2 Sometimes a Spanish name was given besides the local name.

3 Note that the same name is sometimes used for more than one species

Tab. 77. Most important families in terms of number of uses registered. Data broken down for the three ethnic groups.

COAIQUER		CAYAPA		COLORADO	
Gesneriaceae	55 (15 %)	Vascular cryptogams	66 (9 %)	Vascular cryptogams	62 (15%)
Vascular cryptogams	41 (11 %)	Piperaceae	57 (8 %)	Piperaceae	36 (9 %)
Piperaceae	35 (10 %)	Gesneriaceae	47 (7 %)	Solanaceae	27 (6 %)
Areaceae	20 (5 %)	Araceae	43 (6 %)	Gesneriaceae	27 (6 %)
Solanaceae	20 (5 %)	Areaceae	34 (5 %)	Rubiaceae	22 (5 %)
Melastomataceae	16 (4 %)	Rubiaceae	34 (5 %)	Asteraceae	20 (5 %)
Clusiaceae	15 (4 %)	Melastomataceae	29 (4 %)	Euphorbiaceae	16 (4 %)
Araceae	10 (3 %)	Solanaceae	29 (4 %)	Araceae	12 (3 %)
Asteraceae	10 (3 %)	Asteraceae	19 (3 %)	Moraceae	10 (2 %)
Rubiaceae	9 (2 %)	Euphorbiaceae	15 (2 %)	Melastomataceae	9 (2 %)
Remaining families	138 (37 %)	Remaining families	345 (48 %)	Remaning families	182 (43 %)
Σ	369	Σ	718	Σ	423

Tab. 78. Vascular cryptogams. Usage patterns broken down for the three ethnic groups.

Usage category	Coaiquer	Cayapa	Colorado	Σ
General. Topical. II (t. 73)	–	1	29	30
Snake bites. Topical (t. 48)	14	6	7	27
General. Topical. I (t. 72)	10	8	2	20
Vegetables (t. 25)	4	6	1	11
Wounds (t. 51)	–	8	2	10
Stomach infections (t. 41)	2	3	4	9
Soap, shampoo (t. 13)	2	6	1	9
Snake bites. Systemic (t. 49)	–	–	8	8
Jewelry (t. 9)	–	5	–	5
Intestinal parasites (t. 44)	4	1	–	5
Anaemia (t. 35)	–	4	–	4
Liver and spleen (t. 40)	–	4	–	4
Snake bites. Others (t. 50)	1	2	1	4
Colds and influenza (t. 65)	1	3	–	4
General. Systemic. I (t. 70)	2	–	1	3
General. Topical. III (t. 74)	–	3	–	3
Rheumatism (t. 56)	–	–	2	2
Nervous system (t. 58)	–	1	1	2
Unprocessed as rope (t. 7)	–	1	–	1
Plaiting and textiles (t. 10)	–	1	–	1
Gums and teeth (t. 39)	1	–	–	1
Injured joints (t. 57)	–	1	–	1
Menstruation (t. 59)	–	–	1	1
Respiratory disorders (t. 64)	–	1	–	1
Urination (t. 68)	–	–	1	1
Kidney (t. 69)	–	1	–	1
General. Systemic II (t. 71)	–	–	1	1
			$\Sigma\Sigma$	169

Tab. 79. Piperaceae. Usage patterns broken down for the three ethnic groups.

Usage category	Coaiquer	Cayapa	Colorado	Σ
Snake bites. Topical (t. 48)	15	15	–	30
General. Topical. II (t. 73)	–	6	14	20
General. Topical. III (t. 74)	9	8	1	18
General. Systemic. I (t. 70)	–	4	6	10
General. Topical. I (t. 72)	4	1	2	7
Rheumatism (t. 56)	–	3	2	5
Stomach infections (t. 41)	1	–	3	4
Wounds (t. 51)	1	3	–	4
Skinreactions (t. 55)	–	4	–	4
Perfumes (t. 14)	–	2	1	3
Insect bites. General (t. 47)	–	3	–	3
Game attractant (t. 32)	1	1	–	2
Anaemia (t. 35)	–	2	–	2
Snake bites. Others (t. 50)	2	–	–	2
Nose bleed (t. 62)	–	2	–	2
Colds and influenza (t. 65)	–	–	2	2
Soap, shampoo (t. 13)	–	–	1	1
Dyes (t. 15)	–	1	–	1
Hallucinogens (t. 18)	–	1	–	1
Magic plants (t. 21)	–	–	1	1
Liver and spleen (t. 40)	–	–	1	1
Snake bites. Systemic (t. 49)	1	–	–	1
Swelling from bruises (t. 52)	1	–	–	1
Fungal infections (t. 54)	–	1	–	1
Urination (t. 68)	–	–	1	1
General. Systemic. II (t. 71)	–	–	1	1
			$\Sigma\Sigma$	128

Tab. 80. Gesneriaceae. Usage patterns broken down for the three ethnic groups.

Usage category	Coaiquer	Cayapa	Colorado	Σ
Snake bites. Topical (t. 48)	18	21	7	46
Skinreactions (t. 55)	19	3	–	22
Snake bites. Systemic (t. 49)	1	9	7	17
General. Topical. II (t. 73)	–	3	6	9
General. Topical. III (t. 74)	5	2	–	7
General. Topical. I (t. 72)	4	1	1	6
Wounds (t. 51)	2	1	–	3
Swellings from bruises (t. 52)	2	1	–	3
Edible fruits and seeds (t. 24)	1	1	–	2
Game attractants (t. 32)	–	2	–	2
Ritual ornaments (t. 20)	1	–	–	1
Magic plants (t. 21)	–	1	–	1
Edible flowers (t. 26)	–	1	–	1
Gangrene (t. 37)	–	1	–	1
Stomach infections (t. 41)	–	–	1	1
Snake bites. Others (t. 50)	1	–	–	1
Rheumatism (t. 56)	–	–	1	1
Injured joints (t. 57)	1	–	–	1
Nose bleed (t. 62)	–	–	1	1
Urination (t. 68)	–	–	1	1
General. Systemic. I (t. 70)	–	–	1	1
General. Systemic. II. (t. 71)	–	–	1	1
			ΣΣ	129

Tab. 81. Most important usage categories. Data broken down for the three ethnic groups.

COAIQUER		CAYAPA		COLORADO	
Snakebites. Topical (t. 48)	58 (16 %)	Snakebites. Topical (t. 48)	72 (10 %)	General. Topical. II (t. 73)	127 (30 %)
Skinreactions (t. 55)	32 (9 %)	Edible fruits and seeds (t. 24)	58 (8 %)	Snakebites. Topical. (t. 48)	24 (6 %)
General. Topical. I. (t. 72)	32 (9 %)	General. Topical. III (t. 74)	53 (7 %)	Wounds (t. 51)	21 (5 %)
Timber (t. 2)	31 (8 %)	Game attractants (t. 32)	40 (6 %)	Stomach infections (t. 41)	19 (4 %)
General. Topical. III (t. 74)	31 (8 %)	General. Topical. I (t. 72)	34 (5 %)	Snakebites. Systemic (t. 49)	19 (4 %)
Edible fruits and seeds (t. 24)	24 (7 %)	Timber (t. 2)	32 (4 %)	Edible fruits and seeds (t. 24)	18 (4 %)
Game attractants (t. 32)	22 (6 %)	Wounds (t. 51)	29 (4 %)	General. Topical. II (t. 73)	12 (3 %)
Wounds (t. 51)	12 (3 %)	Stomach infections (t. 41)	27 (4 %)	Beverages (t. 28)	11 (3 %)
Vegetables (t. 25)	9 (2 %)	Vegetables (t. 25)	24 (3 %)	Skinreactions (t. 55)	11 (3 %)
Fodder and fish bait (t. 31)	8 (2 %)	Skinreactions (t. 55)	18 (3 %)	General. Systemic. I (t. 70)	11 (3 %)
remaining uses	110 (30 %)	remaining uses	331 (46 %)	remaining uses	150 (36 %)
Σ	369	Σ	718	Σ	423

Table 82. Thirty-two plants that we consider particularly promising in the search for physiologically active compounds based on the ethnobotanical studies of the three Amerindian groups of coastal Ecuador.

Scientific name	Use	Scientific name	Use
<i>Acalypha diversifolia</i>	wounds	<i>Jatropha curcas</i>	laxative
<i>A. villosa</i>	wounds	<i>Naucleopsis sp.</i>	arrow poison
<i>Begonia glabra</i>	rash	<i>Paspalum conjugatum</i>	eye infection
<i>Chenopodium ambrosioides</i>	stomach ache	<i>Persea americana</i>	contraception
<i>Maclura tinctoria</i>	dental pains	<i>Philodendron inequilaterum</i>	antbites
<i>Clarisia racemosa</i>	dental pains	<i>Phyllanthus anisolobus</i>	fish poison
<i>Clibadium sp.</i>	rheumatism	<i>Piper tricuspe</i>	lice cure
<i>Cordia spinescens</i>	fungal skin disease	<i>P. spp.</i>	pain killers
<i>Costus pulverulentus</i>	eyeinfection	<i>Polygonum hydropiperoides</i>	fish poison
<i>Cuatrecasia riparia</i>	rash	<i>Sapium peruvianum</i>	fish poison
<i>Cyclanthus bipartitus</i>	antbites	<i>Schoenobiblus sp.</i>	hallucinogenic
<i>Desmodium uncinatum</i>	aborticide	<i>Scoparia dulcis</i>	intestinal parasites
<i>Dieffenbachia seguine</i>	antbites	<i>Solanum canense</i>	stomach ache
<i>Discophora guianensis</i>	coughs	<i>Spilanthes alba</i>	dental pains
<i>Drymaria cordata</i>	urination pains	<i>Urceolina grandiflora</i>	eye infections
<i>Ficus insipida</i>	intestinal parasites	<i>Witheringia solanacea</i>	rash

XI Spanish abstract

Synopsis en español

Se presenta un estudio etnobotánico comparado entre los Colorados, los Cayapas y los Coaiqueres del occidente costero de Ecuador. Durante el trabajo de campo entre 1982 y 1987, se colectaron casi 2000 pliegos testigo, de los cuales se registraron 1510 usos. El material identificado pertenece a 113 familias y 396 géneros distintos. El número de especies representadas se estima en 930. Se distinguen 73 categorías de uso. Se citan listados de plantas para cada categoría. Se presentan varios modelos etnobotánicos. Se citan 8 entre las 10 familias de mayor valor para los tres grupos indígenas: criptógamas vasculares, Piperaceae, Gesneriaceae, Solanaceae, Araceae, Rubiaceae, Melastomataceae y Asteraceae. La categorías de uso que representan mayor cantidad de registros son las de curación de mordeduras de serpientes y las de baños para regular la temperatura corporal. El último es practicada por los Colorados únicamente. Gesneriaceae es la familia más empleada para combatir las mordeduras de serpiente. Dentro de la categoría de usos no medicinales, la de frutos comestibles es la más extensa. La categoría medicinal sistémica más importante tiene un rango de 10 sobre el resto. Varios aspectos de la etnobotánica de los Colorados destaca se se compara con la de otros grupos de la costa de Ecuador. La mayoría de los caracteres aberrantes han sido adquiridos durante los últimos 50 años a través de contactos con culturas andinas. Hay una correspondancia entre la pérdida de usos de las plantas por familias y la composición florística de familias en los alrededores del bosque, donde se encuentran

la mayoría de las plantas que utilizan. Esto señala hacia un importante componente al azar en los usos, especialmente en las categorías generales. Es notable que sólo un 5% de las plantas útiles son compartidas por los tres grupos indígenas, lo que refleja las diferencias en la composición florística del bosque secundario respectivamente. La situación sociopolítica de los tres grupos estudiados es distinta, por lo que se refleja intensamente en el uso que hacen de los recursos vegetales. Esto se aplica particularmente con las palmas, que constituyen un recurso importante para los Cayapas y los Coaiqueres, mientras que los Colorados lo utilizan poco. La importancia del uso de las palmas se perdió rápidamente con el aumento de la aculturación y su integración en la economía de mercado. Se hacen diferenciaciones entre dos prácticas etnobotánicas determinantes: las propiedades propias de las plantas y el intercambio cultural. Los elementos de las ceremonias de curación y los modelos etnobotánicos se citan como evidencias de un intercambio en el pasado cultural a un nivel local y regional

Palabras clave

Ecuador; Colorados (Tsatchela); Cayapas (Chachi); Coaiqueres (Awa); etnobotánica; etnomedicina; etnofarmacología; denominación venácula; tratamiento; preparación; ceremonias de curación; chamán; aspectos comparativos; clasificación de usos; aculturación; situación política actual; intercambio cultural.

XII List of references

- Acevedo-Rodríguez, P. 1990. The occurrence of Piscicides and Stupefactants in the Plant Kingdom. – *In*: Prance, G. T. and Balick, M. J. (eds.), *New Directions in the Study of Plants and People: Research Contributions from the Institute of Economic Botany*, *Adv. Econ. Bot.* 8:1-23.
- Balslev, H. 1988. Distribution patterns of Ecuadorian plant species. *Taxon* 37:567-577.
- Balslev, H. & Barfod, A. 1987. Ecuadorian palms – an overview. – *Opera Botanica* 92: 17-35.
- Barfod, A. & Balslev, H. 1988. The use of palms by the Cayapas and Coaiqueres on the Coastal Plain of Ecuador. – *Principes* 32:29-42.
- Barrett, S. A. 1925. The Cayapa Indians of Ecuador. – *Indians Notes and Monographs. Museum of the American Indian, Heye Foundation, New York* 40:1-476.
- Berg, C.C. 1972. Olmedieae, Brosimeae (Moraceae). – *Fl. Neotr.* 7.
- Cañadas C., L. 1983. El mapa bioclimático y ecológico del Ecuador. – *MAG, Quito, Ecuador*, 209 pp.
- Carrasco, E. 1988. El pueblo Chachi. El jeengume avanza. – *ABYA-YALA, Quito, Ecuador*, 219 pp.
- Charvet, P. S. & León, S. 1992. Acciones de desarrollo y áreas naturales protegidas en el Ecuador. 6. Reserva Ecológica Cotacachi-Cayapas.- *Fundación Natura, Quito, Ecuador*
- Berlin, B. 1992. *Ethnobiological Classification*. – Princeton University Press, New Jersey.
- Darlic M., V. 1988. *Estadísticas del Ecuador*. – ILDIS, Quito, Ecuador.
- Dodson, C. H. & Gentry, A. H. 1978. *Flora of the Río Palenque Science Center, Los Rios, Ecuador*. – *Selbyana* 4:1-628.
- 1991. Biological extinction in western Ecuador. – *Ann. Missouri Bot. Gard.* 78(2):273-295.
- Duke, J.A. 1970. Ethnobotanical observations on the Chocó Indians. – *Econ. Bot.* 24:344-366.
- 1975. Ethnobotanical observations on the Cuna Indians. – *Econ. Bot.* 29:278-293.
- Ehrenreich, J. 1989. *Contacto y conflicto. El impacto de la aculturación entre los Coaiquer del Ecuador*. ABYA-YALA, Quito, Ecuador, 303 pp. Original title: *Contact and conflict: An ethnographic study of the impact of acculturation, racism, and benevolent ethnocide on the egalitarian Coaiquer Indians of Ecuador*, Ph.D. 1985 New School for Social Science.
- Ehrenreich, J. and Kempf, J. 1978. *Informe etnológico acerca de los indios coaiquer del Ecuador Septentrional*. – Instituto Otovaleño de Antropología, Centro Regional de Investigaciones 6, Ibarra.
- Ferdon, E. N. Jr. 1950. *Studies in Ecuadorian Geography*. – Monograph of the School of American Research no. 15. – Santa Fe, New Mexico.
- Forero Pinto, L.E. 1980. *Etnobotánica de las comunidades indígenas Cuna y Waunana, Chocó, Colombia*. – *Cespedesia* 9(33-34):115-325.
- Hagen, V. W. von 1939. *The Tsatchela Indians of Western Ecuador*. – *Indian Notes and Monographs. Museum of the American Indian, Heye Foundation* 51:1-79.
- Harling, G. 1979. The vegetation types of Ecuador – a brief survey. – Pp. 165-174 in *Larsen, K. & Holm-Nielsen, L.B. (eds.), Tropical Botany. Academic Press, London*.
- Hernando P. R., J. & Virsano B., S. 1992. *Medicina tradicional del pueblo de Altaquer*. – ABYA-YALA, Quito, Ecuador.
- Holmgren, P. K., Holmgren N. H. and Barnett, L. C. (eds.) 1990. *Index Herbariorum. Part I: The Herbaria of the World (8. ed)* – New York botanical Garden, 693 pp.
- Holm-Nielsen, L. B., Kvist, L. P. and Aguavil, M. 1983. *Las investigaciones etnobotánicas entre los Cayapas y los Coaiqueres. Primer informe preliminar*. – *Misc. Antropol. Ecuatoriana* 3:89-116
- Holm-Nielsen, L. B. & Barfod, A. 1984. *Las investigaciones etnobotánicas entre los Cayapas y los Coaiqueres. Segundo informe preliminar*. – *Misc. Antropol. Ecuatoriana*. 4:107-128.
- Juncosa, J.E. (ed.) 1988. *Tsachila. Los clásicos de la etnografía sobre los Colorados (1905-1950)*. – ABYA-YALA, Quito, Ecuador, 162 pp.
- Karsten, R. 1924. *The Colorado Indians of western Ecuador*. – *Ymer, Tidskrift utgiven af svenska sällskapet for Antropologi och Geografi, Arg.* 19:137-152.
- Kempf, J. 1982 *The dynamics of Culture and Health: Disease and Curing among the Ecuadorian Coaiquer Indians under the Impact of Acculturation*. – Ph.D. dissertation submitted to the State University of New York at Albany, 260 pp.
- Kvist, L.P. 1986. *Gesneriads and snakebite*. – *The Gloxinian* 36(1):9-13.
- 1989. – *Popular names and medicinal uses of Columnea (Gesneriaceae)*. – *The Gloxinian* 39(2):21-25.
- Kvist, L. P. & Barfod, A. S. 1991a. *The curing rituals of the Cayapa Amerindians of Coastal Ecuador, and their*

- exchange of rituals and medicinal plant with other ethnic groups in the region. – *In*: Rios, M & Borgtoft Pedersen, H. (eds.), *Las plantas y el hombre*, ABYA-YALA, Quito, Ecuador, pp. 149-164.
- 1991b. Curing of infections, symptoms or spirits? Some reflections on ethnomedicinal research based on a project in north-western Ecuador. – *Memorias 3^{er} Simposio Colombiano de Etnobotanica*. INCIVA, Cali, Colombia, pp. 190-205.
- Kvist, L. P. & Holm-Nielsen, L. B. 1987. Ethnobotanical aspects of lowland Ecuador. – *Opera Botanica* 92:83-107.
- Kvist, L.P. & Skog, L.E. 1993. The genus *Columnea* (Gesneriaceae) in Ecuador. – *Allertonia* 6:327-400.
- Larrick, J.W., Yost, J.A. & Kaplan, J. 1978. Snake bite among the Waorani Indians of eastern Ecuador. – *Trans. R. Soc. Trop. Med. Hyg.* 72:542-543
- Little, L.E. & Dixon, R.G. 1969. *Arboles comunes de la Provincia de Esmeraldas*. – FAO/SF: 76/ECU 13, Rome, 536 pp.
- Lockwood, T.E. 1979. The ethnobotany of *Brugmansia*. – *J. Ethnopharmacol.* 1:147-164.
- Lopez, F.F. 1986. *Etnologia Ecuatoriana. I Colorados*. Instituto Ecuatoriano de Credito Educativo y Becas, Quito, Ecuador, 150 pp.
- Martínez, J. P. 1986. Los Cayapas en el siglo XVI. – *Misc. Antropol. Ecuatoriana* 6:231-252.
- Mason, J. A. 1950. The languages of South American Indians. – *In*: Steward, J. H. (ed.), *Handbook of South American Indians* 6 – U.S. Government Printing Office, Washington D. C.
- Medina V., H. 1992. Los Chachi. Supervivencia y ley tradicional. – ABYA-YALA, Quito, Ecuador, 141 pp.
- Mitlewski, B. 1985. Pesca Cayapa. – *Misc. Antropol. Ecuatoriana* 5:63-85.
- Murra, J. 1946. The historic tribes of Ecuador. – *In*: Steward, J. H. (ed.), *Handbook of South American Indians* 4:785-821 – U.S. Government Printing Office, Washington D. C.
- 1948. The Cayapa and Colorado. – *In*: Steward, J. H. (ed.), *Handbook of South American Indians* 4:277-291 – U.S. Government Printing Office, Washington D. C.
- Naranjo, P. 1983. *Ayahuasca. Ethnomedicina y mitología*. – Ediciones Libri Mundi, Quito, Ecuador.
- Orejuela, J.E. 1992. Traditional productive system of the Awa (Coaiquer) Indians of south-western Colombia neighbouring Ecuador. Pp. 58- 82 in Redford, K.H. & Padoch, C. (eds.)
- Renner, S.S., Balslev, H. & Holm-Nielsen, L.B. 1990. Flowering plants of Amazonian Ecuador – A checklist. – AAU Reports 24, University of Aarhus, Denmark, 241 pp.
- Rivet, P. 105. Les Indiens Colorados, Récit de voyage et étude ethnologique. – *J. Soc. Am. Paris* 2:177-208.
- Rivier, L. & Lindgren, J.A. 1972. Ayahuasca, the South American hallucinogenic drink. Ethnobotanical and chemical investigations. – *Econ. Bot.* 26:101-129.
- Santesson, C.G. 1936. Pfeil- und Fischgift aus Kolumbian und Ekuador. – *Etn. Studier* 2:15-29.
- Stout, D.B. 1948. The Cuna, the Choco. – *In*: Steward, J.H. (ed.), *Handbook of South American Indians* 4:257-276. – U.S. Government Printing Office, Washington D.C.
- Survival International, 1989, no. 24.
- Telban, B. 1988. *Grupos etnicos de Colombia. Etnografía y Bibliografía*. – ABYA-YALA, Quito, Ecuador, 525 pp.
- Thomsen, K. 1986. Reporte sobre estudios de los arboles y las palmeras en el territorio de los Awas, provincia del Carchi, Ecuador. – *Misc. Antropol. Ecuatoriana* 6:27-47
- Trupp, F. 1981. The last Indians, South American Cultural heritage. – Perlinger Verlag, Wörgl, Austria.
- Villareal C. A. 1986. La crisis de la sobrevivencia del pueblo Awa. – Instituto Latinoamericano de investigaciones Sociales y Instituto de estudios ecuatorianos, Quito.
- Wassen, H. 1935. Notes on southern groups of Chocó Indians of Colombia. – *Etnol. Studier* 1:35-182.
- Willis, J. C. 1966. *A dictionary of the Flowering Plants and Ferns* (7. ed.). – Cambridge University Press, London.

Appendix I Index to scientific names

Scientific names arranged alphabetically according to 1), genus name and 2), specific epithet. The numbers in boldface refer to the tables 2-74 that list vouchers for each usage category. In parentheses, after usage category, is cited the voucher specimens from which the information comes. The family to which a genus belongs is indicated in parentheses after the specimen citations.

- Abelmoschus moschatus* Medik. **56** (40336, 48150) (Malvaceae).
- Acalypha diversifolia* Jacq. **51** (40875, 40346, 40735, 40155, 40011); *A. villosa* Jacq. **51** (40466, 40424, 40838); **55** (41491); *A. spp.* **16** (40648); **28**, **73** (40725); **51** (40228, 40055, 48360, 48182, 41473, 41030); **73** (40657) (Euphorbiaceae).
- Achyranthes aspera* L. **74** (48877); **39**, **74** (41649); **51**, **55** (40420) (Amaranthaceae).
- Aciotis caulialata* (R. & P.) Triana **55** (41478); **48** (40745); *A. sp.* **48** (48316, 41016); **66** (40314) (Melastomataceae).
- Adenostemma platyphyllum* Cass. **52** (41481) (Asteraceae).
- Adiantum macrophyllum* Sw. **9** (48399); **73** (40111); *A. obliquum* Willd. **48** (48133); *A. petiolatum* Desv. **72** (40571); *A. spp.* **9** (40828); **48** (40689) (Pteridaceae).
- Aechmea magdalena* André ex Baker **10** (48386) (Bromeliaceae).
- Aegiphila alba* Moldenke **73**, **74** (40538); **74** (48427); *A. sp.* **24** (48779); *A. sp.* **55** (41511) (Verbenaceae).
- Aiphanes gelatinosa* Moore **25** (60003) (Arecaceae).
- Alchornea* sp. **31** (41631) (Euphorbiaceae).
- Allamanda cathartica* L. **16** (40504); **16**, **73** (40719) (Apocynaceae).
- Allophylus exelsus* Radlk. **36** (41504); *A. sp.* **24**, **73** (40181) (Sapindaceae).
- Alloplectus dodsonii* Wiehl. **49** (40053); *A. panamensis* Morton **48** (48120); **72** (48870); *A. sprucei* (O. Kuntze) Wiehl. **41** (49052); **48** (41081, 40844, 48082); **55** (40342, 48795); **73** (40706); *A. tetragonoides* Mansf. **48** (48732, 48813); *A. teuscheri* (Raym.) Wiehl. **55** (48961) (Gesneriaceae).
- Alonsoa* sp. **16** (40560) (Scrophulariaceae).
- Alpinia purpurata* (Vieill.) K. Schum. **74** (40551) (Zingiberaceae).
- Alternanthera mexicana* (Schlecht.) Hieron. **73** (40653); *A. porrigens* (Jacq.) Kuntze **72** (41620); *A. sessilis* (L.) R. Br. **48** (40890) (Amaranthaceae).
- Amaranthus* sp. **16** (48391) (Amaranthaceae).
- Amphidasya* spp. **21** (40339, 41059); **26** (48248); **74** (41643) (Rubiaceae).
- Amphilophium paniculatum* (L.) H.B.K. **10** (48787) (Bignoniaceae).
- Ancilema umbrosum* (Vahl) Kunth **55** (40296); **73** (40033) (Commelinaceae).
- Annona muricata* L. **24** (48103) (Annonaceae).
- Anthurium anoreanum* Linden **16** (41489); *A. asplundii* Croat **8** (40886); *A. bakeri* Hook. f. **48** (41417); *A. caulorrhizum* Sodiro **32** (48243); *A. falcatum* Sodiro **74** (48073); **72** (40304); *A. gracile* (Rudge) Schott **32** (48232); **56** (40320); *A. lancea* Sodiro **25** (41048); *A. napaeum* Engl. **72, 73** (40676); *A. ortegeanum* Sodiro **73** (40202); *A. oveophilum* Sodiro **73** (40129); *A. pallidiflorum* Engl. **13** (48106); *A. scandens* (Aubl.) Engl. **52** (41040); **51** (40601); **48** (40465); *A. subcoerule-scens* Engl. **74** (41054); *A. trinerve* Miq. **57** (40808); **73** (40231); **73** (40141); *A. trisectum* Sodiro **74** (48118, 48249); *A. versicolor* Sodiro **25** (48098); *A. spp.* **13** (40417, 48342); **20** (40377); **25** (40850, 40357); **31** (48782); **32** (48239, 48095); **52** (41458, 48075); **55** (41503); **73** (40136, 40150, 40737) (Araceae).
- Antrophyum intramarginale* (Baker ex Jenman) Kartez **51** (40842) (Vittariaceae).
- Apeiba* sp. **2** (48198) (Tiliaceae).
- Aphelandra flammea* Wash. **72** (48898); *A. sp.* **73** (40710) (Acanthaceae).
- Arachnothyrs inconstans* Standl. **24** (48768) (Rubiaceae).
- Ardisia romeroi* Cuatr. **24** (40542, 40906); *A. ronseroi* Schuta **24** (48325); *A. spp.* **24** (40817); **73** (40192) (Myrsinaceae).
- Aristolochia pichingensis* H. Pfeifer **21**, **73** (40718); *A. pilosa* H.B.K. **24** (40235); *A. sp.* **41** (40523) (Aristolochiaceae).
- Arthrostemma ciliatum* R. & P. **25** (48053, 40461) (Melastomataceae).
- Arundinella berteroniana* (Schult.) Hitchc. & Chase **74** (40585) (Poaceae).
- Asplenium hallii* Hook. & Grev. **44** (48744); **72** (48297); *A. purpurascens* Mett. **73** (40149, 40215, 49035); *A. serratum* L. **73** (40717); **41** (49032); *A. triculum* Lellinger **48** (48765); *A. spp.* **48**, **49** (40697); **49** (40075) (Aspleniaceae).

- Asplundia* spp. **7** (40829, 48124, 48371); **32** (48175); **48** (40118); **73** (40188) (Cyclanthaceae).
- Astrocaryum standleyanum* Bailey **10**, **24** (60078) (Arecaceae).
- Bactris gasipaes* Kunth **4**, **5**, **24**, **25**, **27** (60113); *B. setosa* Mart. **24**, **25** (60110); *B. setulosa* Karsten **4**, **5**, **24**, **25**, **27** (60010) (Arecaceae).
- Bambusa guadua* Kunth **2** (48374) (Poaceae).
- Banisteriopsis caapi* (Spruce & Griseb.) Morton **18** (40299, 40582); **18**, **43** (40722) (Malpighiaceae).
- Bauhinia* sp. **2** (41674) (Caesalpiniaceae).
- Begonia glabra* Aubl. **44** (48819); **51**, **55** (40696); **52** (48818); *B. semiovata* Liebm. **35** (48064); **37** (41029, 48276); **55** (41479, 48704); **72** (40298); *B. spp.* **25** (48421); **37** (48310); **55** (48783); **73** (49059) (Begoniaceae).
- Bertiera quianensis* Aubl. **41** (40069, 40156) (Rubiaceae).
- Besleria barbata* (Poepp.) Hanst. **48** (48734); **55** (48802); *B. barclayi* L. Skog **48** (41011, 48415); *B. solanoides* Kunth **20** (48735); *B. sp.* **48** (41427) (Gesneriaceae).
- Billia colombiana* Pl. & Lind **2** (41663) (Hippocastanaceae).
- Biophytum dendroides* (H.B.K.) D.C. **33** (40577) (Oxalidaceae).
- Bixa orellana* L. **15** (48897); **15**, **30**, **56** (40045); **30**, **73** (40704); **30** (40472, 40473, 40474, 40602); *B. platycarpa* R. & P. ex G. Don **30** (40810) (Bixaceae).
- Blakea punctulata* (Triana) Wurdack **2**, **32** (41613); **32** (48987); *B. subconnata* Berg ex Triana **26** (40297); **32** (48336); **48** (40049) (Melastomataceae).
- Blechnum volubile* Kaulf. **7** (40763); **10** (48060); *B. spp.* **48** (48942); **72** (48940), 48945) (Blechnaceae).
- Blechnum brownei* Juss. **63** (40183) (Acanthaceae).
- Bolbitis nicotianifolia* (Sw.) Ching. **41** (48219); **73** (40146) (Dryopteridaceae).
- Bomarea edulis* André ex Poir. **14** (40814); **68** (41039); *B. spp.* **14** (48059); **60** (40331) (Alstroemeriaceae).
- Bonafousia longitubulosa* R. & P. **24** (41632) (Apocynaceae).
- Borreria ocymoides* (Borm.) D.C. **22** (48226) (Rubiaceae).
- Bougainvillea* sp. **73** (49090) (Nyctaginaceae).
- Brosimum utile* (H.B.K.) Pittier **2**, **12** (41037); **40**, **69** (49110); **51**, **72** (40664) (Moraceae).
- Browallia americana* L. **70** (40040) (Solanaceae).
- Brugmansia versicolor* Lagerh. **36** (48930); **18**, **52** (40581); **72** (41618); **18**, **53** (41050); **55** (40624) (Solanaceae).
- Brunfelsia grandiflora* D. Don **73** (40021) (Solanaceae).
- Bunchosia cornifolia* H.B.K. **24** (48031) (Malpighiaceae).
- Burmeistera vulgaris* Wimm. **24**, **25** (41031); *B. sp.* **25** (48070, 40343, 40876); *B. sp.* **32** (41463, 48102, 48696, 48707) (Campanulaceae).
- Calathea lutea* (Aubl.) Schultes **25** (48181); *C. marantifolia* Standl. **53** (40117); *C. metallica* Planchon & Linden **54** (41061, 40321, 40349, 48117, 48245); **59** (40650); **64** (40362); **73** (40204); *Calathea spp.* **10** (40467); **60** (40435); **26** (40433) (Marantaceae).
- Calliandra angustifolia* Spruce ex Benth. **16** (40556) (Mimosaceae).
- Callisia repens* L. **16** (48394) (Commelinaceae).
- Calyptranthes* sp. **74** (41045) (Myrtaceae).
- Campyloneuron angustifolium* (Sw.) Feé **50** (49039); *C. spp.* **41**, **68** (49037); **48** (48844); **72** (48749) (Polyodiaceae).
- Canna indica* x *generalis* Bailey **16** (40530); *C. sp.* **33** (49051) (Cannaceae).
- Capparis ecuadoriana* Iltis **28** (40097) (Capparidaceae).
- Capsicum frutescens* L. **29** (40201, 40456, 40565, 40566, 40586, 48988) (Solanaceae).
- Carapa guianensis* Aubl. **2**, **24** (41667); *C. megistocarpa* Gentry & Dodson **51**, **55** (40703) (Meliaceae).
- Carica papaya* L. **24** (40159, 40485); *Carica spp.* **25** (40088, 40158, 40195) (Caricaceae).
- Carludovica palmata* R. & P. **10** (40419) (Cyclanthaceae).
- Carpotroche platyptera* Pittier **22**, **24** (40060); **31** (40366, 40873) (Flacourtiaceae).
- Casearia* sp. **24** (40445) (Flacourtiaceae).
- Cassia papillora* Britt. & Rose **35** (40543, 40751); *C. reticulata* Willd. **54** (40568); **72** (40625); *C. sp.* **72** (41465) (Caesalpiniaceae).
- Castilla elastica* Sessé **2**, **12** (48214); **12** (48994) (Moraceae).
- Catoblastus inaequalis* (Cook & Doyle) Burret **2** (60002) (Arecaceae).
- Cavendishia complectens* Hemsl. **39** (41502); *C. engleriana* Hoer. **20** (48925); **68** (40537); *C. grandifolia* Hoer. **20** (48965) (Ericaceae).
- Cayaponia glandulosa* (Poepp. & Endl.) Cogn. **54** (40100) (Cucurbitaceae).
- Cecropia* sp. **10** (48433) (Urticaceae).
- Cephaelis gentryi* Dwyer **2** (48108); **73** (41493); *C. spp.* **32** (48208, 48904); **74** (41047) (Rubiaceae).
- Cestrum baenitzii* Lingels **2**, **24** (41650); *C. racemosum* R. & P. **73** (40081); **74** (40391); *C. spp.* **28** (40092); **32** (48166); **47**, **55** (40164); **73** (40688, 48900); **74** (48275) (Solanaceae).
- Chamaedorea pinnatifrons* (Jacq.) Oerst. **15** (40198); **31**, **32** (48908) (Arecaceae).
- Chenopodium ambrosioides* L. **41** (40575); **41**, **70** (40857) (Chenopodiaceae).
- Chimarrhis* sp. **73** (40112) (Rubiaceae).
- Chrysochlamys dependens* Tr. & Pl. **24** (40409) (Clusiaceae).
- Chrysophyllum argenteum* Jacq. **3** (41017); **24** (40289) (Sapotaceae).

- Chrysothemis friedrichsthaliana* (Hanst.)H. E. Moore **48** (40361, 48080) (Gesneriaceae).
Cissampelos tropaeolifolia DC. **24** (40851); **39** (41472); **72** (40030); C. sp. **60** (48153) (Menispermaceae).
Cissus sp. **10** (40486); **59** (40500) (Vitaceae).
Citrus spp. **24**, **73** (40721); **28** (48194); **28**, **73** (40720) (Rutaceae).
Clarisia racemosa R. & P. **58** (40713) (Moraceae).
Clavija eggersiana Mez. **48** (40708) (Theophrastaceae).
Cleome sp. **70** (40593) (Capparidaceae).
Clibadium spp. **33** (49095); **52** (48698); **56** (40347, 40807, 41025, 48209) (Asteraceae).
Clidemia crenulata Gleason **48** (48077); **58** (41060); C. discolor (Triana) Cogn. **41** (40307); C. purpurea D. Don **74** (40896); C. septuplinervia Cogn. **74** (40510); C. serpens (Triana) Cogn. **55** (40371) (Melastomataceae).
Clusia dixonii Little **51** (48790); *Clusia* spp. **2** (41662); **24** (40908, 48234); **32** (48932); **51** (41456, 48781, 48799); **52** (48242) (Clusiaceae).
Codiaeum variagatum (L.) Blume **73** (40615) (Euphorbiaceae).
Codonanthe crassifolia (Focke) Morton **24** (40479) (Gesneriaceae).
Coffea arabica L. **28** (40470, 40645) (Euphorbiaceae).
Coix lachryma-jobi L. **9**, **56** (40540); **42** (48716); C. sp. **9** (41480) (Poaceae).
Coleus x hybridus Voss **16** (48357); **28** (41476) (Lamiaceae).
Colocasia esculenta (L.) Schott **22** (48145) (Araceae).
Columnnea angustata (Wiehl.) L. Skog **49** (40709, 49106); C. bilabiata Seem. **48** (40519, 40600, 40816, 48416); C. byrsina (Wiehl.) Kvist et L. Skog **55** (48731); C. densibracteata Kvist & L. Skog **48** (48084); C. dissimilis C. Morton **48**, **49** (48178); C. eburnea (Wiehl.) Kvist et L. Skog **48** (40870); **48**, **49** (48218); **52** (48742); C. fililoba Kvist et L. Skog **48**, **74** (41641, 48997); C. fimbriicalyx Kvist et L. Skog **55** (48923, 48971, 48977); C. gigantifolia Kvist et L. Skog **52** (41587); C. kienastiana Regel **48** (48383); **51** (40458); **73** (48162); **74** (40605); C. laevis Kvist et L. Skog **51** (48794); C. lehmannii Mansf. **55** (48983); C. longinervosa Kvist et L. Skog **57** (41507); C. minor (Hook.) Hanst. **51** (41428); **55** (48740); C. minutiflora Kvist et L. Skog **48** (48937); **55** (48970); C. nariniana (Wiehl.) Kvist et L. Skog **50** (48815); C. picta Karst. **48** (48730, 40760, 40871, 48086); **49** (40230); C. purpurimarginata Kvist et L. Skog **49** (48085); C. rubriacuta (Wiehl.) Kvist et L. Skog **48** (40872, 48738); **48**, **49** (40074, 40880); **48**, **56** (40675); **49** (48088, 48128); **55** (40359); **74** (41432, 41622); C. rubribracteata Kvist & L. Skog **48**, **49** (48420); **49** (48087); C. rubricalyx Kvist & L. Skog **55** (48741); **72** (41466); C. spathulata Mansf. **48** (40797); **49** (48344); **73** (40481); C. tenella Kvist et L. Skog **24**, **72** (41577); C. spp. **48** (48739); **55** (48733) (Gesneriaceae).
Conostegia centronioides Markgraf **74** (40528, 40779); C. montana (Sw.) D. Don ex DC. **32** (48785) (Melastomataceae).
Cordia spinescens L. **42** (41498); **54** (40390, 40495, 41062, 48052); **59** (40663) (Boraginaceae).
Cordyline terminalis (L.) Kunth **56** (40640) (Agavaceae).
Cornutia spp. **22** (40397); **54** (40356) (Verbenaceae).
Costus laevis R. & P. **25** (48907); **37** (48097); **40**, **66**, **68**, **69** (40678); **55** (41002); **72** (40312); C. lima K. Schum. **35** (48093); C. pulverulentus Presl **48**, **49** (40116); **52** (40373); **66** (40700, 49103); C. scaber R. & P. **37** (48146); C. spp. **25** (48860, 48917); **41** (41457); **65** (41585); **66** (49113) (Costaceae).
Coussapoa contorta Cuatrec. **32** (41626) (Urticaceae).
Cranichis sp. **48** (48927) (Orchidaceae).
Cremosperma congruens C. Morton **55** (48979); **72** (41591); C. hirsutissimum Benth. **48** (41422, 41437, 48737); **49** (41426); **74** (41581, 41611); C. muscicola Kvist et L. Skog **55** (48978); C. nobile C. Morton **48** (48976); **74** (41651); C. reldioides Kvist & L. Skog **48** (48980) (Gesneriaceae).
Crescentia cujete L. **6** (40453); **6**, **36** (40728) (Bignoniaceae).
Crinum amabile Don ex Ker-Gawl. **41** (40547); **72** (40496) (Amaryllidaceae).
Crotalaria nitens H.B.K. **73** (40727) (Fabaceae).
Ctenitis sp. **48** (40145) (Dryopteridaceae).
Cuatresia riparia (H.B.K.) Hunziker **51** (40655); **55** (40099); C. sp. **72** (48801) (Solanaceae).
Cupania cinerea Poepp. & Endl. **2**, **31** (41046) (Sapindaceae).
Cuphea tetrapetala Kohne **72** (40402, 40552, 48699); **74** (41423); C. strigulosa H.B.K. **16** (40546); **59** (40031) (Lythraceae).
Cyathula achyranthoides (H.B.K.) Moq. **55** (40499) (Amaranthaceae).
Cyclanthus bipartitus Poit. **16** (48850); **24**, **74** (40221); **46** (48078) (Cyclanthaceae).
Cyclodium trianae (Mett.) A. R. Sm. **41** (48757) (Dryopteridaceae).
Cyperus luzulae (L.) Retz. **70** (40035); C. odoratus L. **74** (41624) (Cyperaceae).
Cyphomandra hartwegii (Miers.) Dun. **51** (40191) (Solanaceae).
Dacryodes granatensis Cuatrec. **2** (41676) (Bursereaceae).
Dahlia sp. **16** (40642) (Asteraceae).
Dalechampia sp. **48** (48213) (Euphorbiaceae).
Danaea humilis Moore **51** (48062); D. sp. **48** (48941); **57** (48437) (Marattiaceae).

- Dendropanax arboreus* (L.)Decne. **51** (40899)(Araliaceae).
- Dennstaedtia arborescens* (Willd.)Maxon **73** (40085); *D. spp.* **25** (48884); **72** (48889)(Dennstaedtiaceae).
- Desmodium adscendens* (Sw.) DC. **55** (41578); **64** (40022); **73** (40032); *D. sp.* **53** (41075)(Fabaceae).
- Desmoncus cirrhifera* Gentry & Zardini **10, 24** (41455); *D. sp.* **7** (48197)(Arecaceae).
- Dialyanthera gordonifolia* Warb. **2** (41664); *D. spp.* **2** (40354, 41049, 48290)(Myristicaceae).
- Diastema affine* Fritsch **48** (48990); **68** (49111); **71** (40140); *D. scabrum* (Poepp.)Benth. ex. Walp. **73** (49092)(Gesneriaceae).
- Dichorisandra angustifolia* Linden & Rodig. **54** (40698); *D. hexandra* (Aubl.)Standl. **48** (48188); **57** (48407); **68** (40372); *D. sp.* **65** (41484)(Commelinaceae).
- Dicranopteris pectinata* (Willd.)Und. **44** (48323)(Gleicheniaceae).
- Dicranoglossum polypodioides* (Hook.)Lellinger **48, 49** (40649); **49** (40170, 49029); *D. sp.* **49** (40234)(Polypodiaceae).
- Dieffenbachia daguensis* Engl. **31** (41652); *D. seguine* (Jacq.)Schott. **46** (40756, 48154, 48348)(Araceae).
- Dioclea sp.* **7** (41646)(Fabaceae).
- Dioscorea esculenta* Burk. **23** (48331); *D. sp.* **24** (48826)(Dioscoreaceae).
- Diplarpea paleacea* Triana ex Cogn. **72** (48723)(Melastomataceae).
- Diplazium cristatum* (Desv.) Alston **72** (48320); *D. mocceanianum* (Sodi) C. Chr. **25** (48049); *D. striatastrum* Lellinger **39** (40238); **48** (40168); **73** (40051, 49041)(Dryopteridaceae).
- Discophora guianensis* Miers. **32, 64** (48168); **64** (40410, 40741, 41022); **72** (40305)(Icacinaeae).
- Dracontium sp.* **50** (41597)(Araceae).
- Drymaria cordata* (L.) Willd. **68** (40179, 49096)(Caryophyllaceae).
- Drymonia alloplectoides* Hanst. **48** (48212); **62** (40061); *D. coriacea* (Oerst. ex Hanst.) Wiehl. **26** (40550); **32** (48083); **48** (40673); **49** (48092); *D. ecuadorensis* Wiehl. **48** (48311); *D. macrophylla* (Oerst.) H.E. Moore **48** (40167); *D. rhodoloma* Wiehl. **48, 49** (40108); **73** (40716); *D. serrulata* (Jacq.)Mart. **32** (48081); **48** (48773); **48, 49** (48393); *D. turrialvae* Hanst. **48** (41638); **73** (40224); *D. warszewicziana* Hanst. **48** (40080, 48121, 48419, 48991); **55** (48728)(Gesneriaceae).
- Dryopteris sp.* **25** (48887)(Dryopteridaceae).
- Dussia sp.* **2** (41656)(Fabaceae).
- Elaphoglossum herminieri* (Bary & Fée)Moore **13** (40533); *E. spp.* **13** (40826); **72** (48842); **73** (40133)(Dryopteridaceae).
- Eleocharis retroflexa* (Poir.)Urban **72** (48327)(Cyperaceae).
- Encyclia fragrans* (Sw.)Lemée **52, 56** (40668)(Orchidaceae).
- Epidendrum difforme* Jacq. **28** (40102)(Orchidaceae).
- Erato polymnioides* DC. **51** (41505)(Asteraceae).
- Erechites valerianifolia* (Wolf.)DC. **74** (48866)(Asteraceae).
- Eryngium foetidum* L. **29** (40427, 48926); **29, 51** (48359); **41** (40038)(Apiaceae).
- Erythrina edulis* Triana **17** (40646); *E. smithiana* Krukoff **17** (40632)(Fabaceae).
- Erythrodes ecuadorensis* Gray **48** (40788); *E. weberana* Gray **49** (40879); *E. sp.* **56** (40352)(Orchidaceae).
- Erythroxyllum novogranatense* Hierou in Engl. **40** (41584)(Erythroxyllaceae).
- Eschweilera coriacea* (DC.)Berg ex Mart. **2** (48995); *E. sp.* **2** (41668)(Lecythidaceae).
- Eugenia sp.* **64** (40044)(Myrtaceae).
- Euphorbia cotinifolia* L. **17, 54** (40177)(Euphorbiaceae).
- Euterpe chaunostachys* Burret **24, 25** (60103); **25** (60001)(Arecaceae).
- Evodianthus funifer* (Poi.)Lindm. **46** (40050)(Cyclanthaceae).
- Ficus caldasiana* Dugand **33** (40096); *F. cervantesiana* Standley & L.O. Wms. **2** (40765); *F. insipida* Willd. **2, 44** (40900); **31** (41080); *F. maxima* P. Miller **2** (48203); **31, 44** (48056); *F. obtusifolia* H.B.K. **32, 33** (40047); *F. schippii* Standl. **32** (48424)(Moraceae).
- Fimbristylis dichotoma* (L.)Vahl. **66** (48353); *F. miliacea* (L.)Wahl. **66** (48358)(Cyperaceae).
- Fischeria aequatorialis* Spellman **61** (48334)(Asclepiadaceae).
- Gasteranthus corallinus* (Fritsch)Wiehl. **48** (48094); **73** (40665); *G. crispus* (Mansf.)Wiehl. **48, 49** (40701); *Gasteranthus oncogastrus* (Hanst.)Wiehl. **49, 73** (40233); **55, 72** (41000); **72** (40327); **74** (40734, 48126)(Gesneriaceae).
- Genipa americana* L. **15** (49120).
- Geoganthus rhizanthus* (Ule) Brueckner **51** (48068); **55** (40319); **73** (40106)(Commelinaceae).
- Geonoma cuneata* H. A. Wendl. **15** (40207); **24** (40753, 60099); **24, 52** (48351); *G. gracilis* H. A. Wendl. ex Spruce **24** (60099, 60104, 60118); *G. linearis* Burret **72** (60115); **74** (60115); *G. spp.* **8** (60004); **25** (48916)(Arecaceae).
- Geophila gracilis* (R. & P.) DC. **73** (40644)(Rubiaceae).
- Gloxinia dodsonii* Wiehl. **48** (41462) 48279); **52** (40367); **55** (48729); **74** (41602)(Gesneriaceae).
- Gomphrena globosus* L. **72** (40561)(Amaranthaceae).
- Gonzalagunia cornifolia* (H.B.K.) Standl. **72** (48227); *G. sp.* **73** (40661)(Rubiaceae).
- Gossypium barbadense* L. **10** (40584)(Malvaceae).

- Gouania lupuloides* (L.) Urban **24** (40744); *G. sp.* **7** (41086) (Rhamnaceae).
- Guarea sp.* **2** (48217) (Meliaceae).
- Guatteria* spp. **2** ((40736, 41655) (Annonaceae).
- Gurania eggersii* Sprague & Hutch. **51** (40052); *G. megistantha* J. D. Sm. **60** (48308); *G. spinulosa* (Poepp. & Endl.) Cogn. **67** (48156, 48170); *G. sp.* **41** (48107) (Cucurbitaceae).
- Gustavia dodsonii* Mori **25** (40340); *G. sp.* **25** (48141) (Lecythidaceae).
- Guzmania lingulata* (L.) Mez **41** (48377); *G. melinonis* Regel **41** (40885); *G. scherzeriana* Mez **32** (48395); *G. sprucei* (André) L.B. Smith **58** (48693); *G. testudinis* L.B. Smith & R.W. Reud **20** (48856); *G. sp.* **41** (41019) (Bromeliaceae).
- Hamelia axillaris* Sw. **72** (48225); **73** (40054, 40484, 40626); *H. macrantha* Little **13** (40076); *H. sp.* **52** (41051); *H. sp.* **74** (41608) (Rubiaceae).
- Hedychium coronarium* Koenig **16** (41639); **19** (49121); **74** (48788) (Zingiberaceae).
- Hedyosmum scoterrimum* Standl. **72** (41474) (Chloranthaceae).
- Heisteria* spp. **2** (40358); **73** (40064) (Olacaceae).
- Heliconia aemygdiana* Burle-Marx **53** (40120); *H. curtispatha* O. G. Peters. **51** (40434); **73** (40119); *H. latispatha* Benth. **72** (48228); *H. longa* (Griggs) Winkl. **38** (48180); *H. stricta* Huber **32** (48274) (Musaceae).
- Hemidictyum marginatum* (L.) Presl **72** (40134); **73** (40128) (Dryopteridaceae).
- Herrania balaensis* Preuss. **24** (40416, 40666) (Sterculiaceae).
- Heteranthera reniformis* R. & P. **60** (40388, 48390, 48776) (Pontederiaceae).
- Heteropsis oblongifolia* Kunth **10** (40001) (Araceae).
- Hibiscus radiatus* Cav. **73** (40637); *H. rosa-sinensis* L. **16** (40429, 40464); **73** (40139); *H. sp.* **72** (40579) (Malvaceae).
- Hieronima chocoensis* Cuatr. **31** (48772); *H. laxiflora* (Tull) Müll. **2** (40507) (Euphorbiaceae).
- Hoffmannia sp.* **73** (40151) (Rubiaceae).
- Humiriastrum procerum* (Little) Cuatr. **2** (41076) (Houmiaceae).
- Huperzia linifolia* (L.) Trevisan **73** (40610) (Lycopodiaceae).
- Hydrangea sp.* **16** (40641) (Hydrangeaceae).
- Hydrocotyle leucocephala* C. & S. **73** (40193) (Apiaceae).
- Hymenophyllum sp.* **48** (48754) (Hymenophyllaceae).
- Hyospathe elegans* Mart. **32** (48273) (Arecaceae).
- Hypolepis hostilis* (Kze.) Presl **25** (40527, 41070); *H. repens* (L.) Presl **25** (48048, 48299) (Dennstaedtiaceae).
- Hypis capitata* Jacq. **28** (40544); **37** (48356); **54, 55** (40389); **59** (40635); *H. mutabilis* (A. Rich.) Briq. **14, 72** (40039); *H. obtusiflora* Presl **37** (48720); **41** (40294); **73** (40180); *H. verticillata* Jacq. **42** (41083); **72** (41429); **74** (48852) (Lamiaceae).
- Ichnanthus axillaris* (Nees) Hitchc. & Chase **48** (48090) (Poaceae).
- Impatiens balsamina* L. **16** (48362) (Balsaminaceae).
- Inga edulis* Mart. **3, 24** (48200); **24** (40353, 40450, 40778); **24, 73** (40042); *I. marginata* Willd. **24** (40733); *I. ruiziana* Don. **24** (40898); *I. spectabilis* (Vahl) Willd. **24** (40772); *I. sp.* **35** (41087) (Mimosaceae).
- Ipomoea batatas* (L.) Lam. **23** (48305); *I. spp.* **51** (40005); **62** (40476) (Convolvulaceae).
- Iriartea deltoidea* R. & P. **2, 4, 5, 25, 27** (60097); **4** (48409) (Arecaceae).
- Ischnosiphon leucophaeus* (P. & E.) Koern. **10** (40780, 48902) (Marantaceae).
- Isertia pittieri* Standl. **2** (40827); **32** (48278) (Rubiaceae).
- Ixora sp.* **16** (40463) (Rubiaceae).
- Jaltomata procumbens* (Cav.) Gentry **52** (40013); **54, 55** (40101) (Solanaceae).
- Jatropha curcas* Wall. **43, 44** (40633) (Euphorbiaceae).
- Jessenia bataua* (Mart.) Burret **4** (60079); **4, 25** (60006) (Arecaceae).
- Justicia comata* (L.) Lam. **22** (48144); **74** (48715); *J. ianthina* Wash. **53** (48384); *J. sterea* **18** (40535); *J. sp.* **71** (41483) (Acanthaceae).
- Kalanchoe sp.* **74** (48149) (Crassulaceae).
- Kohleria* spp. **48, 49** (40576); **49** (40723) (Gesneriaceae).
- Lacistema aggregata* (Berg) Rusby **24** (48796) (Lacistemaaceae).
- Lantana* spp. **51, 55** (41077); **56** (41468); **65, 71** (40548) (Verbenaceae).
- Lasiacis sp.* **70** (41469) (Poaceae).
- Leandra granatensis* Gleason **52** (40326) (Melastomataceae).
- Lindernia crustacea* (L.) F. Muell. **40** (40636); *L. sp.* **41** (48722) (Scrophulariaceae).
- Lindsaea quadrangularis* Raddi **72** (48953) (Adiantaceae).
- Lomariopsis japurensis* (Mart.) J. Sm. **41** (48125); **41, 73** (40163); **73** (49038); *L. nigropaleata* Holttum **41** (40020, 48284); **64** (40333); **73** (40229) (Dryopteridaceae).
- Lonchitis hirsuta* L. **25, 73** (49036); **73** (40130) (Dennstaedtiaceae).
- Lonchocarpus nicou* (Aubl.) DC. **33** (49107); *L. sp.* **33** (49105) (Fabaceae).
- Ludovia integrifolia* (Woods.) Harl. **10, 7** (48281) (Cyclanthaceae).
- Ludwigia erecta* L. **73** (40178) (Onagraceae).
- Luffa aegyptica* Mill. **24** (40597) (Cucurbitaceae).
- Lycianthes amatitlanensis* (Coults. & J. D. Sm.) Bitter **47, 55** (40172); **48** (40087) (Solanaceae).

- Lycopodiella trianae* (Hieron.) B. Øllg. **65** (41499) (Lycopodiaceae).
- Lycopodium* sp. **48** (48834) (Lycopodiaceae).
- Macleania rotundifolia* Sodiro & Hoer. **48** (48376) (Ericaceae).
- Maclura tinctoria* (L.) Steud. **58** (49060) (Moraceae).
- Macrothelypteris torresiana* (Gaud.) Ching **73** (49031) (Thelypteridaceae).
- Malachra ruderalis* Gürke **73** (40557); **73**, **74** (40860) (Malvaceae).
- Malaxis* sp. **73** (48709) (Orchidaceae).
- Malviscus penduliflorus* DC. **21**, **73** (40027) (Malvaceae).
- Mandevilla dodsonii* Gentry **9** (40439); **32** (48307); *M. hirsuta* (Rich.) K. Schum. **64** (40800) (Apocynaceae).
- Manihot esculenta* Crantz **23** (48329, 48330) (Euphorbiaceae).
- Mansoa hymenaea* (DC.) Gentry **68** (49089) (Bignoniaceae).
- Marcgravia* sp. **32** (48337) (Marcgraviaceae).
- Marila laxiflora* Rusby **2** (41615) (Clusiaceae).
- Matisia coloradorum* Benth. **2**, **24** (40015); **24**, **73** (40131); **73** (40187); *M. soegenii* Cuat. **24** (41660) (Bombacaceae).
- Melothria perdula* L. **47** (40480); **55** (40098) (Cucurbitaceae).
- Mendoncia* sp. **28** (40813) (Acanthaceae).
- Miconia barbinervis* (Benth.) Triana **74** (48431); *M. erioclada* Triana **74** (40569); *M. goniostigma* Triana **72** (41500); *M. gracilis* Triana **74** (41033); *M. nervosa* (Smith) Triana **74** (41014, 48099); *M. oraria* Wurdack **32** (48216, 48339); *M. theaezans* (Bonpl.) Cogn. **72** (41495); *M. trinervia* (Sw.) D. Don ex Loud. **74** (40489); *M. venulosa* Wurdack **73** (40324); *M. spp.* **14** (41610); **48** (48708) (Melastomataceae).
- Mikania* spp. **45** (41501); **48** (40348); **51** (41036) (Asteraceae).
- Mimosa elliptica* H.B.K. **22** (40483); *M. pudica* L. **22** (48324) (Mimosaceae).
- Minuartia guianensis* Aubl. **2** (41023); **2** (48400) (Olacaceae).
- Mirabilis jalapa* L. **21**, **73** (40025) (Nyctaginaceae).
- Monolena primulaeflora* Hook. f. **44** (41582, 48974) (Melastomataceae).
- Monopyle sodiroana* Fritsch **37** (40877); **48** (40513, 48127); **73** (40316) (Gesneriaceae).
- Monstera adansonii* Schott **73** (49054); *M. lechiriana* Schott **55** (41633); *M. spruceana* (Schott) Engler **48** (40843, 48105); *M. sp.* **40** (40436) (Araceae).
- Myrcia* sp. **74** (40743, 41614) (Myrtaceae).
- Napeanthus robustus* Fritsch **70**, **72** (40671); **73** (49108) (Gesneriaceae).
- Naucleopsis amara* Ducke **33** (48912); *N. sp.* **33** (49112) (Moraceae).
- Nautocalyx* sp. **55** (48936, 48964) (Gesneriaceae).
- Neomortonia rosea* Wiehl. **48** (41477) (Gesneriaceae).
- Nephelea cuspidata* (Kunze) Tryon **25** (48176) (Cyatheaaceae).
- Nephrolepis pectinata* (Willd.) Schott **48** (48846); **50** (48135); *N. pendula* (Raddi) J. Sm. **48** (48998); *N. spp.* **13** (48837, 48845) (Davalliaceae).
- Nothopanax fruticosus* (L.) Miq. **73** (40612) (Araliaceae).
- Notylia rimbachii* Schltr. **57** (48143) (Orchidaceae).
- Ocimum campechianum* Mill. **28**, **41** (40616); **29** (48982); **74** (40395); *O. sp.* **58** (48445) (Lamiaceae).
- Odontadenia macrantha* (R. & S.) Mg. **61** (40895); *O. strictum* (Nees.) Kuntze **21**, **73** (40023) (Apocynaceae).
- Oenocarpus mapora* Karst. **10** (60102) (Arecaceae).
- Oleandra* sp. **13** (48303); **48** (48843) (Dryopteridaceae).
- Oryctanthus occidentalis* (L.) Eichl. **73** (40058) (Loranthaceae).
- Ossaea laxivenula* Wurdack **58** (48173); **73** (40364, 41013); *O. micrantha* (Sw.) Macf. ex Cogn. **24**, **73** (40162); **70** (40048) (Melastomataceae).
- Oxalis microcarpa* Benth. **49** (40726); *O. spp.* **15** (41580); **34** (41433); **53** (48333) (Oxalidaceae).
- Palicourea conferta* (Benth.) Sandw. **74** (40518); *P. guianensis* Aubl. **32** (48205); **74** (41003); *P. spp.* **32** (41619, 48721, 48727) (Rubiaceae).
- Panicum frondescens* G. Meg. **73** (40182); *P. trichoides* Sw. **74** (48489) (Poaceae).
- Paradrymonia* sp. **48** (41635, 48963) (Gesneriaceae).
- Paragonia pyramidata* (L. Rich.) Bur. **7** (48413) (Bignoniaceae).
- Paspalum conjugatum* Bergius **66** (40399, 41015, 48147) (Poaceae).
- Passiflora auriculata* H.B.K. **24** (40026, 40218); **45** (40105); *P. foetida* L. **24** (40387); **28** (40660); *P. maliformis* L. **24** (40539); *P. quadrangularis* L. **24** (40355, 48187, 48429); **24**, **45** (40174); *P. sp.* **24** (48857) (Passifloraceae).
- Paullinia fuscescens* Kunth. **9** (48426); *P. nobilis* Radlk. **32** (48341); *P. sp.* **10** (41435B) (Sapindaceae).
- Pavonia castaneifolia* St.-Hil. & Naudin **53** (48204); *P. fruticosa* (Mill.) Fawcett & Rendle **16** (40555); **59** (40029) (Malvaceae).
- Pecluma consimile* (Mett.) M. G. Price **13** (48436) (Polypodiaceae).
- Pentagonia grandiflora* Standl. **24** (41599); *P. macrophyllum* Benth. **24** (40451, 48361); *P. spp.* **2** (41035); **24** (40375, 41001); **26** (41082) (Rubiaceae).
- Peperomia macrostachya* (Vahl) A. Dietr. **48** (48202); *P. omnica* DC. **32** (48986); *P. panamensis* DC. **21** (40638); *P. pellucida* (L.) H.B.K. **62** (48287); *P. pernambucensis* Miq. **73** (49053); *P. pteroneura* DC. **71** (40089); *P. serpens* (Sw.) Loud. **48** (41419, 48210, 48825); *P. urocarpa* F. & M. **35** (40531); **55** (40301);

- 70** (41018); **73** (40135); P. spp. **14** (48076); **14**, **35** (40506); **14**, **73** (40169); **41** (40137); **48** (41589, 41625, 48193, 48369, 48705, 48719, 48869, 48906); **48**, **49** (41645); **50** (48821); **51** (48793); **52** (41593); **55** (40313); **62** (48314); **65** (40079); **70** (40578, 40777, 48072); **72** (40784); **73** (40143) (Piperaceae).
- Perebea xanthochyma* Karst. **2** (48201) (Moraceae).
- Persea americana* L. **19**, **24** (49118); **73** (40715) (Lauraceae).
- Pharus latifolius* L. **65** (60106) (Poaceae).
- Phaseolus vulgaris* L. **23** (40516) (Fabaceae).
- Philodendron inequilaterum* Liebm. **46** (40171); P. *steyermarkii* Bunt. **32**, **64** (41168); P. *subhastatum* Engl. **7** (48179); P. *tenue* C. Koch & Augustin **73** (40226); P. *verrucosum* Mathieu ex. Schott **10**, **32** (48191); P. spp. **7** (40849, 48241); **46** (40115); **72** (40310) (Araceae).
- Phoradendron chrysocladon* Gray **52** (40350); P. *piperoides* (Kunth) Trel. **57** (48367) (Loranthaceae).
- Phthirusa pyrifolia* (H.B.K.) Eichl. **52** (40345); **52**, **57** (48151); **73** (40056) (Loranthaceae).
- Phyllanthus anisobolus* M. Arg. **33** ((40010, 40394, 48370), 48880, 49102); P. *stipularis* (Raf.) G. Webster **22** (40392); P. sp. **22** (48231) (Euphorbiaceae).
- Physalis angulata* L. **24** (40609, 48385); P. *pubescens* L. **24** (40311); P. sp. **70** (41460) (Solanaceae).
- Phytelephas aequatorialis* Spruce **8**, **24** (60111) (Arecaceae).
- Phytolacca rivinoides* Kunth & Bouché **13** (40003, 48830); **25** (40454); **29** (48101) (Phytolaccaceae).
- Pilea* spp. **40** (40062, 40107, 40217, 40682); **48** (40378); **58** (40185); **73** (40008) (Urticaceae).
- Pilocosta oerstedii* (Triana) Almeda & Whiffin **48** (48387) (Melastomataceae).
- Piper arboreum* Aub. **47** (40455); P. *angustum* Rudge **47** (40303); **48**, **73** (40452); **48** (40738); **56**, **73** (40090); **74** (40749); P. *brachypodon* Benth. **74** (40881); P. *cararense* T. & Y. **51** (48174, 48244); **51**, **55** (41021); P. *dryadum* DC. **74** (41612); P. *eustylum* Diels **72** (40237); P. *filistylum* DC. **48** (40746, 48116); P. *florencianum* Trel. & Yunck. **48** (40338); P. *hispidum* Sw. **70** (40222); **73** (40194, 40681); **74** (40748); P. *imperiale* (Miq.) DC. **56**, **74** (40199); **70** (40091); **73** (40596); P. *marginatum* Jacq. **13** (40012); P. *multiplinervium* DC. **41** (40059); **73** (40684); **74** (41471, 48786); P. *obliquum* R. & P. **72** (40210); P. *peltatum* L. **74** (48159); P. *phytalaccaefolium* Opiz in Presl **51** (40468); P. *squamulosum* DC. **48** (41640); P. *trianae* DC. **56** (41020); **73** (49055); P. *tricuspe* (Miq.) DC. **47** (40859); P. *tuberculatum* Jacq. **47** (48375); P. spp. **15** (41026); **18** (40325); **32** (48338); **41** (41600); **10**, **41**, **68** (49043); **48** (40369, 40752, 40793, 41420, 41421, 48113, 48157, 48346, , 48724, 48824, 48858, 48909); **50** (41637); **51** (40370); **54** (40782); **55** (40295): **65** (40670); **70** (40109, 40341); **72** (48726, 48853, 48861); **73** (40679, 40683, 40699, 40711, 40776, 40790, 49056, 48158); **74** (40323, 41590, 41658, 48163, 48164, 48392, 48697, 48703, 48836, 48873) (Piperaceae).
- Pitcairnia* spp. **7** (41436); **37** (41496) (Bromeliaceae).
- Pithecellobium longifolium* (H.B.K.) Standl. **74** (48288) (Mimosaceae).
- Pityrogramma calomelanos* (L.) Link **41** (48752); **74** (48221) (Pteridaceae).
- Plantago major* L. **65** (40599) (Plantaginaceae).
- Pleurothallis picta* Lindl. **57** (48432) (Orchidaceae).
- Plumeria rubra* L. **54** (40594) (Apocynaceae).
- Podandrogynne brachycarpa* (D. C.) Wood. **13** (40017); P. *brevipedunculata* Cochrane **51** (40057, 40166); **53** (40209); **74** (40866) (Capparidaceae).
- Polemonium* sp. **16** (48364) (Polemoniaceae).
- Pollalesta* sp. **74** (41492) (Asteraceae).
- Polybotrya caudata* Kunze **65** (41058); P. *lechleriana* Mett. **25** (48848) (Dryopteridaceae).
- Polygala mollaginifolia* St. Hill. **16** (40588); P. *paniculata* L. **16** (40590) (Polygalaceae).
- Polygonum acuminatum* H.B.K. **33** (48412); P. *hydropiperoides* Michx. **33** (40491, 40494) (Polygonaceae).
- Polypodium crassifolium* L. **73** (40639); P. *fraxinifolium* Jacq. **65** (40798); P. *percussum* Cav. **48** (40196, 40219); **51** (40629); P. *phyllitidis* L. **40** (40806); **71**, **73** (40095); P. *piloselloides* L. **35** (40302); **51** (40236, 40475); **73** (40617); P. *repens* Aubl. **70**, **72** (40672); P. spp. **13** (40795) (Polypodiaceae).
- Portulaca oleracea* L. **56** (40604); P. spp. **16** (48378, 48380); **39** (48379) (Portulacaceae).
- Pothomorphe peltata* (L.) Miq. **51** (40004); **56**, **74** (40393) (Piperaceae).
- Poulsenia armata* Miq. **10** (48343, 48985) (Moraceae).
- Pourouma guianensis* Aubl. **24** (40677); P. *hirsutipetiolata* Mildbr. **24** (41009) (Urticaceae).
- Pouteria caimito* (R. & P.) Radlk. **24** (40415); P. *collina* (Little) Penn. **2**, **3**, **24** (41673); P. *torta* (Mart.) Radlk. **2**, **24** (41629) (Sapotaceae).
- Pouzolzia* sp. **55** (40477) (Urticaceae).
- Prestoea sejuncta* Bailey **7**, **25** (60107) (Arecaceae).
- Prestonia portobellensis* (Beurl) Woodson **61** (40831, 41052); P. *rotundifolia* K. Schum. ex Woodson **61** (40786); **72** (40674) (Apocynaceae).
- Protium amplum* Cuatr. **2** (41659); P. sp. **2** (41006) (Burseraceae).
- Psammisia attaberrans* **26** (48250); P. *caloneura* A. C. Smith **24** (48920); P. *ferruginea* A. C. Smith **20** (48792); P. spp. **26** (40309, 40520, 48061) (Ericaceae).

- Psudelephantopus puratis* (Less.) Cronq. **72** (48381); *P. spp.* **74** (41609, 48713) (Asteraceae).
- Pseuderanthemum lanceolatum* (R. & P.) Milbr. **73** (40211); *P. micranthum* Leonard **31** (48935) (Acanthaceae).
- Psidium guajava* L. **24** (41335); *P. sp.* **24** (40404) (Myrtaceae).
- Psychotria brachiata* Sw. **32, 74** (48112); *P. caerulea* R. & P. **74** (48172); *P. hoffmannseggiana* (Wild. ex R. & S.) M. Arg. **73** (40153); **74** (48315); *P. macrophylla* R. & P. **73** (40065, 40072, 40114); **74** (48165); *P. racemosa* (Aubl.) Rausch. **32** (48215); *P. stenostachya* Standl. **73** (40066); *P. viridis* R. & P. **18** (40595, 48368); *P. williamsii* Standl. **40, 41, 68, 69** (49044); *P. spp.* **41** (40322); **71** (40400); (40068, 40082, 40232); **73** (40213); **74** (41055) (Rubiaceae).
- Psymorchis pusilla* (L.) Dodson & Dressler **48** (41043) (Orchidaceae).
- Pteris propingua* Agardh **72** (48224); *P. sp.* **9** (40889) (Pteridaceae).
- Quararibea cordata* (H.B.K.) Vischer **24** (40580); *Q. soegenii* (Cuatr.) A. Robyns & S. Nielsson **24** (40773) (Bombacaceae).
- Raritebe palicouroides* Wernh. **31** (48066) (Rubiaceae).
- Razisea spicata* Oerst. **73** (40083); *R. sp.* **63** (41056) (Acanthaceae).
- Re Nealma* cuatrecassii Maas **32** (41588); *R. cylindrica* Maas & Maas **73** (40833); **74** (48235); *R. dolichocalyx* Maas **36** (48924); *R. oligosperma* K. Schum. **48, 56, 73** (40160); **56** (40712) (Zingiberaceae).
- Rheedia edulis* (Seem.) Pl. & Tr. **24** (41575, 48363); *R. sp.* **24** (40334, 41342) (Clusiaceae).
- Rollinia mucosa* (Jacq.) Baillon **24** (40608, 48989); **24, 56** (40046) (Annonaceae).
- Rudgea spp.* **2** (41672); **58, 73** (49101) (Meliaceae).
- Ruellia pennellii* Leonard **42** (48238); **63** (48067); *R. riopalenquensis* Wash. **25** (40365); *R. tubiflora* H.B.K. **32, 74** (48402) (Acanthaceae).
- Ruta sp.* **73** (40558) (Rutaceae).
- Rytidostylis carthaginensis* (Jacq.) Kuntze **24** (48051); **25** (48365); **29** (40462, 40607) (Cucurbitaceae).
- Sabicea villosa* Willd. ex R. & P. **24** (41623); **48** (40184); **55** (41506) (Rubiaceae).
- Saccoloma elegans* Kaulf. **40** (48223); **73** (40225) (Dennstaedtiaceae).
- Salvia coccinea* Jass. ex Murr. **40** (40564) (Lamiaceae).
- Sanchezia parviflora* Leonard **41** (40398); **73** (40189); *S. sp.* **73** (41464) (Acanthaceae).
- Sapium peruvianum* (Mcb.) Jabl. **33** (48414, 49098); *S. sp.* **2, 33** (41041) (Euphorbiaceae).
- Satyria grandifolia* Hoer. **20** (48806) (Ericaceae).
- Saurauia brachybotrys* Turcz. **24** (41621) (Actinidiaceae).
- Sauvagesia erecta* L. **16** (40589) (Ochnaceae).
- Scaphyglottis graminifolia* (R. & P.) P. & E. **68** (48318); *S. prolifera* Cogn. **28** (40855); **48** (48196) (Orchidaceae).
- Schefflera sp.* **32** (41606), 48718, 48803, 48913) (Araliaceae).
- Schlegelia dresleri* Gentry **26, 32** (48404) (Bignoniaceae).
- Schlegelia fastigiata* Schery **26** (41069); **32** (48111); **48** (40127); *S. sp.* **41** (40329) (Bignoniaceae).
- Schoenobiblus panamensis* Standl. in L.O. Wms. **18** (48317) (Thymelaeaceae).
- Sciadocephala schultze-rhonnotiae* **52** (41481); *S. sp.* **53** (41024) (Asteraceae).
- Scoparia dulcis* L. **44** (40567); **51** (40028); *S. sp.* **74** (41431) (Scrophulariaceae).
- Selaginella geniculata* (Presl) Spring **58** (48131, 48207); *S. spp.* **48** (40878); **50** (48831); **51** (40505); **56** (40093, 40186); **58** (49115); **73** (40200, 49042) (Selaginellaceae).
- Senna dariensis* B. & R. **35** (41087) (Caesalpiniaceae).
- Sida acuta* Burm. f. **13** (40036) (Malvaceae).
- Siparuna laurifolia* (H.B.K.) DC. **73** (40643); *S. spp.* **40, 69** (40216); **65** (48903); **68** (49088); **68, 69** (40693) (Momiaceae).
- Sobralia macrophylla* Rchb. f. **57** (48091); *S. sp.* **74** (48694) (Orchidaceae).
- Socratea exorrhiza* (Mart.) H. A. Wendl. **2, 24, 27** (60007) (Arecaceae).
- Solanum candidum* Lindl. **24** (40165); **28** (40656); *S. canense* Rydb. **24, 41** (40016); **41** (40724); *S. confertiseriatum* Bitter **31** (41601); **71** (48695); **73** (40630); *S. dolichorhachis* Bitter **14** (40522); **51** (40437); **73** (40691); *S. jamaicense* Miller **16** (40469); *S. leptorhachis* Bitter **41** (40073); *S. mammosum* L. **24, 33** (41452); **72** (40487); *S. medusocalyx* Bitter **48** (41628); *S. nudum* Dunal **71** (41078, 48271); **74** (48304); *S. quitoense* Lam. **24** (41586); *S. schlechtendalianum* Walp. **58** (48233); *S. sessiliflorum* Dunal **24, 28** (40509); *S. spp.* **24** (48829); **34** (48817); **48** (41648, 48406); **73** (40154) (Solanaceae).
- Spartium junceum* **23** (41525) (Fabaceae).
- Sphyrnospermum cordifolium* Benth. **72** (40830); *S. sp.* **48** (48777) (Ericaceae).
- Spigelia anthelmia* L. **48** (40142, 48388); *S. sp.* **41** (40293) (Loganiaceae).
- Spilanthes sp.* **39** (41485) (Asteraceae).
- Spondias mombin* L. **24** (49100); *S. purpurea* L. **24** (40428, 48140) (Anacardiaceae).
- Stelis sp.* **49** (48247) (Orchidaceae).
- Streptochaeta sodiroana* Hackel **11** (40212, 40315, 40714, 41079, 60108) (Poaceae).
- Stromanthe sp.* (48634) (Marantaceae).
- Struthanthus sp.* **71** (40084) (Loranthaceae).

- Swartzia spp. **2** (41607, 41669, 48789) (Mimosaceae).
 Synecanthus warszewiczianus Wendl. **15** (40205); **74** (60117) (Arecaceae).
 Syngonium crassifolium (Engl.) Croat **46** (40330); S. macrophyllum Engl. **48** (40768) (Araceae).
 Tabernaemontana columbiensis (Allorge) Leeuwenberg **24** (40351, 40426, 40732, 40739, 48057, 48206); T. heterophylla Vahl **32** (48123); T. macrocalyx Muell. Arg. **51** (48933); T. tetrastachya H.B.K. **24** (0750, 40775); T. sp. **24** (40517) (Apocynaceae).
 Tagetes sp. **72** (40488) (Asteraceae).
 Talinum paniculatum (Jacq.) Gaertn. **29** (40559) (Portulacaceae).
 Talisia sp. **24** (40820) (Sapindaceae).
 Tapirira guianensis Aubl. **2** (48277) (Anacardiaceae).
 Tectaria acutiloba (Hieron.) Maxon **65** (40825); T. incisa Cav. **74** (40501, 40902); T. nicotianifolia (Baker) C. Chr. **35** (40441); **73** (40144, 40686); T. ucusa **72** (48322); T. spp. **9** (48286); **48** (48947); **69** (48435) (Dryopteridaceae).
 Tetrathylacium macrophyllum Poepp. **2**, **32** (48425) (Flacourtiaceae).
 Thelypteris curta (Christ) Reed **74** (48129); T. dentata (Forsk.) St. John **72** (48411); T. exuta A. R. Smith **44** (48804); T. falcata (L.) Proctor **40** (48298); T. francoana (Fourn.) Reed **48** (48294); **72** (40570); T. gemmulifera (Hieron.) A. R. Sm. **48** (48300); T. gigantea (Mett.) R. M. Tryon **40** (40318, 40867, 48069); **48** (41435A), 48885); T. lingulata (C. Chr.) C. V. Morton **35** (48222); T. linkiana (C. Presl) R. M. Tryon **70** (48745); T. poiteana (Bory) Proctor **9** (48398); T. resinifera (Desv.) Proctor **72** (48296); T. torresiana (Gaud.) Alston **41** (48130); T. ubanii (Sodiolo) A. R. Sm. **73** (49030); T. spp. **59** (40138); **70** (41594); **72** (48761, 48762, 48952); **73** (40132) (Thelypteridaceae).
 Theobroma bicolor H. & F. **24** (40418); T. cacao L. **28** (40460, 40618); T. gileri Cuatrec. **24** (48430) (Sterculiaceae).
 Thevetia peruviana (Pers.) K. Schum. **72** (40545) (Apocynaceae).
 Thibaudia paniculata A. C. Smith **72** (41475) (Ericaceae).
 Tillandsia narthecioides Presl **48** (40869) (Bromeliaceae).
 Tococa spadiciflora Triana **32** (48701); T. symphyandra (Triana) Cogn. **32** (48725) (Melastomataceae).
 Topobea caudata Wurdack **32** (48797, 48918); T. sp. **32** (48901) (Melastomataceae).
 Tovomita weddelliana Pl. & Tr. **59** (48335); T. sp. **55** (41453) (Clusiaceae).
 Tovomitopsis spp. **24** (48192); **31** (41616) (Clusiaceae).
 Trema integrifolia **54** (48309) (Ulmaceae).
 Trianaepiper garciae Trel. & Yunck. **73** (40227); T. killipii Trel. **73** (40755); T. mexiae Trel. & Yunck. **70** (40206, 40667); T. spp. **48** (41068, 48161); **56** (48104); **74** (41425) (Piperaceae).
 Trichilia pallida Sw. **73** (40006) (Meliaceae).
 Trichipteris bipinnata Tryon **72** (48943) (Cyatheaceae).
 Trichomanes coralliatum V. D. Bosch. **13** (40147); **48**, **49** (40695); T. elegans Rich. **35** (40882); **48** (48759); T. membranaceum L. **48**, **51** (48345); **51** (40822); T. polypodioides. **39** (48839); T. spp. **48** (41630, 48408); **51** (40432, 48838, 48892, 48893); **73** (40086) (Hymenophyllaceae).
 Triolena barbeyana Cogn. **22** (48032); **48** (40344, 41084); **49** (40094, 40157); T. obliqua (Triana) Wurdack **48** (41418, 41642); **50** (48807); T. pustulata Triana **49** (40071); T. sp. **48** (41434) (Melastomataceae).
 Tripogandra serrulata (Vahl) Handl. **40** (48089); **41** (41032) (Commelinaceae).
 Tropaeolum repandum Heilb. **32** (48306) (Tropaeolaceae).
 Urceolina grandiflora (Planch. & Lindig.) Traub. **54** (40214); **66** (40335, 40853) (Amaryllidaceae).
 Urena lobata L. **65** (40041) (Malvaceae).
 Urera baccifera (L.) Gaud. **58**, **59** (40669); U. caracasana (Jacq.) Griseb. **22** (41508) (Urticaceae).
 Vanilla odorata Presl **41** (48236); V. planifolia Jackson **14** (40340) (Orchidaceae).
 Verbena litoralis H.B.K. **42** (40401); **59** (40208) (Verbenaceae).
 Vismia obtusa Spruce **51** (41494); V. sp. **2** (48832) (Clusiaceae).
 Wettinia quinaria (Cook & Doyle) Burret **2** (41074); **2**, **24**, **27** (60112); **2**, **27** (60005) (Arecaceae).
 Witheringia solanacea L'Hér. **53** (40376); **55** (40009, 40110, 41053, 48115); **64** (40308); **70** (40328); W. sp. **55** (48349) (Solanaceae).
 Wulffia baccata (L. f.) Kuntze **32** (48167); **33** (48851); **51** (48054) (Asteraceae).
 Xanthosoma daguense Engl. **32** (48189); **48** (48270); X. sagittifolia (L.) Schott. **32** (48332); X. sp. **48** (48347) (Araceae).
 Xiphidium caeruleum Aubl. **41** (40374); **48** (48417) (Haemodoraceae).
 Zamia lindenii Regel **24** (48155); **51** (40203) (Cycadaceae).
 Zea mays L. **23** (40525) (Poaceae).
 Zingiber officinale Roscoe **39**, **66** (49116) (Zingiberaceae).
 Zygia longifolia (H. & B.) Br. & Rose. **74** (40403) (Mimosaceae).
Genus indet:
 Acanthaceae **67** (41482); **70** (41459).
 Amaryllidaceae **16** (40623); **39**, **70** (41604); **48** (48712).
 Apocynaceae **24** (41044).
 Araceae **29** (40482); **32** (48246); **46** (60101); **48** (40789); **55** (48711).
 Aspleniaceae **13** (48301).

- Asteraceae **21**, **73** (40024); **25** (40103); **40** (40574); **41** (40034A, 40037, 40647, 40707); **48** (40702); Asteraceae **51** (40161, 40553, 40662); **51**, **55** (40104); **51**, **55**, **65** (40152); **52** (40396, 40863, 48152); **56**, **71** (40554); **58** (48443); **65** (40152); **72** (40563); **73** (40024, 40190, 40337).
- Bromeliaceae **41** (48396); **52** (40197); **72** (40043).
- Clusiaceae **2** (41665); **24** (60100); **32** (48835, 48962).
- Commelinaceae **48** (48090).
- Cucurbitaceae **25** (41579); **59** (41071).
- Dennstaedtiaceae **44** (48840).
- Euphorbiaceae **2** (41038).
- Fabaceae **3** (48063); **9** (48190); **48** (48195); **51** (48058); **52** (48350); **53** (48382).
- Flacourtiaceae **24** (48169, 48702); **32** (48171); **41** (41509).
- Gesneriaceae **48** (41005).
- Gleicheniaceae **48** (48950).
- Lamiaceae **41** (40854); **41**, **65** (40861); **48** (41416); **65** (40861); **74** (48142).
- Lauraceae **2** (41008, 41027, 41661, 41670, 41675).
- Loranthaceae **41** (40634).
- Melastomataceae **2** (41666).
- Meliaceae **2** (48229); **64** (48289).
- Menispermaceae **32** (48237).
- Myrtaceae **32**, **74** (48401); **73** (49094).
- Polypodiaceae ; **25** (40431); **44** (41617).
- Rubiaceae **15** (49120); **71** (40400); **71**, **73** (40685); **72** (40292, 41497).
- Scrophulariaceae **41** (40300, 40812, 41028, 48148); **42**, **58** (48444); **48** (48230, 48863); **64** (41461); **74** (41424, 41430).
- Solanaceae **32** (48405); **48** (48240); **74** (48114).
- Urticaceae **34** (48050).
- Verbenaceae **41** (41007).
- Zingiberaceae **74** (48694).
- Family indet.**
50 (40317, 40893, 48184);

Appendix II

Annotated list of vernacular names

The spelling used is an approximation using sounds mainly from English. The letters “c” and “k” are pronounced in the same way, but the former is only used in names or syllables of Spanish origin. The “j” in Spanish names is pronounced like an English “h”; otherwise it is pronounced as a “dj” in English. The use of “q” is restricted to the Spanish names. An exclamation after a vowel, “!”, indicates an abrupt pronunciation of this. An elevated period, “ˆ”, indicates that the vowel is long. The French “accent égu” (é) and “accent grave” (è) have been used. In a few Coaiquer names an “h” in parentheses indicates an aspirated sound. A syllabic division of the vernacular names has been given to facilitate comparison.

Cayapa

A ará	<i>Trichomanes collariatum</i> (40147)	Achiote enano	<i>Bixa orellana</i> (40474)
A len tapé	<i>Miconia lugonis</i> (40769)	Achutele	<i>Discophora guianensis</i> (40305)
A! ba! kaka	Lamiaceae (48142)	Acura tapé	<i>Podandrogyné brachycarpa</i> (40017)
A! ka kièñ chi re- medio tapé	<i>Gurania</i> sp. (48107)	Aga remedio tapé	<i>Adiantum petiolatum</i> (40571); <i>Thelypteris francoana</i> (40570)
A ba.n cho puka	<i>Clusia</i> sp. (48234)	Agan killan chi tapé	<i>Cleome</i> sp. (40593)
A ba.n puka	<i>Clusia</i> sp. (40908)	Ai chi bu dja	Family indet. (41004)
A bo chui tapé	<i>Alloplectus panamensis</i> (40846)	Aji	<i>Capsicum frutescens</i> (40201)
A chi puka	<i>Talisia</i> sp. (40820)	Alia no pu fin dumi	<i>Talinum paniculatum</i> (40559)
A chide	<i>Bertiera procumbens</i> (40156)	Alui tapé	<i>Pavonia fruticosa</i> (40555)
A dju dju koro tapé	<i>Guzmania scherzeriana</i> (48395); <i>G.</i> sp. (41019)	Anis tapé	<i>Salvia coccinea</i> (40564)
A do pistcha	<i>Tabernaemontana tetrastachya</i> (40750)	Anotade	<i>Piper marginatum</i> (40012)
A drin	Piperaceae (40295)	Anpo pin ha! tapé	<i>Piper brachypodon</i> (40881); <i>P.</i> sp. (48164); <i>P.</i> sp. (48392)
A fa chi	<i>Alsophila cuspidata</i> (48176)	Ará	<i>Hemidictyum marginatum</i> (40134)
A ka ma ha! chi	<i>Xanthosoma daguense</i> (48189)	Ará pi boka	<i>Ficus maxima</i> (48056)
A pè punchi	Euphorbiaceae (40839)	Ará pi chi tapé	<i>Ficus insipida</i> (40900)
A pi chua tapé	<i>Gurania macrophylla</i> (40731); <i>G.</i> <i>spinulosa</i> (40731)	Ará pi puka	<i>Ficus insipida</i> (41080)
A pi chui tapé	<i>Tectaria incisa</i> (40501)	As katcha remedio tapé	<i>Razisea</i> sp. (41056); <i>Ruellia pen-</i> <i>nellii</i> (48067); (48238)
A pisch chua	Cucurbitaceae (41071)	As kin llullo	<i>Cavendishia</i> sp. (40754)
A pistch chu ha! ki	<i>Gurania spinulosa</i> (48170)	As kin llullo tapé	<i>Ipomoea</i> sp. (40476)
A pistcha	<i>Gurania spinulosa</i> (48156)	Asa a ké uarin hodro remedio tapé	<i>Tovomita weddelliana</i> (48335)
A pistchu puka	<i>Tetracera</i> sp. (40892)	Asan shiili	<i>Drymonia alloplectoides</i> (40061)
A tchu ba n tapé	<i>Anthurium pallidiflorum</i> (48106); <i>Asplenium serratum</i> (48258)	Asoka tapé	Asteraceae (40574)
A tèmpo tapé	<i>Peperomia urocarpa</i> (40531); <i>P.</i> sp. (40777); <i>P.</i> sp. (48314)	Atchu ba n tapé	<i>Elaphoglossum herminieri</i> (40533); <i>E.</i> sp. (40826); <i>E.</i> sp. (48301)
A vikimo tchapé	<i>Anthurium versicolor</i> (48098)	Atchu boa tapé	<i>Polypodium loriciforme</i> (40795)
A ya ha! chi	<i>Geonoma cuneata</i> (48272); (48351)	Aua ambi chi	<i>Heliconia longa</i> (48180)
A yaya tapé	<i>Anthurium asplundii</i> (40886)	Ba ki tapé	<i>Guadua angustifolia</i> (48374)
Abanchola finchuno bugu	<i>Codonanthe crassifolia</i> (40479)	Ba pist chi	<i>Physalis angulata</i> (48385)
Abillo tapé	<i>Polygonum hydropiperoides</i> (40494)	Ba ta ba ha! ki	<i>Piper</i> sp. (48158)
Achiote	<i>Bixa orellana</i> (40045)	Ba vèro tapé	<i>Streptochaeta sodiroana</i> (41079)
		Ban chi	<i>Wettinia quinaria</i> (41074)
		Babarro	<i>Phytolacca rivinoides</i> (40003)
		Babo kasta(h)	<i>Scoparia dulcis</i> (40028)

Bakalao tapé	<i>Phytolacca rivinoides</i> (48101)	Cedro	Meliaceae (48229)
Balando remedio tapé	<i>Plumeria rubra</i> (40594)	Cha dja pollo llullu	<i>Amaranthus</i> sp. (48391)
Ballusa tapé	<i>Psychotria viridis</i> (40595)	Cha shi ta tapé	<i>Paspalum</i> sp. (41015)
Bandi tururu chua	<i>Passiflora quadrangularis</i> (48187); (48429)	Chachi chi ha! ki	<i>Poulsenia armata</i> (48343)
Barbasco	<i>Phyllanthus anisobolus</i> (40010)	Chalviande	<i>Dialyanthera</i> sp. (48290)
Basu remedio tapé	<i>Tectaria mexicana</i> (48262); <i>Thelypteris</i> sp. (48298); <i>Tripogandra serrulata</i> (41032)	Chanilla piechiga	<i>Alonsoa</i> sp. (40560)
Basu sji mul ko	<i>Begonia</i> sp. (48421)	Chanul	<i>Humiriastrum procerum</i> (41076)
Basu tapé	<i>Campyloneurum phyllitidis</i> (40806); <i>Thelypteris gigantea</i> (40867); (48069)	Chè ba tapé	<i>Cordia spinescens</i> (41062)
Bi bina tapé	<i>Hyptis verticillata</i> (41083)	Chi chi bilia	<i>Rollinia mucosa</i> (40608)
Bi ke pan tsumi tapé	<i>Pteris</i> sp. (40889)	finchuno puka	
Bi ken sumo tapé	<i>Adiantum</i> sp. (40828)	Chi chua ama	<i>Asplundia</i> sp. (40829)
Bi kini	Urticaceae (48050)	Chi dja pèpè	<i>Tectaria brauniana</i> (48286)
Bi pistcha puka tapé	<i>Carpotroche platyptera</i> (40873)	kino tapé	
Bi ta chua	<i>Desmoncus</i> sp. (48197)	Chi ha pèpè	<i>Adiantum isthmicum</i> (48261);
Bi vino tapé	Scrophulariaceae (48444)	kino tapé	<i>A. macrophyllum</i> (48399); <i>Thelypteris poiteana</i> (48398)
Billo tapé alato	<i>Polygonum hydropiperoides</i> (40491)	Chi ka shu	<i>Musci</i> spp. (40903); (41057); (48110)
chuno tapé		Chi ka shu tapé	<i>Antrophyum intramarginale</i> (40842)
Bish chi tapé	<i>Pithecellobium longifolium</i> (48288)	Chi ki tutu	<i>Trichomanes membranaceum</i> (40822)
Bish kino hoke	<i>Piper phytolaccaefolium</i> (40468)	Chi nu tchumo	Scrophulariaceae (48230)
pinchori tapé		a ba ka ka	
Bish pè remedio tapé	<i>Cyathula achyranthoides</i> (40499); <i>Microgramma piloselloides</i> (40475); <i>Piper cararense</i> (41021); (48174); (48244); <i>P.</i> sp. (40782)	Chi nu tchumo	<i>Philodendron</i> sp. (40805)
Bitchi puka	<i>Dendropanax</i> sp. (40742)	kungu tapé	
Bo chua llullu	<i>Marsdenia</i> sp. (48122)	Chi ta may chimo	Araceae (48246)
Bo chui kano chi	<i>Hyospathe elegans</i> (48273)	kungo papa	
Bo shi chi	<i>Inga edulis</i> (48200)	Chiaimayo	<i>Rollinia mucosa</i> (40046)
Bolon ge djo djo	Fungi (41073)	Chiar llangia tapé	<i>Bomarea edulis</i> (41039)
Bonban	<i>Oryctanthus</i> sp. (40002)	Chicha tapé	Araceae (40482)
Borachera	<i>Brugmansia versicolor</i> (41050)	Chichi ha	<i>Anthurium</i> sp. (40136)
Botonsillo	Asteraceae (40554)	Chide ará	<i>Asplenium hallii</i> (40148)
Bovin chi	<i>Iriartea deltoidea</i> (48409)	Chikaso tapé	<i>Selaginella</i> sp. (40505); <i>musci</i> (40573)
Bu ma chi	<i>Coussapoa rotundata</i> (40757)	Chilma	<i>Dioscorea</i> sp. (48331)
Budu shinu	<i>Razisea spicata</i> (40083)	Chimba chua	<i>Bomarea edulis</i> (40814); <i>Dichorisanandra hexandra</i> (40824)
Bui tapé	<i>Polygonum acuminatum</i> (48412)	Chimi tchumo	<i>Philodendron</i> sp. (40730)
Bulla tapé	<i>Aegiphila alba</i> (40538); (48427)	kungu ha!ki	
Buru sino	<i>Gasteranthus oncogastrus</i> (40233)	Chimpalo	<i>Solanum canense</i> (40016)
Buru sino tapé	<i>Sanchezia parvifolia</i> (40189)	Chin lak pè	<i>Rytidostylis carthaginense</i> (48051)
Buru tapé	<i>Spigelia anthelmia</i> (40142)	Chin remedio tapé	<i>Oxalis</i> sp. (48333)
Café chi kushorol	<i>Coffea arabica</i> (40470)	Chinba tchuba tapé	<i>Solanum dolichorhachis</i> (40522)
Caña	<i>Guadua angustifolia</i> (48374)	Chino tchumo	<i>Anthurium</i> sp. (48074)
Capitan chua tapé	<i>Mendoncia</i> sp. (40813)	ko dju dju	
Capitan shuba miro	<i>Aristolochia</i> sp. (40523)	Chino tchumo	<i>Anthurium</i> sp. (40799)
gulachi		kungu hoki	
Carbonero	Fabaceae (48063)	Chirma	Cucurbitaceae (48305)
Carlen tapé	<i>Desmodium axillare</i> (40022)	Chiyacu tapé	<i>Selaginella</i> sp. (40093); <i>S.</i> sp. (40186)
		Chu ai'n chi	<i>Dialyanthera</i> sp. (48290)

Chu chu maseranu tapé	<i>Prestonia portobellensis</i> (40831)	Donga ha! ki	<i>Brugmansia versicolor</i> (41050)
Chu masé geno chua	<i>Fischeria aequatorialis</i> (48334)	Dorkila	<i>Eugenia</i> sp. (40044)
Chu roro	<i>Passiflora maliformis</i> (40539)	Du chi chimo puka	<i>Bixa orellana</i> (40474)
finchuno puka		Du ma pè tapé	<i>Selaginella</i> sp. (48254)
Chu! maseranu tapé	<i>Odontadenia macrantha</i> (40895)	Du sinpi	<i>Selaginella</i> sp. (40200)
Chuan himu tchapé	<i>Rytidostylis carthaginense</i> (48365)	E ki djo chua	<i>Paragonia pyramidata</i> (48413)
Chun djuì ha!	Fabaceae (48058)	E lon bè po tapé	<i>Abelmoschus moschatus</i> (48150)
Chun djuì ha! tapé	Fabaceae (48382)	É! ta ké	<i>Pavonia castaneifolia</i> (48204)
Col de monte	<i>Carica hispidum</i> (40195); <i>C. sp.</i> (40088); <i>C. sp.</i> (40158)	E ke ua tapé	<i>Cordia spinescens</i> (48052)
Concha mula	<i>Hyptis obtusiflora</i> (40180)	Elunsano tapé	<i>Crinum amabile</i> (40496); (40547)
Culi tapé	<i>Brunfelsia grandiflora</i> (40021)	Embacha chuno tapé	<i>Polygala paniculata</i> (40590)
Cunta ha sa pihan	<i>Adiantum macrophyllum</i> (40111)	Escaba	<i>Sida acuta</i> (40036)
De ui	<i>Sida acuta</i> (40036)	Ésh kva tapé	<i>Trema integerrima</i> (48309)
Dé sa remedio tapé	<i>Tectaria draconoptera</i> (48435)	Eskito tapé	<i>Tripogandra serrulata</i> (48089)
Dédo	<i>Matisia coloradum</i> (40015); (40131); (40187)	Fe ko killan chi remedio tapé	<i>Portulaca</i> sp. (48379)
Dès tapé	<i>Selaginella anceps</i> (48131); <i>S. geniculata</i> (48207)	Fè dè pin tapé	Family indet. (41085)
Di ki chu ama	<i>Asplundia</i> sp. (48175); <i>Philodendron</i> sp. (40849); <i>P. sp.</i> (48403)	Fi ba n go cho	<i>Manihot esculenta</i> (48329)
Dio tapé fin chuno	<i>Capsicum frutescens</i> (40586)	Fiba baré himu yambo	<i>Dioscorea</i> sp. (48331)
Dishan tapé luli	<i>Hibiscus rosa-sinensis</i> (40139)	Fiba ha! ki	<i>Calathea lutea</i> (48181)
Dja hin chi remedio tapé	<i>Clusia</i> sp. (48242); <i>Phthirusa pyrifolia</i> (48151)	Fiba ljuin chi tapé	<i>Costus lima</i> (48093)
Dja pè chi remedio tapé	<i>Notylia rimbachii</i> (48143)	Fiba n penpo	Asteraceae (40161)
Dja pè mayteno tapé	<i>Anthurium scandens</i> (41040)	Fima pin	<i>Stelis</i> sp. (48247)
Dja pèi n chi remedio tapé	<i>Anthurium scandens</i> (40601); Fabaceae (48350); <i>Pleurothallis picta</i> (48432)	Fima pin remedio tapé	
Dja pèno mayteno tapé	<i>Phoradendron piperoides</i> (48367)	Fimu chui n tapé	Rutaceae (48199)
Dja pin sa chi	<i>Prestoea decurrens</i> (48354)	Fimu pin remedio tapé	<i>Alloplectus panamensis</i> (48120); Araceae (40789); <i>Columnnea bilabata</i> (40816); <i>C. densibracteata</i> (48084); <i>C. dissimilis</i> (48178); <i>C. picta</i> (48086); <i>C. purpurimarginata</i> (48085); <i>C. rubriacuta</i> (48088); (48128); <i>Dichorisandra hexandra</i> (48188); <i>Diplazium sanderi</i> (48263); <i>D. seemannii</i> (48255); <i>Drymonia warszewicziana</i> (48121); <i>Gasteranthus corallinus</i> (48094); <i>Monopyle sodiroana</i> (48127); <i>Monstera spruceana</i> (48105); <i>Peperomia macrostachya</i> (48202)
Dja rin chi remedio kola	<i>Costus scaber</i> (48146)	Fimu pin tapé	<i>Columnnea spathulata</i> (48344); <i>Drymonia ecuadorensis</i> (48311); <i>D. serrulata</i> (48393); Fabaceae (48195); <i>Macleania rotundifolia</i> (48376); <i>Peperomia</i> sp. (48193); <i>P. sp.</i> (48369); <i>Xanthosoma daguense</i> (48270)
Djeiba chi	Lauraceae (41008)	Fimu pin tapé ku mun chi bulo chora asa – dèlan mala piké kushnu tapé	<i>Columnnea rubibracteata</i> (48087); <i>Drymonia coriacea</i> (48092)
Dju dju koro tapé	Bromeliaceae (48396)	Fimu pini chi pi péno tapé	<i>Xiphidium caeruleum</i> (48417)
Djuin chi	Lauraceae (41027)		
Djuin tapé chi	<i>Palicourea guianensis</i> (41003)		
Do mai n chi	<i>Isertia pittieri</i> (40827); (48251); (48278)		
Do pish chi	<i>Tabernaemontana tetrastachya</i> (40775)		
Do pistcha bamo puka	<i>Tabernaemontana</i> sp. (40517)		
Do pistcha chi	<i>Tabernaemontana columbiensis</i> (48206)		
Do pistcha	<i>Tabernaemontana columbiensis</i> (40732); (40739); (41044); (48057)		
Do tapé	<i>Tectaria nicotianifolia</i> (40144)		

Fo horo chi remedio tapé	<i>Erythrodos</i> sp. (40788)	Ha'ki tala tchumo llullu tapé	<i>Ludwigia octovalvis</i> (40858)
Fu chun chili	<i>Sabicea villosa</i> (40184)	Ha'ki tapé	<i>Pilea</i> sp. (40062); <i>P.</i> sp. (40107)
Fumu pin remedio tapé	<i>Solanum</i> sp. (48406); <i>Stigmatopte-</i> <i>ris</i> sp. (48300)	Habo chi wila	Bromeliaceae (40197)
Fumu pin tapé bai mo mo mu ili ké mayteno tapé	<i>Justicia ianthina</i> (48384)	Halina dja kamo tapé	<i>Pharus latifolius</i> (48096)
Fumu pin tapé	<i>Spigelia anthelmia</i> (48388)	Han apé chi	<i>Apeiba membranacea</i> (48198)
Fumu pu tapé	<i>Columnea kienastiana</i> (48383)	Hanben tchuba tapé	<i>Dalechampia</i> sp. (40529)
Fumu pu tapé sautal pepa illi ish karapa - to bushno tapé	<i>Gloxinia dodsonii</i> (48279)	Hé gugu chi tapé	<i>Monstera adansonii</i> (40493)
Fumu tchumo po pin ha! tapé	Solanaceae (48240)	Hé kin llullu	<i>Drymonia coriacea</i> (40819)
Furi furica	<i>Jaltomata procumbens</i> (40013); (40101)	Hé kin llullu puka	<i>Drymonia macrophylla</i> (40521)
Ga ké tala tchumo llullu tapé	<i>Scoparia</i> sp. (48366)	Hé mu tui n chi	<i>Bertiera procumbens</i> (40834)
Gacho dar tapé	<i>Mimosa elliptica</i> (40483)	Hé mush tu ha tapé	<i>Casearia</i> sp. (40864)
Gapi tapé	<i>Coix lacryma-jobi</i> (40540)	Hé tapé mincha rokola tapé	<i>Miconia trinervia</i> (40489)
Gasan fuñilla	<i>Alpinia purpurata</i> (40551)	Hé tapé mincha rokola hubi	<i>Miconia erioclada</i> (40569)
Gé ba pai chi	<i>Jacaratia spinosa</i> (40785)	kichono tapé	
Gé bo chui tapé	<i>Psychotria caerulea</i> (40740)	Hé uai sa tapé	<i>Pseuderanthemum leptorhachis</i> (40821)
Gé mu tu ha	<i>Gonzalagunia cornifolia</i> (40781)	Hé uayusa tapé	<i>Justicia</i> sp. (48313)
Gé sapote	<i>Quararibea soegenii</i> (40773)	Hé yai chua	<i>Lomariopsis nigropaleata</i> (48284); <i>Tectaria acutiloba</i> (40825)
Gé shi bish tchapé	<i>Burmeistera</i> sp. (40771)	Hé yai remedio tapé	<i>Polypodium fraxinifolium</i> (40798)
Gola chi	<i>Dimerocostus strobilaceus</i> (40583)	Hè bo chui tapé	<i>Cephaelis</i> sp. (41047); <i>Psychotria</i> <i>macrophylla</i> (48165)
Grama	<i>Cyperus luzulae</i> (40035); <i>Panicum</i> <i>frondescens</i> (40182)	Hè llullu bo chui tapé	<i>Ruellia tubiflora</i> (48402)
Granadilla	<i>Passiflora quadrangularis</i> (40174)	Hè nè chinch	Solanaceae (48405)
Gualte	<i>Wettinia oxycarpa</i> (60000); (48355)	Hè shi vesh tchapé	<i>Burmeistera</i> sp. (48102)
Guava	<i>Inga edulis</i> (40042)	Hè yai chua	<i>Polybotrya caudata</i> (48257)
Guayaba	<i>Eugenia</i> sp. (40044)	Hé a la pi chi	<i>Ficus maxima</i> (48203)
Guayacan chi	<i>Minquartia guianensis</i> (41023)	Hé ambi chi	<i>Heliconia stricta</i> (48274)
Guayacán chi ha! ki	<i>Minquartia guianensis</i> (48400)	Hé ará tchape	<i>Danaea moritziana</i> (48282)
Guayacán	<i>Minquartia guianensis</i> (48400)	Hé eski tchu tchu tapé	<i>Geogenanthus rhizanthus</i> (48068)
Guayusa tapé	<i>Psychotria viridis</i> (48368)	Hé ko bin pistcha	<i>Dicranopteris pectinata</i> (48323)
Gudo chaino puka	<i>Bixa orellana</i> (40602)	Hé yai remedio chua	<i>Lomariopsis japurensis</i> (48125)
Guin tapé	<i>Begonia</i> sp. (48310)	Hè kin llullu chua	<i>Piper</i> sp. (48338)
Guto killan chi remedio tapé	<i>Plantago major</i> (40599)	Hè kongo chi	<i>Xanthosoma</i> sp. (48347)
Ha kino chua	<i>Salpichlaena volubilis</i> (48060)	Hè pistchu tapé nokososo tapé	<i>Sabicea villosa</i> (48280)
Ha mu ki chi	<i>Perebea xanthochyma</i> (48201)	Hè san juanilla	<i>Pharus latifolius</i> (60106)
Ha na ko lush tapé	<i>Cestrum</i> sp. (48166)	Hè n bo chui tapé	<i>Psychotria caerulea</i> (48172)
Ha peno mayteno tapé	<i>Anthurium trinerve</i> (40808)	Hè n chi chua ama	<i>Asplundia</i> sp. (48124)
Ha pistchi	<i>Pourouma hirsutipetiolata</i> (41009)	Hè n dji chu chua	<i>Menispermaceae</i> (48237)
Ha sa shi pistcha	<i>Ardisia</i> sp. (40817)	Hè n do pistcha	<i>Tabernaemontana heterophylla</i> (48123)
Ha sa ti pistcha	Flacourtiaceae (48169)	Hè n modiulla tapé	<i>Lozania klugii</i> (40511)
Ha sa ti pistcha puka	Family indet. (41010)	Hè n pash ba! ké	<i>Justicia comata</i> (48144)
		Hè n tala o piñ bisj chi kèrà tchumo tapé	<i>Trichomanes ankersii</i> (48285)
		Hè n tapé	<i>Miconia barbinervis</i> (48431)
		Hekin dio tchuba	Malpighiaceae (40524)

Helen anpura	<i>Trianaeopiper mexiae</i> (40206)	Ishan sunba	<i>Peperomia</i> sp. (40143)
Helen ará	<i>Diplazium striatum</i> (40019)	Ishan tapé	<i>Peperomia pteroneura</i> (40089); <i>P.</i> sp. (40137); <i>Psychotria</i> sp. (40068); <i>P.</i> sp. (40213); <i>P.</i> sp. (40232)
Helen bonba	<i>Struthanthus</i> sp. (40084)		Fungi (41072)
Helen dini	<i>Pilea</i> sp. (40008)	Ishki djo djo	<i>Desmodium adscendens</i> (40532)
Helen ehivila	<i>Aechmea angustifolia</i> (40043)	Itaki tapé	<i>Aristolochia pilosa</i> (40235); <i>Solanum</i> sp. (40154)
Helen na sunbu	<i>Epidendrum difforme</i> (40102)	Iyu kinto	<i>Phytolacca rivinoides</i> (40003)
Helen paki	<i>Peperomia urocarpa</i> (40135)	Jabonsillo	<i>Oleandra lehmannii</i> (48303)
Helen papui	<i>Peperomia urocarpa</i> (40067)	Ka añoño atchu	
Helen pula	<i>Cayaponia coriacea</i> (40078)	ba n tapé	
Helen uinca	<i>Psychotria macrophylla</i> (40065)	Ka atchu ba n tapé	<i>Anthurium</i> sp. (48342); <i>Pecluma consimile</i> (48436)
Hen pistcha tapé	<i>Gurania spinulosa</i> (40534)		<i>Guzmania lingulata</i> (48377); <i>Tillandsia monodelpha</i> (48253)
Hèn ballosa tapé	<i>Justicia</i> sp. (40535)	Ka dju dju koro tapé	<i>Costus pulverulentus</i> (41012)
pindeno punchumi			<i>Conostegia centronioides</i> (40770); (40779)
Hèn bo chui tapé	<i>Palicourea conferta</i> (40518); <i>Raritebe axillare</i> (41055)	Ka go lan chi tapé	<i>Fabaceae</i> (48190); <i>Paullinia fuscescens</i> (48426)
Hèn bu chi tapé	<i>Podandrogynne brevipedunculata</i> (40866)	Ka hèn tapé	<i>Xanthosoma sagittifolia</i> (48332)
Hèn chilla tapé	<i>Tillandsia</i> sp. (40869)		<i>Alternanthera sessilis</i> (40890)
Hèn ki diu tchuba	<i>Ectozoma pavonii</i> (40515)	Ka llomo llullo chua	<i>Anthurium trisectum</i> (48249)
Hèn kin llullu tapé	<i>Drymonia coriacea</i> (40514)		<i>Piper angustum</i> (40749); <i>P.</i> sp. (40790); <i>Trianaeopiper killipii</i> (40755)
Hèn pi chun puka	<i>Cayaponia</i> sp. (40512)	Ka ma ka	<i>Tonina fluviatilis</i> (40796)
Hèn tapé chi	<i>Clidemia septuplinervia</i> (40510); <i>Ossaea laxivenula</i> (41013)	Ka ma pè tapé	<i>Ardisia romeroi</i> (40906)
	<i>Miconia gracilis</i> (41033); <i>M. nervosa</i> (41014)	Ka pala tapé	<i>Ardisia romeroi</i> (40542); (48325)
Hèn tapé	<i>Miconia gracilis</i> (41033); <i>M. nervosa</i> (41014)	Ka patash pa ha!ki	<i>Fimbristylis miliacea</i> (48358)
Hèn tapé miro	<i>Conostegia centronioides</i> (40528)		<i>Paspalum conjugatum</i> (48147)
gulachi		Ka pij chin ga	<i>Paullinia nobilis</i> (48341)
Hieve estrellas	<i>Cuphea strigulosa</i> (40031)	Ka pu chin puka	<i>Catopsis sessiliflora</i> (40905)
Hin bo chui tapé	<i>Psychotria hoffmannseggiana</i> (48315)	Ka pu chin puka tapé	<i>Catopsis sessiliflora</i> (40901)
		Ka shi ta	<i>Anthurium</i> sp. (40759); <i>Antrophyum cajenense</i> (40840)
Ho chi	<i>Brosimum utile</i> (41037)	remedio tapé	<i>Fimbristylis dichotoma</i> (48353);
Ho da ha side	<i>Cestrum megalophyllum</i> (40007)	Ka shi ta tapé	<i>Kyllinga pumila</i> (48372); <i>Rhynchospora radicans</i> (48373)
Ho horo pin tapé	<i>Scaphyglottis prolifera</i> (48196); <i>Trichomanes diversifrons</i> (48260)	Ka shui bo chua	<i>Phyllanthus</i> sp. (48231)
		Ka tiu tiu kuru tapé	<i>Vanilla odorata</i> (48236)
Ho horo tapé	<i>Alloplectus sprucei</i> (41081); (48082); <i>Triolena barbeyana</i> (41084)	Ka tiu tiu tapé	<i>Heteranthera reniformis</i> (48390)
		Ka tiuk tiu kuru tapé	<i>Peperomia urocarpa</i> (41018); <i>P.</i> sp. (40784);
Ho pi uallu	<i>Acalypha</i> sp. (48182)		<i>Mimosa pudica</i> (48324)
Hocos puka	<i>Spondias</i> sp. (48140)	Ka uam bio chi	<i>Guzmania lingulata</i> (40572)
Hohoro remedio tapé	<i>Besleria barclayi</i> (48415)		<i>Streptochaeta sodiroana</i> (40212)
Hopi uallu tapé	<i>Acalypha</i> sp. (41030)	Ka! zu tapé	<i>Hyptis capitata</i> (48356)
Hungu ba chua	<i>Philodendron verrucosum</i> (48191)	Ka chim ba chua	<i>Piper</i> sp. (48157)
Hupi uallu tapé	<i>Acalypha diversifolia</i> (40735)	Ka lechuka tapé	<i>Desmodium adscendens</i> (40032)
I nun chi	<i>Meliaceae</i> (48229)	Ka tèmpo tapé	<i>Anthurium falcatum</i> (40304)
I pi di ki chua ama	<i>Philodendron rhodoaxis</i> (48241)		<i>Urceolina grandiflora</i> (40214)
I pi di ki dua ama	<i>Asplundia</i> sp. (48371)	Ka yun tapé	
Isan tapé	<i>Ossaea micrantha</i> (40048)	Kadio diokardo tapé	
Ish ba vi tapé	<i>Columnnea kienastiana</i> (48162); <i>C. spathulata</i> (40481); <i>Huperzia liniifolia</i> (40610); (48292); <i>Nephrolepis biserrata</i> (48259)	Kafu mura	
		Kalabos tapé	
		Kan sè tapé	
		Karan tapé	
		Karar	
		Katsa moca	

Ke ba tapé	<i>Cordia spinescens</i> (40495); <i>Cassia reticulata</i> (40568)	Kuta ma chi	<i>Alloplectus sprucei</i> (40764); (40844)
Ke pi puka	<i>Chimarrhis</i> sp. (40112)	Kuta manchi	<i>Columnnea rubriacuta</i> (40872)
Kè yui chua	<i>Polybotrya caudata</i> (41058)	La pa	<i>Panicum frondescens</i> (40182)
Kèlan boe chi	<i>Cupania cinerea</i> (41046)	Lama fin tchumo ma	<i>Bixa orellana</i> (40473)
Kene dana de monte	<i>Peperomia urocarpa</i> (40067)	Lama pu tchuba tapé	<i>Solanum jamaicense</i> (40469)
Kere na	<i>Hoffmannia</i> sp. (40151); <i>Psychotria</i> sp. (40082); <i>Rubiaceae</i> (40066)	Lapa	<i>Cyperus luzulae</i> (40035)
Kere pi puka	<i>Psychotria hoffmannseggiana</i> (40153)	Lara jilla tapé	<i>Solanum sessiliflorum</i> (40509)
Ki pe pu chi tapé	<i>Pachira aquatica</i> (40498)	Lash muchi	<i>Bixa platycarpa</i> (40810)
Kimbi llullu	<i>Palicourea guianensis</i> (48205)	Leche brava	<i>Ficus caldasiana</i> (40096); <i>F. obtusifolia</i> (40047)
kushnu chi		Lesá tapé	<i>Senna dariensis</i> (40543)
Kimide	<i>Cestrum racemosum</i> (40176); <i>Hamelia macrantha</i> (40076)	Limón shilli	<i>Ipomoea</i> sp. (40005)
Kin llu chua	<i>Schlegelia dresleri</i> (48404)	Linum sillo tapé	<i>Hyptis capitata</i> (40544)
Kin llui puka	<i>Strychnos</i> sp. (40883)	Ljuin tapé	<i>Begonia semiovata</i> (41029); (48064); (48276); <i>Monopyle sodiroana</i> (40877)
Kin llullo	<i>Psammisia</i> sp. (40520)	Llu chua auca	<i>Ludovia integrifolia</i> (48281)
finchuno puka		Llullpo pi chui tapé	<i>Geonoma linearis</i> (60115)
Kin llullu	<i>Psammisia</i> sp. (40309); <i>Schlegelia fastigiata</i> (41069)	Llupu dès tapé	<i>Dennstaedtia bipinnata</i> (48256)
Kin llullu tapé	<i>Blakea subconnata</i> (40497); <i>Drymonia alloplectoides</i> (40845)	Llupu pi shungui tapé	<i>Columnnea picta</i> (40871)
Kin lui chua	<i>Amphidasya</i> sp. (48248); <i>Psammisia attaberrans</i> (48250)	Llupu pin sa chi	<i>Sapium peruvianum</i> (48414)
Kin mullu chua	<i>Blakea subconnata</i> (48336)	Llupu ua ko tapé	<i>Piper</i> sp. (48346); <i>P. filistylum</i> (48116)
Kinbi finchuno tapé	<i>Drymonia serrulata</i> (40603)	Llyoko pistehi	<i>Theobroma gileri</i> (48430)
Kinbi gusno tapé	<i>Hamelia macrantha</i> (40503)	Lon bo tapé	<i>Phyllanthus anisolobus</i> (48370)
Kindo	<i>Peperomia</i> sp. (40169)	Lu ano	<i>Heliconia curtispatha</i> (40119)
Kine tapé	<i>Urticaceae</i> (40478)	Lu ocoshili ayan	<i>Anthurium trinerve</i> (40231)
Kinli cosno tapé	<i>Drymonia coriacea</i> (40550)	Luban buli	<i>Odontonema strictum</i> (40023)
Kirdo	<i>Blakea subconnata</i> (40049)	Luban koko lan	<i>Costus pulverulentus</i> (40116)
Kiri tapé	<i>Lycianthes amatitlanensis</i> (40172); <i>Witheringia solanacea</i> (40009); (40110)	Luban luli	<i>Malvaviscus penduliflorus</i> (40027)
Ko cha ni ka tapé	<i>Pseudelephantopus puratis</i> (48381)	Luban pinion	<i>Euphorbia cotinifolia</i> (40177)
Ko chua	<i>Gouania</i> sp. (41086)	Luki mona	<i>Solanum lepidotum</i> (40306)
Ko pin pistcha	<i>Hypolepis hostilis</i> (40527)	Luli chide	<i>Mirabilis jalapa</i> (40025)
finchuno		Lulu tapé	<i>Cuphea strigulosa</i> (40546)
Ko pin pistcha	<i>Hypolepis hostilis</i> (41070); <i>H. repens</i> (48048); (48299)	Lun tapé chi	<i>Allamanda cathartica</i> (40504)
Ko piua do chi	<i>Chrysophyllum argenteum</i> (41017)	Ma kari chi	<i>Pentagonia</i> sp. (41035)
Kono tapé	<i>Diastema affine</i> (40140)	Ma pini ará	<i>Asplenium purpurascens</i> (40215)
Kota tapé	<i>Lycianthes synanthera</i> (40113)	Ma sju kè mo chi	<i>Flacourtiaceae</i> (48171)
Kototo anpo ha	<i>Piper imperiale</i> (40091)	Ma pè remedio tapé	<i>Trianaeopiper</i> sp. (48161)
Kototo anpo	<i>Piper hispidum</i> (40194)	Malanga	<i>Xanthosoma sagittifolia</i> (48332)
Kronocio	<i>Piper marginatum</i> (40012)	Malu side	<i>Cyphomandra hartwegii</i> (40191)
Ku dju dju	<i>Anthurium</i> sp. (48095)	Malva tapé	<i>Malachra ruderalis</i> (40860)
Ku dju dju tapé	<i>Anthurium caulorrhizum</i> (48243); <i>A. sp.</i> (48239)	Mama juana	<i>Asteraceae</i> (40037)
Kuehua chi	<i>Gossypium barbadense</i> (40584)	Man cebolla tapé	<i>Urceolina grandiflora</i> (40853)
Kuru paja	<i>Trichomanes</i> sp. (40086)	Man ni ka chi	<i>Tetrathylacium macrophyllum</i> (48425)
		Man samballo tapé	<i>Sciadocephala</i> sp. (41024)
		Mana tchapé	<i>Humiriastrum procerum</i> (41076); <i>Lantana</i> sp. (41077); <i>Wulffia baccata</i> (48167)
		Manga bullo	<i>Asteraceae</i> (48152)
		Mansamollo	<i>Asteraceae</i> (40863)

Mapé remedio tapé	<i>Aciotis</i> sp. (41016)	Na tsetsero	<i>Chamaedorea pinnatifrons</i> (40198)
Maracuya	<i>Passiflora edulis</i> (40026)	Na ua kinto	<i>Passiflora quadrangularis</i> (40174)
Mashu kino chi	<i>Miconia oraria</i> (48339)	Na hiño	<i>Sobralia macrophylla</i> (48091)
Mashu kino tapé	<i>Psychotria cooperi</i> (40862)	mayteno tapé	
Mata palo chi	<i>Ficus schippii</i> (48424)	Na n bo! chi	<i>Tovomitopsis</i> sp. (48192)
Mata palo	Loranthaceae (40056); <i>Oryctanthus occidentalis</i> (40058)	Na n remedio tapé	<i>Cyclanthus bipartitus</i> (48078)
Mayo	Araceae (60101)	Naba tapé	<i>Malachra ruderalis</i> (40557)
Mayo tapé	<i>Dieffenbachia seguine</i> (40756); (48154); (48348)	Naines	<i>Witheringia solanacea</i> (40308)
Memo kinto	<i>Melothria pendula</i> (40098)	Naka kushnu tapé	<i>Cissampelos</i> sp. (48153); <i>Gurania megistantha</i> (48308)
Mihano tapé	<i>Schoenobiblus panamensis</i> (48317)	Naka richi tapé	<i>Hyeronima laxiflora</i> (40507)
Mil pesos	<i>Monstera spruceana</i> (40843)	Nan puka tapé	<i>Tovomitopsis</i> sp. (40823)
Mincha rro gala	<i>Hamelia axillaris</i> (40484)	Nè chim bo	Cucurbitaceae (40891)
pusis no tapé		Nè chin chi	<i>Randia</i> sp. (48119)
Mincha rro kola	<i>Psychotria brachiata</i> (48112)	Nè chin puka	<i>Siparuna eggertii</i> (40818)
ban vino tapé		Nè chin puka tapé	<i>Meliosma</i> sp. (40526)
Mincha rro kola	<i>Miconia nervosa</i> (48099)	Nelo ha	<i>Anthurium</i> sp. (40150)
hambi kino tapé		Nèmo tapé	<i>Solanum lepidotum</i> (41067); <i>S. schlechtendalianum</i> (48233)
Mincha rro kola	<i>Cestrum</i> sp. (48275)	Ni tsala kino chi	Fabaceae (48063)
man da ham bi-		Niang boka	Clusiaceae (60100)
ken homo tapé		Nicha roca la habi	<i>Cuphea tetrapetala</i> (40552)
Minga shi chi tapé	<i>Inga ruiziana</i> (40898)	kino tapé	
Mish gué chi	<i>Calypttranthes</i> sp. (41045)	Ñillo tapé tchumo	Poaceae (40587)
Mish kin tapé	Citrus sp. (48194)	Nincha rogula bale	<i>Columnnea kienastiana</i> (40605)
Mish timu tapé	<i>Wulffia baccata</i> (48054)	pu mangan chino	
Mish yo kia	<i>Kalanchoe</i> sp. (48149)	tapé	
remedio tapé		O kera tchumo kea	<i>Coleus x hybridus</i> (48357)
Misso killan chi tapé	<i>Ruta</i> sp. (40558)	ka tapé	
Mo chi	<i>Dialyanthera</i> sp. (41049)	O kera tchumo llullu	<i>Polemonium</i> sp. (48364)
Moli	<i>Ficus caldasiana</i> (40096)	O kera uaku tapé	<i>Callisia repens</i> (48394)
Moragia	<i>Hyptis obtusiflora</i> (40294)	O! dja ha! chi	<i>Calathea inocephala</i> (48252)
Morin	<i>Begonia semiovata</i> (40298)	O kera llullu tapé	<i>Portulaca</i> sp. (48378)
Mu	<i>Bixa orellana</i> (40045)	O kera tchumu	<i>Portulaca</i> sp. (48380)
Mudo tapé	<i>Aneilema umbrosum</i> (40033); <i>Hydrocotyle leucocephala</i> (40193)	llullu tapé	
Mulu fin tchumo	<i>Phaseolus vulgaris</i> (40516)	O n gala hèn tapé	<i>Ossaea laxivenula</i> (48173)
cussas		Oa chambi tapé	<i>Witheringia solanacea</i> (48115)
Mulu kera pi	<i>Desmodium axillare</i> (40606)	Oa lan tapé	<i>Calathea metallica</i> (48117); (48245)
tchuba tapé		Oa na sa tapé	<i>Annona muricata</i> (48103)
Mutondo puka	<i>Solanum mammosum</i> (40487)	Oa naño	<i>Danaea humilis</i> (48062)
Mutu mu tapé	<i>Piper tricuspe</i> (40859); <i>P. tuberculatum</i> (48375)	mayteno tapé	
Na ará	<i>Asplenium hallii</i> (40075)	Oa do tapé	<i>Clidemia crenulata</i> (41060)
Na bonban	Loranthaceae (40056)	Oco tun	<i>Capparis ecuadoriana</i> (40097)
Na disku	<i>Renealmia oligosperma</i> (40160)	Ondo tapé	<i>Amphidasya</i> sp. (41059)
Na ishan tapé	<i>Lomariopsis japurensis</i> (40163)	Oña tapé ban vino	<i>Conostegia dentata</i> (48100)
Na ka llullu o kera	<i>Impatiens balsamina</i> (48362)	tapé micharo kola	
tchumo		Opode	<i>Cestrum</i> sp. (40164)
Na pata barojo	<i>Gurania pedata</i> (40052)	Pa ban go! la ljuin	<i>Costus laevis</i> (48097)
Na sun pi de	<i>Cuatresia riparia</i> (40099)	chi remedio tapé	
Na tini	<i>Pilea</i> sp. (40185)	Pa chi	<i>Guatteria</i> sp. (40736)
		Pa uatude	<i>Cleidion castaneifolium</i> (40077)

Pabano tapé	<i>Bixa orellana</i> (40472)	Pi chui tapé	<i>Arundinella berteroniana</i> (40585)
Pachino tapé	<i>Piper</i> sp. (41026)	menecha hanbi	
Paiko tapé	<i>Chenopodium ambrosioides</i> (40857)	kino tso mi tapé	
Pala tapé	<i>Anthurium</i> sp. (40737); <i>A. falcatum</i> (48073); <i>A. subcoerulescens</i> (41054); <i>A. trisectum</i> (48118)	Pi chun puka	<i>Cayaponia</i> sp. (40791)
Palmira	<i>Wettinia quinaria</i> (41074)	Pi fichi chi llullu	<i>Calliandra angustifolia</i> (40556)
Palo de mahagua	<i>Poulsenia armata</i> (48343)	Pi ishan ará	<i>Bolbitis nicotianifolium</i> (40146)
Palo diura	<i>Pourouma hirsutipetiolata</i> (41009)	Pi péno tapé	<i>Xiphidium caeruleum</i> (48417)
Palu	<i>Phyllanthus anisolobus</i> (40010)	Pi shun oui tapé	<i>Columnnea picta</i> (40760); <i>C. rubriacuta</i> (40880)
Pambil	<i>Iriartea deltoidea</i> (48409)	Pi tapé	<i>Psychotria caerulea</i> (40014)
Papa chinga tapé	<i>Ocimum</i> sp. (48445)	Pi tchapé	<i>Tectaria vivipara</i> (48322); <i>Thelypteris serrata</i> (48411)
Papalla finchuno puka	<i>Carica papaya</i> (40485)	Piba loke cushna tapé	<i>Scaphyglottis prolifera</i> (40855)
Papaya	<i>Carica papaya</i> (40159)	Pibato tchumo	<i>Geophila herbacea</i> (40592)
Papayó	<i>Carica papaya</i> (40159)	lechuga tapé	
Papicha fino puka chi	<i>Physalis angulata</i> (40609)	Pichi ano	<i>Calathea marantifolia</i> (40117)
Para ampa	<i>Pseuderanthemum lanceolatum</i> (40211)	Pichi ri chi de	<i>Ossaea micrantha</i> (40162)
Pastanu	<i>Pollinia mucosa</i> (40046)	Pichi ri chi	<i>Zamia lindenii</i> (40203)
Pata barojo	<i>Podandrogynae brevipedunculata</i> (40057)	Pichi ri de	<i>Bertiera procumbens</i> (40069)
Pata pa tapé	<i>Piper imperiale</i> (40596)	Pichinga tapé	Scrophulariaceae (41028)
Patso aya	<i>Pavonia fruticosa</i> (40029)	Pichiva	<i>Heteropsis oblongifolia</i> (40001)
Pé dju tapé	Asteraceae (48443)	Pidia chi	<i>Pouzolzia</i> sp. (40477)
Pé oy chi tapé	Verbenaceae (41007)	remedio tapé	
Pè dju pistcha chi	<i>Pentagonia macrophylla</i> (48361)	Pika	<i>Acalypha</i> sp. (40055); <i>A. sp.</i> (40228); <i>A. sp.</i> (40228)
Pè dju pistcha	<i>Pentagonia</i> sp. (41082)	Pika ha	<i>Acalypha</i> sp. (40055)
Pè dju pistcha tapé	<i>Pentagonia</i> sp. (41001)	Piketa tchumo	<i>Ludwigia erecta</i> (40502)
Pè motse	<i>Costus pulverulentus</i> (40173)	llullu tapé	
Pè pin remedio tapé	<i>Adiantum obliquum</i> (48133)	Piketa tchumo tapé	<i>Gonzalagunia cornifolia</i> (40591)
Pè pin tapé	<i>Pteris pungens</i> (48265)	Pikini tapé	<i>Urera</i> sp. (40471)
Pè pun chi	<i>Discophora guianensis</i> (40741)	Pila mu chi	<i>Ficus trianae</i> (40803)
Pè tún	<i>Verbena litoralis</i> (40208)	Pilude	<i>Ficus obtusifolia</i> (40047)
Pè tup	<i>Hyptis mutabilis</i> (40039)	Pimi chui n chi	<i>Myrcia</i> sp. (40743)
Pega pega	<i>Desmodium axillare</i> (40022)	Pin dik tapé	Asteraceae (40553)
Peí ka	<i>Blakea subconnata</i> (40297)	Pin ka suanu tapé	Family indet. (40893)
Peña mono	<i>Apeiba membranacea</i> (48198)	Pin lla chi	<i>Socratea exorrhiza</i> (48410)
Penpo	Asteraceae (40104)	Pin remedio tapé	<i>Besleria barclayi</i> (41011); <i>Chrysothemis friedrichsthaliana</i> (48080); <i>Clidemia crenulata</i> (48077); <i>Columnnea bilabiata</i> (40600); Gesneriaceae (41005); <i>Ichnanthus pallens</i> (48090); <i>Kohleria</i> sp. (40576); <i>Monopyle sodiroana</i> (40513); <i>Piper angustum</i> (40738); <i>Selaginella</i> sp. (40878)
Penpo tapé	Asteraceae (40190)	Pin sa chi	<i>Sapium</i> sp. (41041)
Pèo tapé	<i>Clibadium</i> sp. (40807); (41025)	Pin tapé	<i>Aciotis caulialata</i> (40745)
Pesgulo tapé	<i>Hibiscus</i> sp. (40579)	Pin tapé capitán	Commelinaceae (48418); <i>Erythrodes weberana</i> (40879)
Petik tapé	Asteraceae (40563)	Pin tapé	<i>Nephrolepis pectinata</i> (48135); <i>Piper filistylum</i> (40746); <i>Psylgomorchis pusilla</i> (41043); <i>Syngonium macrophyllum</i> (40768)
Pi ará	<i>Thelypteris</i> sp. (40138)		
Pi cha pè	<i>Tectaria incisa</i> (40902)		
Pi chi	<i>Ficus cervantesiana</i> (40765)		
Pi chin ga	Scrophulariaceae (40812)		
Pi chui tapé	<i>Diplazium bombonae</i> (48320); <i>Eleocharis retroflexa</i> (48327); <i>Thelypteris resinifera</i> (48296); <i>Sauvagesia erecta</i> (48326)		

Pin tsu ruo chua	<i>Cissampelos tropaeolifolia</i> (40851)	Puyan oco molo	<i>Podandrogynne brevipedunculata</i> (40166); (40209)
Pinda tapé	<i>Columnnea bilabiata</i> (40519)	Raca pies	<i>Triolena barbeyana</i> (48032)
Pinde tchuba	<i>Banisteriopsis caapi</i> (40582)	Ranelis	Scrophulariaceae (40300)
Pini ará	<i>Ctenitis</i> sp. (40145)	Rascadera	<i>Colocasia esculenta</i> (48145)
Pini nicaca	<i>Dicranoglossum</i> sp. (40234)	Rè o machi	<i>Trianaeopiper</i> sp. (48104)
Pini tapé	<i>Dicranoglossum polypodioides</i> (40170); <i>Drymonia macrophylla</i> (40167); <i>D. warszewicziana</i> (40080); <i>Lycianthes amatitlanensis</i> (40087); <i>Pleopeltis percussum</i> (40196); <i>Triolena barbeyana</i> (40094); (40157)	remedio tapé	<i>Portulaca oleracea</i> (40604)
Piñion roja	<i>Euphorbia cotinifolia</i> (40177)	Reuma tapé	<i>Piper angustum</i> (40303)
Pinta	<i>Cyclanthus bipartitus</i> (40221)	Rojina	Asteraceae (40024)
Pipeso	<i>Asplundia</i> sp. (40188)	Rosaflor	<i>Peperomia urocarpa</i> (40301)
Pipetio	<i>Capsicum frutescens</i> (40565)	Rugil	<i>Microgramma piloselloides</i> (40302)
Pipili tapé	<i>Ludwigia erecta</i> (40178)	Sa hé	<i>Zamia lindenii</i> (48155)
Pique ta	<i>Psychotria santaremica</i> (40492)	Sa oa pa chi	<i>Microgramma reptans</i> (48183)
tchumo llullu		Sa pichua tapé	
Pique ta tchumo llullu tapé	<i>Hamelia patens</i> (40897)	kino tapé	
Pique ta tchumo tapé	<i>Ludwigia erecta</i> (40490)	Sabi ballo tapé	<i>Cissus</i> sp. (40486)
Pischtinga tchapé	Scrophulariaceae (48148)	Sajo chi	<i>Tapirira guianensis</i> (48277)
Pischus finchuno	<i>Zea mays</i> (40525)	Sajo de arriva	<i>Tapirira guianensis</i> (48277)
Pisgo pirno tapé	<i>Drymonia alloplectoides</i> (40508)	Sambi oai llullu	Santalaceae (48423)
Pish chua tapé	<i>Mandevilla hirsuta</i> (40800)	San fania chi	<i>Renalmia cylindrica</i> (41042)
Pishillo	<i>Inga semialata</i> (40733)	San fania	<i>Renalmia cylindrica</i> (40833)
Pisi chua llullu pistcho fino pi chua	<i>Mandevilla dodsonii</i> (48307); <i>Tropaeolum repandum</i> (48306)	San juania tapé	<i>Renalmia cylindrica</i> (48235)
Pispata tchumo tapé	<i>Commelina diffusa</i> (40598)	San tapé	<i>Aechmea magdalenae</i> (48386)
Pitsa	<i>Inga edulis</i> (40042)	San tapé chi	<i>Discophora guianensis</i> (41022)
Piya	<i>Acalypha diversifolia</i> (40011)	San tapé	<i>Discophora guianensis</i> (48168); <i>Meliaceae</i> (48289)
Piya ha	<i>Acalypha diversifolia</i> (40155)	Sancona	<i>Socratea exorrhiza</i> (48410)
Po koi tapé	<i>Hamelia</i> sp. (41051)	Sanda polo chi	<i>Lauraceae</i> (41008)
Po pin ha tapé	Solanaceae (48114)	Santa maria	<i>Ipomoea</i> sp. (40005); <i>Pothomorphe peltata</i> (40004)
Po pin tapé	<i>Piper</i> sp. (48163)	Santa maria tapé	<i>Piper peltatum</i> (48159)
Pó remedio tapé	<i>Desmodium axillare</i> (41075)	Sao juanillos	<i>Renalmia oligosperma</i> (40160)
Pochiski	<i>Eryngium foetidum</i> (40038)	Sapo	<i>Carica</i> sp. (40158)
Ponpo kuchu	<i>Geogenanthus rhizanthus</i> (40106)	Sapote tapé	<i>Quararibea cordata</i> (40580)
Posude	<i>Cestrum</i> sp. (40092); <i>Solanum leptorhachis</i> (40073)	Sapu djui tapé	<i>Gasteranthus oncogastrus</i> (41000)
Pu chua	<i>Schlegelia fastigiata</i> (48111)	Sard sa chua	<i>Marcgravia</i> sp. (48337)
Pu pin ha	<i>Piper hispidum</i> (40748)	Sebero puka tapé	<i>Canna indica</i> x <i>generalis</i> (40530)
Pu pin ha tapé	<i>Piper</i> sp. (40776)	Seiton tapé	<i>Urena lobata</i> (40041)
Pu shillo	<i>Inga edulis</i> (40778)	Sek tapé	<i>Browallia americana</i> (40040)
Puban kura	<i>Siparuna</i> sp. (40216)	Sén gi chi	<i>Cecropia</i> sp. (48433)
Pukano maytein sumo tapé	<i>Elaphoglossum</i> sp. (40809)	Shan tapé	<i>Campyloneurum phyllitidis</i> (40095)
Pui tapé	<i>Pteris pungens</i> (48283)	Shi bish tchapé	<i>Burmeistera</i> sp. (40876)
Pulu chua	<i>Drymonia serrulata</i> (40804)	Shi moco	<i>Arthrostema ciliatum</i> (48053)
Puno chui chi ha! ki	Myrtaceae (48401)	Shi vesh tapé	<i>Burmeistera vulgaris</i> (41031)
Punta lansá	<i>Columnnea picta</i> (40230); <i>C. rubricuta</i> (40074)	Shi vesh tchapé	<i>Burmeistera</i> sp. (48070)
Puv pa tapa	Asteraceae (40037)	Shi vingola tapé	<i>Costus laevis</i> (41002)
		Shia remedio papa	<i>Xylaria</i> sp. (48352)
		Shili anpo	<i>Piper eustylum</i> (40237)
		Shili ará	<i>Dennstaedtia arborescens</i> (40085); <i>Lomariopsis nigropaleata</i> (40020); (40223)

Shili aya	Heisteria sp. (40064); Schlegelia fastigiata (40127)	Tèmpe remedio tapé	Peperomia pellucida (48287)
Shili ayan	Anthurium trinerve (40141)	Tèmpe tapé	Peperomia sp. (40506); P. sp. (40578); P. sp. (48072); P. sp. (48076); Sphyraspermum cordifolium (40830)
Shili mira	Philodendron inequilaterum (40171)		
Shili penpo	Asteraceae (40103)	Tenba yu ki ha	Guzmania melinonis (40885)
Shili pese	Asplundia sp. (40118)	remedio tapé	
Shili peso	Evodianthus funifer (40050)	Tenco shili	Cissampelos tropaeolifolia (40030)
Shili shinpi	Microgramma piloselloides (40236)	Tia mu ki chi	Perebea xanthochyma (40835)
		Tiban ará	Diplazium cristatum (40149)
Shui pu chua	Gouania lupuloides (40744)	Tim bu rukula ha	Salpichlaena volubilis (40763)
Shui yungui chi	Heisteria sp. (40747)	kino chua	
Silantro	Eryngium foetidum (40038)	Tiu pin tapé	Columnea rubribracteata (48420)
Silla killan	Solanum lepidotum (40536)	Tiu pin tiu	Capsicum frutescens (40566)
remedio tapé		Tiu tiu kuru tapé	Bromeliaceae (40729)
Sino tapé	Cyathula achyranthoides (40018)	To ará	Diplazium striatum (40168); (40238)
Sji pistcha ka bo kaka	Rheedia edulis (48363)	To kimide	Cestrum racemosum (40081)
Sjia papa	Fungi (41034)	To pinku	Piper hispidum (40222)
So é	Clidemia discolor (40307)	To pirin	Geonoma cuneata (40207)
Soko bo chui tapé	Gasteranthus oncogastus (40734); (48126)	To ua ará	Hemidictyum marginatum (40128)
Soko oa! ko tapé	Piper sp. (48113)	Tokillade agua	Asplundia sp. (40188)
Sopo	Carica sp. (40088); (40195)	Tokiya de vehago	Evodianthus funifer (40050)
Sopo oa! ko tapé	Piper tyianae (41020)	Tolonbo ha	Calathea metallica (40204)
Spa lau gilla	Scaphyglottis graminifolia (48318)	Toma bé	Aciotis sp. (48316); Pilocosta oerstedii (48387); Trichomanes sp. (48408)
remedio tapé		remedio tapé	
Stira pi killan	Drymaria cordata (40179)	Toma bé tapé	Thelypteris francoana (48294)
Su pu uacu tapé	Piper sp. (40752); (40793)	Tonga tapé	Brugmansia versicolor (40581)
Suambè chua	Mikania sp. (41036)	Topin remedio	Scoparia dulcis (40567)
Supla chi	Protium sp. (41006)	Tsabo tapé	Cuphea strigulosa (40031)
Supo hopi uallu	Acalypha villosa (40838)	Tsantsalo	Cayaponia glandulosa (40100)
Supo hopi uallu tapé	Acalypha sp. (48360)	Tselen shiliayan	Philodendron sp. (40115)
Supu pi shungui tapé	Columnea eburnea (40870)	Tsoda	Grias peruviana (40220)
Ta cantsa	Asteraceae (40152)	Tsu pum puka tapé	Annona sp. (40868)
Ta pi chi kino chua	Family indet. (40894)	Tu mai n chi	Cephaelis gentryi (48108)
Ta de llullu	Mirabilis jalapa (40909)	Tumu pin tapé	Drymonia warszewicziana (48419)
Tan tchapé finchuno	Gustavia sp. (48141)		
Tapé finchuno	Rytidostylis quadrifida (40607)	Tun ba n chi	Passiflora macrophylla (40865)
Tcho maceranu tapé	Prestonia portobellensis (41052)	Tun	Capsicum frutescens (40201)
Te tera	Ischnosiphon leucophaeus (40780)	Ua anpo ha	Piper sp. (40109); P. imperiale (40199); P. obliquum (40210)
Tè chinga tapé	Eryngium foetidum (48359)	Ua anpo	Piper angustum (40090)
Tè pui pu pin ha	Family indet. (40848)	Ua anpo shibi	Piper multiplinervium (40059)
Tè sa tapé	Senna dariensis (40751)	Ua ará	Diplazium striatum (40051); Saccoloma elegans (40225)
Tèbaho killan	Thevetia peruviana (40545)		
chi tapé		Ua bonban	Oryctanthus occidentalis (40058)
Tèbajo killan chi	Luffa aegyptiaca (40597)	Ua curan tapé	Blechnum brownei (40183)
remedio tapé		Ua ga la pu chi	Grias peruviana (40832)
Tèbajo killan chi tapé	Chenopodium ambrosioides (40575)	Ua ha!ki tapé	Pilea sp. (40217)
Temba ho killan	Gomphrena globosa (40561); Lamiaceae (40854)	Ua ishan tapé	Elaphoglossum sp. (40133); Thelypteris sp. (40132)
chi remedio			
Temba ho killan chi	Lamiaceae (40861)	Ua kere naya	Hamelia axillaris (40054)
remedio tapé			

Ua ko tapé	<i>Piper filistylum</i> (40746); <i>Trianaeopiper</i> sp. (41068)	Ya peno maiten sumo tapé	<i>Dendropanax arboreus</i> (40899)
Ua mana shuba	<i>Peperomia</i> sp. (40079)	Yu ban go cho	<i>Manihot esculenta</i> (48330)
Ua pichiano	<i>Heliconia aemygdiana</i> (40120)	Yu pei n chi	<i>Dichorisandra hexandra</i> (48407)
Ua pini ha	<i>Alloplectus dodsonii</i> (40053)	remedio tapé	
Ua pini tapé	<i>Drymonia rhodoloma</i> (40108)	Yucca blanco	<i>Manihot esculenta</i> (48329)
Ua shinpi	<i>Pleopeltis percussum</i> (40219)	Yucca rojo	<i>Manihot esculenta</i> (48330)
Ua tovali	<i>Drymonia turrialvae</i> (40224)	Yuka baré himu tchapé	<i>Rytidostylis carthaginense</i> (48428)
Ua tsero tapé	<i>Trianaeopiper garciae</i> (40227)	Zapata chi	<i>Solanum nudum</i> (48271); (48304)
Ua tsetsero	<i>Synechanthus warscewiczianus</i> (40205)	Zapata	<i>Solanum nudum</i> (41078)
Ua unna pini ará	<i>Lomariopsis nigropaleata</i> (40229)		
Ua chambi tapé	<i>Witheringia</i> sp. (48349)		
Ua chambi	<i>Witheringia solanacea</i> (41053)	Colorado	
Uai toto tapé	<i>Trichomanes membranaceum</i> (48345)	A chide	<i>Bertiera guianensis</i> (49091)
Uaita	Asteraceae (40024)	Achiote	<i>Bixa orellana</i> (40704)
Ualañ tapé	<i>Calathea</i> sp. (41061)	Aguate	<i>Persea americana</i> (49118)
Uali ha	<i>Anthurium oveophilum</i> (40129); <i>Philodendron tenue</i> (40226)	Alán	<i>Persea americana</i> (49118)
Ualina	<i>Ardisia</i> sp. (40192)	Alanko	<i>Persea americana</i> (40715)
Uam bio tapé	<i>Scleria pterota</i> (40802)	Albaka	<i>Ocimum campechianum</i> (40616)
Uanmo es tapé	<i>Panicum</i> sp. (48328)	Alena sili	<i>Aristolochia pichingensis</i> (40718)
Uasé chi	Euphorbiaceae (41038)	Ano tapé	Asteraceae (40662)
Uenbanna	<i>Trichilia pallida</i> (40006)	Anotada	<i>Sclerothrix fasciculata</i> (40654)
Uero kinto	<i>Passiflora auriculata</i> (40105); (40218)	Apilon	<i>Herrania balaensis</i> (40666)
Ugachi tapé	<i>Lantana</i> sp. (40548)	Apira tapé	<i>Crotalaria nitens</i> (40727)
Ugala tapé	<i>Dracaena fragrans</i> (40541)	Ará	<i>Saccoloma elegans</i> (49040)
Ui pistchia boka	<i>Raritebe palicouroides</i> (48066)	Asusu sili	<i>Prestonia rotundifolia</i> (40674)
Uinca	<i>Psychotria macrophylla</i> (40072); (40114)	Atolon	<i>Erythrina edulis</i> (40646)
Ukera chuno tapé	<i>Sauvagesia erecta</i> (40589))	Auedo tapé	<i>Gasteranthus crispus</i> (40701)
Ukera tapé	<i>Polygala mollaginifolia</i> (40588))	Ayahuasca	<i>Banisteriopsis caapi</i> (40722)
Un ga lala hé tapé	<i>Clidemia purpurea</i> (40896))	Baku	<i>Crescentia cujete</i> (40728)
Unga lala upi uallu tapé	<i>Acalypha diversifolia</i> (40875))	Barbasco de hoja	<i>Clibadium</i> sp. (49095)
Uni ha chi	<i>Tococa spadiciflora</i> (40874))	Baren apisu	<i>Amaryllidaceae</i> (40623)
Unilo piyo	<i>Allophylus</i> sp. (40181))	Betende gigantapé	<i>Senna reticulata</i> (40625)
Ustin tapé	<i>Trichomanes elegans</i> (40882))	Betia olorosa	<i>Aristolochia pichingensis</i> (40718)
Uvica	<i>Solanum candidum</i> (40165))	Bítu baca	<i>Hedychium coronarium</i> (49121)
Vehika	<i>Carpotroche platyptera</i> (40060))	Bobo	<i>Clarisia racemosa</i> (40713); (49109)
Veloha	<i>Anthurium ortegeanum</i> (40202))	Bonban	<i>Loranthaceae</i> (40634)
Veneno tapé	<i>Biophytum dendroides</i> (40577))	Buru sino	<i>Gasteranthus corallinus</i> (40665)
Viki chua ama	<i>Philodendron subhastatum</i> (48179)	Cacao ará	<i>Asplenium serratum</i> (40717)
Viki mo tapé	<i>Anthurium lancea</i> (41048)	Cacao de monte	<i>Herrania balaensis</i> (40666)
Viki mo tchapé	<i>Anthurium</i> sp. (40850)	Cacao	<i>Theobroma cacao</i> (40618)
Viki mo tchapé	<i>Diplazium mocenianum</i> (48049)	Café	<i>Coffea arabica</i> (40645)
Ya ha! chi	<i>Cyclanthus bipartitus</i> (40837); <i>Geonoma cuneata</i> (40753); (60099); (60118)	Campano	<i>Brugmansia versicolor</i> (40624)
Ya hino mayteno tapé	<i>Danaea</i> sp. (48437)	Chí	<i>Lonchitis hirsuta</i> (49036)
		Chide ará	<i>Pleopeltis percussum</i> (40629)
		Chide lapa	<i>Dicranoglossum polypodioides</i> (40649)
		Chíde bun	<i>Sapium peruvianum</i> (49098)
		Chimpalo	<i>Solanum canense</i> (40724)
		Chonta	<i>Bactris</i> sp. (49123)
		Chonta dura	<i>Bactris</i> sp. (49122)
		Copál	<i>Protium colombianum</i> (49097)

Cura paja	<i>Tectaria nicotianifolia</i> (40686)	Limón	<i>Citrus</i> sp. (40720)
Cirueta	<i>Spondias mombin</i> (49100)	Limónsillo	<i>Piper</i> sp. (40683)
Déla	<i>Canna</i> sp. (49051)	Loba tapé	<i>Acalypha</i> sp. (40725); <i>Piper</i> sp. (40711)
Denkí tápe	<i>Alloplectus sprucei</i> (49052)	Loki	<i>Brugmansia versicolor</i> (40624)
Descansel de monte	<i>Alternanthera mexicana</i> (40653)	Lonco	<i>Carapa megistocarpa</i> (40703)
Dorál aján	<i>Napeanthus robustus</i> (49108)	Lu dico	<i>Cordyline terminalis</i> (40640)
Epe tapé	Asteraceae (40647); <i>Dahlia</i> sp. (40642); Fabaceae (40620); <i>Hydrangea</i> sp. (40641)	Lu koko lan	<i>Costus</i> sp. (40678)
Gram de palo	<i>Dicranoglossum polypodioides</i> (40649)	Luban tapé	<i>Amaranthus quitensis</i> (40627); <i>Hibiscus radiatus</i> (40637)
Ha'ki tapé	<i>Lindernia crustacea</i> (40636)	Luisa	<i>Cymbopogon citratus</i> (49114)
Hake tapé	<i>Acalypha</i> sp. (40648)	Luli chide	<i>Nothopanax fruticosus</i> (40612)
Helen descansel	<i>Alternanthera mexicana</i> (40653)	Luli tapé	Asteraceae (40702)
Helen llaten	<i>Encyclia fragrans</i> (40668)	Máli	Rubiaceae (49120)
Helen mudu tapé	<i>Geophila gracilis</i> (40644)	Mama juana de monte	Asteraceae (40707)
Helen paki	<i>Peperomia panamensis</i> (40638)	Mo du! tapé	<i>Diastema scabrum</i> (49092)
Helen puban kara	<i>Siparuna eggersii</i> (40643)	Modo tapé	<i>Hydrocotyle leucocephala</i> (40628)
Helen punpis tapé	Asteraceae (40707)	Morál bobo	<i>Clarisia racemosa</i> (40713)
Helen santa maria ha	<i>Piper multiplinervium</i> (40684)	Morál	<i>Maclura tinctoria</i> (49060)
Hierba luisa	<i>Cymbopogon citratus</i> (49114)	Mudruha	Myrtaceae (49094)
Hierba maldita	<i>Gasteranthus crispus</i> (40701)	Muhu	<i>Bixa orellana</i> (40704)
Hoja de sapo	<i>Begonia glabra</i> (40696); <i>Trianaeopiper mexiae</i> (40667)	Na ará	<i>Lomariopsis japurensis</i> (49038); <i>Thelypteris urbanii</i> (49030)
Isan ha tapé	<i>Campyloneurum repens</i> (40672)	Na disku	<i>Renealmia oligosperma</i> (40712)
Isan tapé	<i>Alloplectus sprucei</i> (40706); <i>Nipidium crassifolium</i> (40639)	Na isun ja	<i>Codiaeum variagatum</i> (40615)
Ishan luli	<i>Bougainvillea</i> sp. (49090)	Na kerena	<i>Hamelia axillaris</i> (40626)
Kafu mura	<i>Streptochaeta sodiroana</i> (40714)	Na kimi chi de	<i>Asclepias curassavica</i> (40611)
Kaháli	<i>Clibadium</i> sp. (49095)	Na kimi de	<i>Gonzalagunia dodsonii</i> (40661)
Kai no aeria	<i>Costus</i> sp. (40678)	Na koko lan	<i>Costus pulverulentus</i> (40700)
Kaku sili	<i>Drymonia rhodoloma</i> (40716)	Na kolotu empoya	<i>Piper</i> sp. (40699)
Kantsa mula tapé	<i>Hyptis capitata</i> (40635)	Na kototo ha	<i>Trianaeopiper mexiae</i> (40667)
Karan tapé	<i>Desmodium uncinatum</i> (40614)	Na licade	<i>Picramnia cooperis</i> (40659)
Katsa moca	<i>Urceolina grandiflora</i> (49119)	Na mira	<i>Monstera adansonii</i> (49054)
Kere dora	<i>Peperomia panamensis</i> (40638)	Na pen po	<i>Lantana</i> sp. (40622)
Kika kala sili	<i>Bomarea edulis</i> (40651)	Na sili ará	<i>Trichomanes collariatum</i> (40695)
Kinfo aran sili	<i>Gurania macrophylla</i> (40692); <i>Solanum dolichorhachis</i> (40691)	Na sili inpo	<i>Piper</i> sp. (49099)
Kolín ará chilí	<i>Campyloneurum repens</i> (49037)	Na sili kototo ha	<i>Piper hispidum</i> (40681)
Kono tápe	<i>Diastema affine</i> (49111)	Na simpi	Musci (40680)
Korál ahén	<i>Asplenium serratum</i> (49032)	Na tarali allar	<i>Napeanthus robustus</i> (40671)
Kostóto tapé	<i>Piper</i> sp. (49043)	Ná pini	<i>Dicranoglossum polypodioides</i> (49029)
Kototo tapé	<i>Aphelandra</i> sp. (40710)	Naranja	<i>Citrus</i> sp. (40721)
Krana chia de monte	<i>Passiflora foetida</i> (40660)	Naranjilla de monte	<i>Solanum candidum</i> (40656)
Kuchi	<i>Cordia spinescens</i> (40663)	Nepé	<i>Banisteriopsis caapi</i> (40722)
Kuku pi piyan ha	Rubiaceae (40685)	Ortiga	<i>Urera baccifera</i> (40669)
Kuru bi bien	<i>Psychotria williamsii</i> (49044)	Pajarito	Loranthaceae (40634)
Lansa	<i>Citrus</i> sp. (40721)	Pe cotamoja	<i>Begonia glabra</i> (40696)
Lati	<i>Pourouma guianensis</i> (40677)	Pi avé	<i>Bactris</i> sp. (49122)
Lengua de culebra	<i>Campyloneurum angustifolium</i> (49039); <i>Dicranoglossum polypodioides</i> (49029)	Pini ha	<i>Drymonia coriacea</i> (40673)
		Pini kola	<i>Costus</i> sp. (49113)
		Pini kolosica	<i>Clavija eggersiana</i> (40708)
		Pini lulí	<i>Gurania megistantha</i> (49050)
		Pini sili	<i>Columnnea angustata</i> (40709)

Pini tapé	Kohleria sp. (40723); Oxalis microcarpa (40726); Columnnea angustata (49106)	Uva de monte Uvica Voche kinto Ye sili	Pourouma guianensis (40677) Solanum candidum (40656) Passiflora foetida (40660) Mendoncia brenesii (40705)
Piniñ tápa	Campyloneurum angustifolium (49039)		
Piñion	Jatropha curcas (40633)		
Posude	Cestrum sp. (40688)	Coaiquer	
Puban kura	Siparuna sp. (40693)	Achiote	Bixa orellana (48897)
Punta lansá	Columnnea eburnea (49057); C. rubriacuta (40675)	Achutillo	Allophylus excelsus (41504)
Ranto tapé	Begonia sp. (49059)	Acoronsillo	Dussia sp. (41656)
Sa hé	Maclura tinctoria (49060)	Aji	Capsicum frutescens (48988); Solanum sp. (41648)
San fania	Renalmia oligosperma (40712)	Ajo	Amaryllidaceae (41604); Amaryllidaceae (48712)
San juanilla roja	Cordyline terminalis (40640)	Al galga	Cranichis sp. (48927)
Sandé	Brosimum utile (49119)	Almurillo	Nephrolepis pectinata (48846)
Shili ará	Microgramma piloselloides (40617); Trichomanes collariatum (49028)	Ambouré	Marila laxiflora (41615)
Shili ayan	Vitaceae (40631)	Anime	Protium amplum (41659)
Shili empo ha	Piper sp. (40670)	Anisillo	Piper sp. (41421)
Shili impo	Piper sp. (49058)	Aray	Meliaceae (41667)
Shili kototo anpo ha	Piper sp. (40679)	Arco	Danaea sp. (48883)
Shilí ha háli	Lonchocarpus sp. (49107)	Ava de monte	Psammisia caloneura (48920)
Shilina ará ha	Asplenium pteropus (40697)	Baja	Diastema affine (48990)
Shirá pí ki hèn tapé	Drymaria cordata (49096)	Balbacha	Hymenophyllaceae (48838); Hymenophyllum microcarpum (48956) Lycopodium sp. (48834)
Sino tapé	Heliotropium rufipilum (40613)	Balbasallo	Joosia sp. (48969)
Sun pide	Cuatresia riparia (40655); (40687)	Balbasco	Pseudelephantopus puratis (48713)
Tancare	Carapa megistocarpa (40703)	Bandai	Cordia spinescens (41498)
Tepun	Ocimum campechianum (40616)	Bara blanco	Ocotea ira (41671)
Tia kutu pè	Selaginella sp. (49042)	Barbascillo	Pseudelephantopus sp. (41609)
Tia kutu tapé	Selaginella sp. (49033)	Behay	Dioclea sp. (41646)
Tichí vilá	Naucleopsis sp. (49112)	Bialbena	Acanthaceae (41459); Lycopodiella trianae (41499)
Tini	Urera baccifera (40669)	Bicundo con duende	Guzmania testudinis (48856)
Tiolon	Erythrina smithiana (40632)	Bolco	Peperomia sp. (48906)
To ará	Diplazium striatastrum (49041)	Bora negra	Desmoncus cirrhifera (41455)
To kíndo	Peperomia pernambucensis (49053)	Botonsillo	Spilanthes sp. (41485)
Tona ará ha	Adiantum trichochlaenum (40689)	Caballo de monte	Cassia sp. (41465)
Tsula sili	Anthurium sp. (40652)	Caimitillon	Pouteria collina (41673)
Túga	Brosimum utile (49110)	Camate	Clusia dixonii (48833)
Túm vaca	Zingiber officinale (49116)	Caña agrio	Costus sp. (41457); C. sp. (48860); C. sp. (48917); C. laevis (48907)
Ua anpo ha	Piper sp. (49056)	Candelelio	Columnnea minor (41428)
Ua ará	Asplenium purpurascens (49035)	Cangaré	Dialyanthera gordoniiifolia (41664)
Ua demo	Dichorisandra angustifolia (40698)	Carillo	Malaxis sp. (48709); Miconia goniostigma (48854)
Ua dishú	Renalmia alpinia (49093)	Caruavale	Selaginella sp. (48831)
Ua ha!ki tapé	Pilea sp. (40682)	Caucho	Castilla elastica (48994)
Ua ka aví	Bactris sp. (49123)	Chachajo	Lauraceae (41675)
Ua kototo tápe	Piper trianae (49055)		
Ua luli	Allamanda cathartica (40719)		
Ua puban kura	Solanum confertiseriatum (40630)		
Ua tarali allan	Anthurium napaeum (40676)		
Uatude	Cleidion castaneifolium (40658)		

Chaguaré	<i>Cremosperma hirsutissimum</i> (41611); <i>Cuphea tetrapetala</i> (48699); Scrophulariaceae (41430); Scrophulariaceae (41424)	Escudera	<i>Stenospermatum densiovulatum</i> (48859)
Chalde	<i>Ruagea</i> sp. (41672)	Estacudo	<i>Solanum mammosum</i> (41452)
Chalmolan	<i>Cestrum baenitzii</i> (41650)	Flor de duende	<i>Psammisia ferruginea</i> (48792)
Cham	<i>Pentagonia grandiflora</i> (41599)	Flora amarilla	<i>Erato polymnioides</i> (41505)
Chaua	<i>Justicia comata</i> (48715)	Forda	<i>Bauhinia</i> sp. (41674)
Chicharo	Melastomataceae (41666)	Gia	<i>Oleandra</i> sp. (48843)
Chilangua	<i>Elaphoglossum</i> sp. (48842)	Goaralla	<i>Stenospermatum angustifolium</i> (48872)
Chilungua	<i>Eryngium foetidum</i> (48926)	Grenadilla	<i>Passiflora</i> sp. (48857)
Chimboré	<i>Cephaelis coyetensis</i> (48931)	Gualbadea	<i>Disterigma</i> sp. (48966); <i>Psammisia debilis</i> (48968)
Chiparo	<i>Swartzia</i> sp. (41607)	Guandè	<i>Clusia</i> sp. (48781); <i>C.</i> sp. (48932)
Chira rau	<i>Ocimum campechianum</i> (48982)	Guaral	Araceae (48711)
Chiraran	<i>Erechtites valerianifolia</i> (48866)	Guaripo	Lauraceae (41661)
Chirma	Dioscoreaceae (48826)	Guasca negra	<i>Guatteria</i> sp. (41655)
Chorillo	<i>Cremosperma congruens</i> (41591)	Guaya busai	<i>Tabernaemontana macrocalyx</i> (48933)
Chu kin llullu	<i>Psammisia ulbrichiana</i> (41487)	Guayusa	<i>Hedyosmum</i> sp. (48769); <i>H. scoterimum</i> (41474)
Chuil	<i>Capsicum frutescens</i> (48988)	Guèché grande	<i>Alloplectus panamensis</i> (48870)
Chulku	<i>Peperomia</i> sp. (41645)	Guèché	<i>Peperomia serpens</i> (48825); <i>Piper</i> sp. (48697); <i>P.</i> sp. (48703); <i>P.</i> sp. (48824); <i>P.</i> sp. (48853); <i>P.</i> sp. (48858); <i>P.</i> sp. (48861); <i>P.</i> sp. (48873)
Chundul	<i>Cyperus odoratus</i> (41624)	Guetch	<i>Columnnea rubriacuta</i> (41622); <i>Piper dryadum</i> (41612)
Churillo	<i>Trichomanes</i> sp. (48894)	Guildè	<i>Triolena spicata</i> (48905)
Churimonu	<i>Rollinia mucosa</i> (48989)	Guin ganul	<i>Solanum triplinervium</i> (48914)
Churimoya	<i>Rollinia mucosa</i> (48989)	Guinul	<i>Thelypteris gigantea</i> (48885)
Coca	Erythroxyllaceae (41584)	Guish	<i>Costus</i> sp. (48917); <i>Psammisia caloneura</i> (48920)
Coldillo	<i>Cremosperma reldioides</i> (48980)	Guish ko	<i>Calathea micans</i> (48959)
Concedillo	<i>Columnnea lehmannii</i> (48983)	Gulpe piguil	Dennstaedtiaceae (48840)
Contra	<i>Alloplectus tetragonoides</i> (48813); <i>Cremosperma nobile</i> (48976); <i>Drymonia serrulata</i> (48773); <i>D. turrialvae</i> (41638); <i>Paradrymonia</i> sp. (41635)	Guyú	Dennstaedtia sp. (48884)
Corillo	<i>Desmodium adscendens</i> (41578)	Ha teu	<i>Pitcairnia spectabilis</i> (48972)
Corosillo	<i>Billia colombiana</i> (41663)	Havilla	<i>Dioclea</i> sp. (41646)
Crista de gallo	<i>Anthurium andreanum</i> (41489)	Hierba buena	<i>Diplarpea paleacea</i> (48723)
Cuerda	<i>Pitcairnia</i> sp. (41496)	Hierba de monte	<i>Solanum medusocalyx</i> (41628)
Dain	<i>Pseuderanthemum micranthum</i> (48935)	Hierba laisa	<i>Aphelandra flammea</i> (48898)
Descansel	<i>Justicia</i> sp. (41483)	Hierba monte	<i>Sabicea villosa</i> (41506)
Deu	<i>Palicourea</i> sp. (48727)	Hoja de mal viento	<i>Sanchezia</i> sp. (41464)
Deu(f)l	<i>Hymenophyllum microcarpum</i> (48956)	Hoja de vulle	<i>Gurania</i> sp. (48981)
Deuendi	<i>Satyria grandifolia</i> (48806)	Hoja verde	<i>Cavendishia complectens</i> (41502)
Dia ku(h)	<i>Calathea timothei</i> (48960)	Imbien	<i>Alloplectus teuscheri</i> (48961)
Djet	<i>Diplazium lechleri</i> (48948)	Inya	<i>Physalis</i> sp. (41460)
Du	<i>Besleria barbata</i> (48734)	Isha	<i>Drymonia warszewicziana</i> (48991)
Duènde	<i>Cavendishia grandifolia</i> (48965)	Japate de monte	<i>Cestrum</i> sp. (48900)
Duènde ku(h)	<i>Cavendishia grandifolia</i> (48965)	Kachu	<i>Cyclanthus bipartitus</i> (48850)
Dundu	<i>Lasiacis sorghoidea</i> (41469)	Kamna pij	<i>Columnnea</i> sp. (48739); <i>C. rubriacuta</i> (48738)
Escadera	<i>Anthurium</i> sp. (48811); <i>A. caulorrhizum</i> (48878); <i>Philodendron</i> sp. (48827)	Kog(h)	<i>Sphryospermum dissimile</i> (48922)
Escobilla	<i>Ludwigia affinis</i> (48864)		

Koltadera	Rhynchospora sp. (48973)	Ovo	Spondias sp. (48801)
Kramna kun	Piper sp. (48724)	Oyap saya	Bonafousia longitubulosa (41632)
Ku (h)	Danaea sp. (48941); Blechnum sp. (48942); Thelypteris sp. (48952)	Pagamde	Anthurium sp. (48717); Araceae (48993)
Lagalto	Gurania sp. (48868)	Pailde	Lacistema aggregata (48796)
Lecha	Blechnum sp. (48940)	Paja	Ischnosiphon leucophaeus (48902)
Lecho	Asplenium hallii (48744); Cyathea bipinnata (48943); Dennstaedtia sp. (48889); Lindsaea quadrangularis (48953)	Palo chiso	Swartzia sp. (41669)
Lengua tigre	Coleus sp. (48875)	Pandè	Clusiaceae (48835)
Limón	Siparuna sp. (48903)	Papayuéla	Dracontium sp. (41597)
Llullu	Dryopteris sp. (48887)	Parma	Trichomanes sp. (41630)
Lombrice	Monolena primulaeflora (48974)	Pasino	Ericaceae (41470)
Madroño	Rheedia edulis (41575)	Paugoi	Peperomia omnica (48986)
Mahana	Poulsenia armata (48985)	Pèd pè	Scoparia sp. (41431)
Maipé	Columnea fimbriicalyx (48971); C. minutiflora (48970); Cremosperma congruens (48979); Piper sp. (41600); Scrophulariaceae (48863); Triolena obliqua (48714)	Pi	Columnea fimbriicalyx (48923)
Mal viento	Hyptis verticillata (48852)	Piast	Pouteria torta (41629)
Malde	Indet. to family (41670)	Piau	Nautilocalyx sp. (48936)
Mama juana	Clibadium sp. (48698)	Piganoré	Aiphanes macroloba (48916)
Mañana	Peperomia sp. (48869)	Pij	Columnea picta (48730); C. rubricalyx (48741); Gloxinia dodsonii (48729)
Mancha ropa	Clusia sp. (41662); Vismia obtusa (41494)	Pilmo	Blakea punctulata (41613)
Mancha sopa	Vismia sp. (48832)	Pilpé	Lindernia sp. (48722)
Manga mora	Aegiphila sp. (48779)	Piñu de monk	Guzmania xamoena (48967)
Masamora	Aegiphila sp. (41511)	Pirama	Pseudelephantopus puratis (48713)
Mata palo	Coussapoa contorta (41626)	Pita	Pitcairnia spectabilis (48972); Rennerbergia morreniana (48958); Sphaeradenia killipii (48910)
Maypé	Dicliptera sp. (48770)	Pite de monte	Pepinia hooveri (48975)
Mentha	Peperomia sp. (41647); P. sp. (48919)	Platanera	Dichorisandra sp. (41484); Oryctanthus occidentalis (41510)
Mo	Rhynchospora sp. (48973)	Platano	Coleus x hybridus (41476)
Mokillo	Arachnothryx inconstans (48768); Saurauia brachybotrys (41621)	Poleo	Peperomia sp. (48719); P. sp. (48821)
Montana cu(h)	Gleicheniaceae (48950)	Pulgande	Dacryodes granatensis (41676)
Monte cush	Trichomanes rigidum (48955)	Puntero	Chamaedorea pinnatifrons (48908)
Monte de cu(h)	Araceae (48993)	Rascadera	Anthurium sp. (41458); Philodendron sp. (48710)
Monte de uish	Elleanthus robustus (48984)	Rojo	Columnea gigantifolia (41587)
Monte hierba	Miconia goniostigma (41500)	Romerillo	Hamelia sp. (41608)
Morcillo	Flacourtiaceae (48780)	San juanita	Hedychium coronarium (41639); (48788); Renealmia cuatrecasii (41588); R. dolichocalyx (48924)
Morcillo silvestre	Flacourtiaceae (48702)	San pedro	Coix lacryma-jobi (48716); C. sp. (41480)
Motilon	Hieronima chocoensis (41657)	Sangriado	Family indet. (41665)
Naranjilla	Solanum quitoense (41586)	Santa maria	Piperaceae (41658); (41590)
Oabo	Paulinia sp. (41435)	Saragosa	Columnea nariniana (48815)
Oago	Family indet. (41603)	Scoba de monte	Burmeistera sp. (41463)
Oaral	Monstera lechleriana (41633)	Taco taco	Hyptis obtusiflora (48720)
Ortiga	Urera caracasana (41508)	Tau tau	Columnea minutiflora (48937)
Ouish	Tococa symphyandra (48725)		
Ousma	Myrcia sp. (41614)		
Ovilla	Cuatresia sp. (48801)		

Tè	Piperaceae (48726); Urticaceae (48929)	Ualbura	Campyloneurum sp. (48844)
Tedpu	Eschweilera sp. (48995)	Uamuga	Brugmansia versicolor (41618)
Telba	Achyranthes aspera (41649); (48877); Alternanthera porrigens (41620)	Uandè	Clusiaceae (48799); Clusia dixonii (48790); Tovomita sp. (41453)
Téo pul uish	Disterigma sp. (48966); Psammisia debilis (48968)	Uanto	Brugmansia versicolor (41618); Dichorisandra sp. (48706)
Tepalo	Columnnea longinervosa (41507)	Uilde	Columnnea laevis (48794)
Tète	Eschweilera sp. (41668); E. sp. (48995)	Uindè	Cephaelis gentryi (41493)
Tigre	Drymonia warszewicziana (48991)	Uish flor	Joosia sp. (48969)
Tinta	Phyllanthus anisolobus (48880)	Uish pipa	Columnnea sp. (48733); C. byrsina (48731); Drymonia warszewicziana (48728)
Tobacco	Cavendishia engleriana (48925)	Umbial	Columnnea lehmannii (48983)
Trensa	Calathea timothei (48960)	Uugu	Blotiella lindeniana (48847)
Trinerol	Menispermaceae (48774)	Uugu pigail	Polybotrya lechleriana (48848)
Tundu	Pollalesta sp. (41492)	Veneno	Naucleopsis amara (48912)
Tunta	Monnina sp. (48816)	Verbena	Pseuderanthemum micranthum (48935)
Uago	Mikania sp. (41501)	Verda	Olfersia cervina (48939)
Ualbil	Creosperma hirsutissimum (41581); Piper sp. (41637); P. sp. (48836); P. multiplinervium (41471)	Yalte	Flacourtiaceae (41509); Solanum sp. (48829)
Ualbina	Peperomia sp. (41625); Piper sp. (48909)	Yuyo	Cucurbitaceae (41579)
		Zapata	Solanum confertiseriatum (41601); (48695)
		Zapote	Matisia soegenii (41660)

Title. – Titles should be kept as short as possible and with an emphasis on words useful for indexing and information retrieval.

Abstract, Summary. – An abstract in English is compulsory. It should number 10-15 lines, outline main features, stress novel information and conclusions, and end with the author's name, title, and institutional and/or private postal address. – Papers in Danish may be provided with a summary in another language by agreement between author and Editor.

Typescript. – Page 1 should contain title, author's name and the name of the Academy. Page 2: Abstract, author's name and address. Page 3: Table of contents if necessary. Captions should be supplied on separate sheets. Footnotes should be avoided if at all possible; if indispensable, they, too, should be typed on separate sheets. Consult a *recent* issue of the series for general layout.

Typewrite with double space throughout and leave a 4 cm margin *right*. Indicate desired position of illustrations and tables with pencil in margin *and repeat it in the galley proof*.

Use three or fewer grades of heading unless more are indispensable. Avoid long headings. Indicate clearly the hierarchy of headings.

Figures. – Please submit two copies of each graph, map, photograph, etc., all marked with the author's name. Whenever possible all figures will be placed within the text; the nature of the illustrations will govern the Editor's choice of paper quality.

All figures, also line drawings, must be submitted as glossy, photographic prints suitable for direct reproduction. Prints fitting the indicated printed area are preferred, but the final size is the responsibility of the Editor. The scale should be indicated in the caption or, preferably, on the illustration itself.

Fold-out figures and tables should be avoided. Use distinct (but not dominant) capital letters for the items in composite figures. For transfer lettering use simple, semi-bold typefaces. The size of the smallest letters should not be less than 1.5 mm. Intricate tables are often more easily reproduced from line-drawings or from technically perfect original computer or type processor output.

References. – In general, the Editor expects all references to be formally consistent and in accordance with accepted practice within the particular field of research. Bibliographical references should preferably be given as, e.g., Shergold 1975, 16, the latter figure indicating the page number unless misunderstandable.

Correspondence

Manuscripts should be sent to the Editor, Det Kongelige Danske Videnskabernes Selskab, H. C. Andersens Boulevard 35, DK-1553 Copenhagen V, Denmark (tlf. +45 33 11 32 40). Questions concerning subscription to the series should be directed to the publishers.

Publisher

Munksgaard Export and Subscription Service
Nørre Søgade 35, DK-1370 Copenhagen K, Denmark

Editor: Poul Lindegård Hjorth

© (Year). Det Kongelige Danske Videnskabernes Selskab. All rights reserved. No part of this publication may be reproduced in any form without the written permission of the copyright owner.

Biologiske Skrifter

Biol. Skr. Dan. Vid. Selsk.

Priser excl. moms/Prices abroad in Danish Crowns

Vol.

- 25 Six Papers in the Biological Sciences, being Part Two of *Sixteen Research Reports* by the Niels Bohr Fellows of the Royal Danish Academy of Sciences and Letters, published on the Occasion of the Centenary of Niels Bohr. 1985 200.-
(*Sixteen Research Reports* Part One is identical with: Ten Papers in the Exact Sciences and Geology, *Matematisk-fysiske Meddelelser* 41. 1985, 400.-)
- 26 JENSEN, HANS ARNE: Seeds and other Diaspores in Soil Samples from Danish Town and Monastery Excavations, dated 700-1536 AD. 1986 200.-
- 27 NILSSON, JYTTE R.: The African Heterotrich Ciliate, *Stentor andreseni* sp.nov., and *S. amethystinus* Ledy. A Comparative Ultrastructural Study. 1986 100.-
- 28 WUNDERLIN, RICHARD; LARSEN, KAI; and LARSEN, SUPEE SAKSUWAN: Reorganization of the *Cercideae* (*Fabaceae: Caesalpinioideae*). 1987 80.-
- 29 JENSEN, HANS ARNE: Macrofossils and their Contribution to the History of the Spermatophyte Flora in Southern Scandinavia from 13000 BP to 1536 AD. 1987 200.-
- 30 DYCK, JAN: Structure and Light Reflection of Green Feathers of Fruit Doves (*Ptilinopus spp.*) and an Imperial Pigeon (*Ducula concinna*). 1987 100.-
- 31 FRIIS, ELSE MARIE; CRANE, PETER R.; PEDERSEN, KAJ RAUNSGAARD: Reproductive Structures of Cretaceous Platanaceae. 1988 100.-
- 32 WINGSTRAND, K. G.: Comparative Spermatology of the Crustacea Entomostraca 2. Subclass Ostracoda. 1988 250.-
- 33 MIKKELSEN, VALD. M.: The Commons of Rejnstrup, Denmark. 1989 50.-
- 34 ØLLGAARD, BENJAMIN: Index of the *Lycopodiaceae*. 1989 150.-
- 35 SRINIVASAN, VIJAYALAKSHMI; FRIIS, ELSE MARIE: Taxodiaceous conifers from the Upper Cretaceous of Sweden. 1989 100.-
- 36 FRIIS, ELSE MARIE: *Silvianthemum suecicum* gen. et sp. nov., a new saxifragalean flower from the Late Cretaceous of Sweden. 1990 70.-
- 37 MOESTRUP, ØJVIND; THOMSEN, HELGE A.: *Dictyocha speculum* (Silicoflagellata, Dictyochophyceae), studies on armoured and unarmoured stages. 1990 100.-
- 38 MIKKELSEN, VALD. M.: Borrelyngen on Bornholm, Denmark. 1990 100.-
- 39 JØRGENSEN, C. BARKER: Water Economy in the Life of a Terrestrial Anuran, the Toad *Bufo bufo*. 1991 70.-
- 40 HANSEN, MICHAEL: The Hydrophiloid Beetles. Phylogeny, Classification and a Revision of the Genera (Coleoptera, Hydrophiloidea). 1991 700.-
- 41 FRIIS, ELSE MARIE; PEDERSEN, KAJ RAUNSGAARD; CRANE, PETER R.: *Esgueiria* gen. nov., fossil flowers with combretaceous features from the Late Cretaceous of Portugal. 1992 90.-
- 42 HENNINGSEN, KNUD W.; BOYNTON, JOHN E.; WETTSTEIN, DITER VON: Mutants at *xantha* and *albina* Loci in Relation to Chloroplast Biogenesis in Barley (*Hordeum vulgare* L.). 1993 700.-
- 43 Brain and Mind. Symposium on the Occasion of the 250th Anniversary of The Royal Danish Academy of Sciences and Letters August 17-20, 1992. Ed. by RODNEY M. J. COTTERILL. 1994 400.-
- 44 MIKKELSEN, VALD. M.: Borrelyngen on Bornholm, Denmark. 2. 1994 100.-
- 45 COTTERILL, RODNEY M.J.: Autism, Intelligence and Consciousness. 1994 150.-
- 46 BARFOD, ANDERS S.; KVIST, LARS PETER: Comparative Ethnobotanical Studies of the Amerindian Groups in Coastal Ecuador. 1996 300.-