

# Medicinal and magical plants in the northern Peruvian Andes

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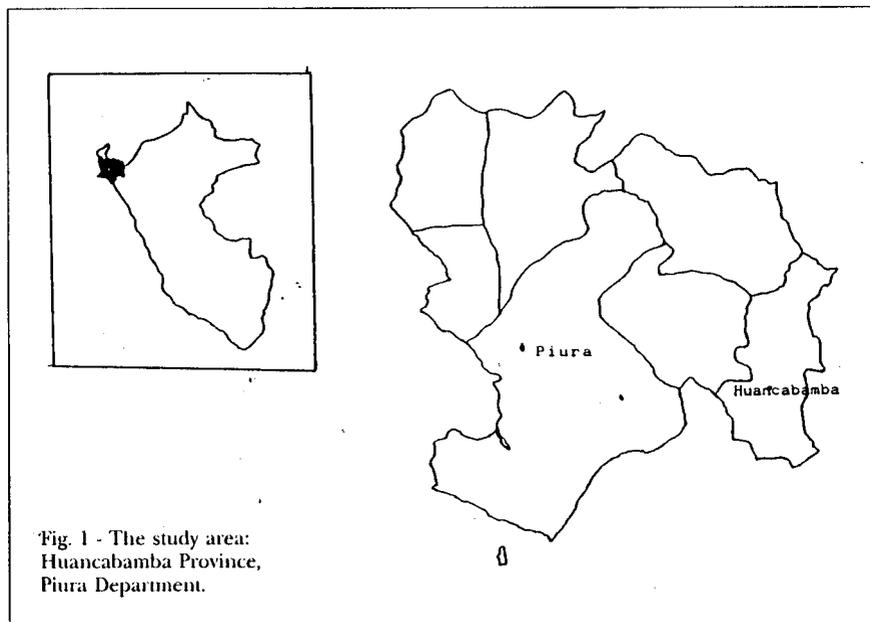
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**SUMMARY.** *The uses of medicinal and magical plants by the Shamans of northern Peru are reported. Medicinal plants are widely used in the treatment of numerous human diseases and are often the sole available remedies.*

## INTRODUCTION

Man has always sought and found remedies for his illnesses in nature, usually in the vegetable kingdom. Every people has accumulated deep knowledge of natural drugs, how to recognize, gather and prepare them.

In modern western civilization synthetic drugs prevail over those of extractive origin but in the developing countries medicinal plants and/or extract thereof are the main, often only, source of medicines. This is most evident in communities that are geographically or culturally isolated, where "official" medicine is hard to come by and often out of reach altogether, partly because of economic factors, which limit the presence of medical facilities and personnel with academic training on the territory. In these areas the treatment of diseases rests essentially, often only, on natural drugs, most of which come from



plants. Thus, the recognition and use of officinal plants is of primary importance in the cultural heritage of these peoples, often intermingled with magical and/or religious practices, which gave an aura of sacrality.

That is why there are special individuals in these communities, individuals whose task is to keep, use and hand down the practices of traditional medicine.

This figure is the Shaman, substantially the same in all cultures: a connoisseur of phytotherapy, who combines elements of botany, knowledge of herbs, toxicology with religious and ritual elements based on magic, ancestral beliefs and often superstition.

In the rural communities of the northern Peruvian Andes the "curandero" is the one who knows about curative plants and harmful ones and so is a central figure: priest and pontiff, because he can contact the world of spiritual forces, which in some cultures are regarded as the prime cause of ills, but at the same time he is a man and a therapist, who knows all about the plants needed for treatment, the psychotropic plants that he uses to reawaken his shamanist spirit, the harmful plants and the magical species.

It is this knowledge that gives him the prestige and power he has in the community. Shamanist knowledge is therefore jealously guarded and handed down from father to son, after the "curandero" has served his apprenticeship, sometimes lasting decades. This body of knowledge is very ancient and is certainly rooted in pre-Columbian cultures, enriched down to our time with contributions from intercultural and interethnic blending, including the relatively recent contributions from Spanish culture, which brought academic medicine to form a somewhat strange amalgam.

Shamanist doctrine is still very much alive and the people of the Andes consult the "curandero" often, so often that he is, in fact, "the doctor".

## EXPERIMENTAL

This survey was conducted in the hinterland of Huancabamba city in the extreme north of Peru in August-October 1988 and in September-October 1989. The area, which is situated at some 5° north latitude and 79° west longitude and rises from about 1300 m above sea-level of Huancabamba city to 4000 m of the highland lagoons, has a plant cover known as "Ceja de la montaña" typical of the internal Cordillera.

There are thus the species of the low-mountain tropical rain forest which gradually thins out towards the highlands, where, given the peculiar atmospheric and environmental conditions (fog, morainal lagoons, small swamps), the vegetation consists mainly of shrubs and small trees, interspersed with grass, after which, above the puna, comes the prairie vegetation typical of the upper Andes.<sup>1-4</sup>

Huancabamba is a very busy center for trade in medicinal plants. To its markets come the herb gatherers ("yerbateros") to sell the species they have harvested on the mountains to the local people and to wholesalers, who take them to the markets of Piura (capital of the Department) and Lima. And likewise the medicinal plants from the Amazon forest find their way to the city.

In the city work "curanderos" famous not only in the region but also throughout Peru, and sometimes people from beyond wait patiently to be treated. Every "curandero" has his own "magic garden", in which he grows the most important plants himself, and his own pharmacy, in which he keeps not only the herbs he gathers and prepares himself but also the various species that come from other regions of the country, the occasional synthetic medicine, animal drugs and magical plants.

All this makes the city of Huancabamba a unique observatory for anyone studying shamanism and Andean phytotherapy.

In this study we worked with the "curanderos", assisting at the harvesting, preparation, dosing and prescription of plant remedies and were present at the rituals during which the "maestro" establishes the diagnosis and the prescription.

Herbarium samples were taken of both cultivated and wild plants, now stored in the Herbarium of the "J. Prado" Museum of Natural History of Universidad Nacional Mayor de San Marcos, Lima, and identified with the aid of "Flora of Peru" by J.F. MacBride<sup>5</sup> and by comparison with specimens in the Herbarium and those of the Faculty of Pharmacy and Biochemistry (Herbario Raimondiano) of Universidad Nacional Mayor de San Marcos, Lima, and also of Herbario Weberbaueriano, Universidad Agraria La Molina, Lima.

The other drugs were identified, when possible, by pharmacognostic studies by comparison with authentic samples at the Faculty of Pharmacy and Biochemistry in Lima.

After a brief account of the cultural background of shamanism we shall present the list of medicinal plants, arranged in accordance with the system proposed by Ferreyra,<sup>6</sup> indicating the traditional name, the part of the plant used, the therapeutic prescription, dosage and any contraindications. We shall then list the magical plants separately.

## RESULTS

Before setting out the data on the medicinal species in use we will give a brief account of the cultural setting of Andean medicine and outline the functions of those engaged in medical practice involving the use of plants.

First there is the clear distinction between a simple gatherer of species considered to be medicinal, the "yerbatero", and the "curandero", who certainly stems from the healers of the Inca period ("camascas") and embodies several functions.<sup>7</sup>

The "curandero" is the one who gets in touch with the world of supernatural forces which point to the origin of the disease, often caused by the spirits themselves, and the plant remedy and the rites necessary to ensure recovery. The "curandero" attains shamanic ecstasy by means of hallucinogens, the chief of which in northern Peru is San Pedro (*Trichocereus peruvianus* Britt. & Rose, *T. pachanoi* Britt. & Rose). Under the effect of this cactus, a magical plant cultivated by the "Inca", who was the first and most powerful "curandero", wonder-working lord of this world and of the spirit world, the "curandero" can enter the "Jardin de l'Inca", the place of the spirit where all medicinal plants grow. While the "curandero" is in a mediumistic trance of "Inca" himself tells him which species to use to combat the disease.<sup>8</sup> The hallucinogenic effects of the cactus are sometimes potentiated by adding other herbs or alcohol.

The "curandero"'s power to bring the two worlds of visible and invisible reality into contact underlie his functions in the community, which are: a) to control the world of "encantos" both by propitiating them to gain favors and by defending the community or patients from possible misdeeds ("contagios"); b) to promote the proper relations between the world of man and that of the spiritual forces ("encantos"); c) to ward off the witchcraft of other "curanderos" who engage only in sorcery ("brujos" or "maleros") that are perpetually upsetting the safety and the normal balance of life; d) to practise traditional therapeutics; e) to practise divination, that is, the shamanic diagnosis of illness, probing the past and predicting the future, finding out when and where persons and property have been lost or have disappeared.

The work of the "curandero" culminates in the "mesada", a set of esoteric and maiuetic magical-therapeutic rites that takes place at night around an altar ("mesa") with the ritual ingestion of the San Pedro cactus. During these rites, held as a rule on the nights of Tuesday and Friday, the "curandero" sees, thanks to the magical virtues of the cactus, the cause of the disease or misfortune, makes his diagnosis, sees the remedies to be used for treating the patient.

On the "mesa" together with other very important ritual objects are some canes ("varas") and magical plants: "purgas", "tabaco moro", "cimoras" and "montañasas".

This ensemble of rituals is based naturally on a popular belief that the cause of almost all ailments lies in supernatural events. Every plant, every mountain, river or lake has a spirit that can bring about all kinds of illnesses either for reasons beyond man's control or through want of respect for it. Even the souls of the unbaptized dead ("gentiles"), envy and the black magic of the "brujos" can bring about physical and mental disease. By the same token medicinal plants have curative properties only because they possess a spirit and they exert their power by fighting the other powers ("encantos") that caused the illnesses.

Hence after the diagnosis and shamanic prescriptions, the plants may be gathered only after the appropriate rites and offerings ("pagos") have been made to the spirits inhabiting them. The "pagos" usually consist of ritual formulas, offerings of tobacco smoke ("fumas") and perfumes ("florecimientos"). It is considered a very bad thing to do, because of its harmful effects, to gather medicinal plants without a therapeutic purpose.

The complex medical practices of Andean shamanism recognize as the two most dangerous diseases, both of supernatural origin, "susto" and "aire".

"Susto" is not as a rule caused by organic events but by a severe trauma, which leads the shadow (soul) away from the body. The onset of "susto" is fairly uniform: a severe trauma (physical or mental) stops the patient from exerting normal control over consciousness; in this state of disorder the shadow ("sombra"), meaning the immaterial principle of the person that presides over the will and intelligence, departs from the body and is captured by spirits, whereupon all the symptoms of "susto" develop: insomnia, anorexia, abulia, irritability, drowsiness, loss of weight, diffuse pain, fever, aphasia, organic debility, which is sometimes severe. "Susto" (or "espanto") is certainly the gravest disease confronting traditional medicine in the Andes: unless treated by a good "curandero", it can be fatal.

"Aire" is a complex disease due to supernatural forces that is transmitted through the air. There are "enfermedades de frio y de calor" (illnesses due to cold and heat) caused by "aires frias" and "aires calientes" respectively according to a contraposition of opposite principles; hence plants, animals and foods have hot or cold properties that can be used in treatment. "Aire" induces a fairly complex symptom pattern, often similar to diseases due to chilling: rheumatism, stiffneck, muscular pain, facial tics, digestive disorders, headache, neck pains, pneumonia, eczema, ocular edema, epilepsy and even blenorrhagia, due to "urinating against the air".

In these and in all diseases the "curandero" uses the medicinal plants that he chooses in the trance state and prescribes them along with certain rituals and magical formulas. Sometimes he prescribes synthetic drugs as well.

The use of certain plants, especially psychotropic and magical species, is strictly reserved for the "curandero". Their use by the uninitiated causes severe illness.

It is worth noting that physicians with scientific training often find certain medicinal plants helpful, naturally without all the cultural and magical superstructures described.

In presenting the various species we shall try to omit all the magical beliefs and rituals and list only their curative uses. Table 1 lists the plants in medicinal use, citing for each the family and species name, provenance and common name, drug, formulation, use and therapeutic description. Table 2 lists the plants used in magical practices.

## CONCLUSIONS

The data reported clearly show the importance of phytotherapy in the cultural setting of the northern Peruvian Andes, leaving no doubt that medicinal plants are the remedies that most sick people resort to. Many of the species mentioned are used as anti-infectives and antiparasitics in a social context in which hygiene and sanitation are often precarious. Even bacterial and viral diseases are treated with plant remedies. Many plants are used in the treatment of digestive, cardiovascular, genitourinary and respiratory complaints.

Most of the plants cited have not yet been characterized phytochemically and no pharmacological assays for their biological activities have been published. In other cases the validity of popular use is confirmed by the fact that the active principles are known and confirmed by modern pharmacological practice. Examples are: "cascarilla", used in traditional medicine as a digestive and antimalarial, comes from a species belonging to the *Cinchona* genus and "savila", used as purgative, has been recognized as *Aloe vera* L. For this reason we believe that systematic phytochemical and pharmacological study of the medicinal species reported could constitute an important basis for future research.

The real effectiveness of the drugs is certainly often bound up with the rituals during which they are administered and with the ancestral beliefs that accompany the use of medicinal species. In this respect Andean phytotherapy is out of step with official pharmacology. On the other hand, it has the advantage of effectiveness in some clearly psychosomatic affections. Similarly, the notion of "balsamic time" is unknown in traditional Andean culture. In fact, it is not the plant itself that has curative power but the spirit within it, which has to be solicited. Thus psychotropic plants, such as San Pedro, are of primary importance. This Cactaceae species, which contains mescalinic active principles,<sup>9, 10</sup> is the key plant in northern Peruvian shamanism; only through it can one reach the world of spiritual forces. The use of medicinal plants is not confined to people who have such beliefs, however, for their use is current among middle class people.

Some of the species reported have never been described in the ethnobotanical literature<sup>11-18</sup> and for others we have reported new therapeutic uses. The traditional names are not always those found in the literature.<sup>19, 20</sup>

The pharmaceutical formulations are mostly those common to all traditional medicine (decoctions, infusions). In the case of the hallucinogenic spe-

Family/Species	Provenance	Common name	Drug	Formulation	Use*	Therapeutic prescription	Family/Species	Provenance	Common name	Drug	Formulation	Use*	Therapeutic prescription
<b>LYCOPODIACEAE</b>										Leaves	Infusion or decoction in milk	I	Antitussive, in the treatment of pulmonary disorders, antipyretic
<i>Hyperzia</i> sp.**	Sierra	Huaminga	Whole plant	Decoction	I	Drastic purge				Young branches	Decoction	I	In the treatment of amenorrhea and dysmenorrhea
<i>Lycopodium</i> sp.**	Sierra	Huaminga, Condor	Whole plant	Decoction	I	Drastic purge, vermifuge				Leaves	Juice	I	Emetic
<i>Lycopodium selago</i> L.**	Sierra	Huaminga	Whole plant	Decoction	I	Drastic purge							
<i>Lycopodium saururus</i> Lam.**	Sierra	Condor blanco	Whole plant	Decoction	I	Drastic purge	<b>SALICACEAE</b>						
<b>EQUISETACEAE</b>							<i>Salix chilensis</i> Mol.	Sierra	Sauce	Branches	Decoction	E	Astringent, antirheumatic
<i>Equisetum bogotense</i> HBK., <i>E. giganteum</i> L.	Sierra	Cola de caballo	Whole plant	Decoction	E	Vulnerary, skin depurative, topical antiinfective, antihæmorrhagic	<i>Salix humboldtiana</i> Willd.	Sierra	Soque	Branches	Powder	E	Vulnerary in gangrenous ulcers
			Whole plant	Infusion	I	Gallstones and kidneystones, diuretic				Branches		E	Chewed in toothache
			Whole plant	Decoction	I	Malarial fevers (tertian)				Leaves and branches	Decoction	I	Antidiarrheal, febrifuge (malaria)
<b>SINOPTERIDACEAE</b>										Young branches	Tincture	I	Eupeptic, digestive
<i>Notholaena nivea</i> (Poir.) Desv.	Selva	Doradilla, cuti-cuti	Fronds	Decoction	I	Intestinal antiinfective				Roots	Tincture	I	Febrifuge
<b>ADIANTACEAE</b>							<b>BETULACEAE</b>						
<i>Adiantum capillus-veneris</i> L., <i>A. poiretii</i> Wikstz	Cosmopolite	Culantrillo del pozo, Shopumbillo	Whole plant	Decoction	I	Pectoral, sudorific, diuretic, gallstones	<i>Alnus jorulensis</i> HBK.	Sierra	Aliso	Leaves	Chopped	E	To facilitate the suppuration of abscesses
			Whole plant	Decoction in milk	I	Anticleric				Branches		E	Tied on back of puerperae as a galactofuge
			Whole plant	Decoction	E	Frictions against hair loss				Leaves	Decoction	E	Vulnerary, antiparasitic
<i>Cheilanthes myriophylla</i> Desv.	Sierra	Cuti-cuti macho	Fronds	Decoction	I	Sudorific, antipyretic				Leaves	Decoction	I	Emmenagogue, diuretic, antihypertensive
<i>Polypodium angustifolium</i> Sw., <i>P. pycnocarpum</i> C. Christ.	Sierra	Calahuala, hualahuala	Rhizome	Decoction	E	Washings in case of gonorrhoea	<b>MORACEAE</b>						
			Fronds	Decoction	I	Choloretic, depurative, sudorific, against "blood illnesses"	<i>Brosimum acutifolium</i> Huber	Selva	Congona	Leaves	Tincture	I	Antirheumatic, general tonic, against headache
			Rhizome	Decoction	I	Expectorant, diuretic, febrifuge	<i>Ficus carica</i> L.**	Cultivated	Higo, higuera	Latex		E	Escharotic
										Latex	Mixed with cow fat and incense	E	Fracture consolidation
<b>EPHEDRACEAE</b>										Dried inflorescences	Chopped	E	Local applications in case of hernia
<i>Ephedra americana</i> H. et B.	Sierra	Pinco-pinco, condorcara	Aerial parts	Chopped in eggs	E	Cataplasms to consolidate fractures				Dried inflorescences	Decoction in vinegar	E	Against dandruff
			Aerial parts	Decoction	E	Vulnerary, antiseptic, astringent				Dried inflorescences	Decoction	I	Antidiarrheal
			Roots	Decoction	E	Antirheumatic							
			Aerial parts	Decoction	I	Depurative, diuretic, antiasthmatic, in the treatment of amenorrhoea, urinary antiinfective	<i>Ficus insipida</i> Willd.	Selva	Ojé	Latex		I	Vermifuge, purge, reconstituent
										Leaves	Decoction	I	Antipyretic (tertian), antianemic
<b>JUGLANDACEAE</b>							<b>URTICACEAE</b>						
<i>Juglans neotropica</i> Diels**	Sierra	Nogal	Leaves	Decoction	E	Vulnerary, astringent, topical and vaginal antiinfective, against hair-loss	<i>Urtica magellanica</i> Poir.	Selva	Quisa, ishanga	Leaves	Infusion	I	Sudorific, antirheumatic, in the treatment of sciatica

Family/Species	Provenance	Common name	Drug	Formulation	Use*	Therapeutic prescription
<b>PROTEACEAE</b>						
<i>Oreocallis mucronata</i> (Willd.) Sleumer	Sierra	Picalhuy	Leaves	Decoction	E	Vulnerary, topical antiinfective
			Leaves	Infusion	I	Sedative
<b>OLACACEAE</b>						
<i>Heisteria pallida</i> Engl.	Selva	Chuchohasi	Branches	Infusion	E	Vulnerary, local applications in case of inguinal hernia
			Branches	Infusion	I	Antirheumatic, tonic, aphrodisiac
<b>POLYGONACEAE</b>						
<i>Muehlenbeckia tamnifolia</i> (HBK.) Meiss.	Sierra	Pumapa huascan	Aerial parts	Decoction	E	Vulnerary, cicatrizant
			Leaves	Juice	I	Cicatrizant in gastric ulcers
<i>Muehlenbeckia volcanica</i> (Benth.) Endl.	Sierra	Mullaca, muyaca	Aerial parts	Decoction	I	Antipyretic, in the treatment of bronchial affections
			Leaves	Juice	I	In the treatment of children's aphtha
<i>Rumex peruanus</i> Rech. f.	Sierra	Putaja, putaca	Leaves	Chopped	E	Vulnerary cataplasms, in the treatment of dermatosis
			Leaves	Maceration	E	Ocular astringent (collyrium)
			Leaves	Infusion	I	Diuretic, depurative
<b>PHYTOLACCACEAE</b>						
<i>Phytolacca webbaueri</i> H. Walt.**	Sierra	Yumbi	Roots	Decoction	E	Detergent
			Roots	Decoction	I	Emetic, drastic purge
<b>NYCTAGINACEAE</b>						
<i>Boerhavia caribaea</i> Jacq.**	Selva	Pega-pega, pegajosa	Roots	Decoction	I	Antispasmodic, choloretic
<b>PORTULACACEAE</b>						
<i>Portulacca peruviana</i> I.M. Johnston	Sierra, selva	Verdolaga	Aerial parts	Chopped in pork fat	E	Lenitive for hemorrhoids
			Aerial parts	Chopped	E	Applied to the abdomen in cases of dysentery
			Aerial parts	Decoction	I	Diuretic, cholagogue, against headache
			Seeds	Decoction	I	Emmenagogue, vermifuge
<b>LOASACEAE</b>						
<i>Ullucus tuberosus</i> Mol.	Cultivated	Olluco	Bulbs	Decoction	E	Emollient, decongestant, cataplasms on the shoulders in case of respiratory affections
			Bulbs	Decoction	I	Antispasmodic in childbirth and gastric pains
<b>CHENOPODIACEAE</b>						
<i>Chenopodium ambrosioides</i> L.**	Cultivated	Paico, cashua	Leaves	Decoction	E	Decongestant, lenitive for hemorrhoids, insecticide

Family/Species	Provenance	Common name	Drug	Formulation	Use*	Therapeutic prescription		
<i>Chenopodium quinoa</i> Willd.	Cultivated	Quinoa, quinoa	Leaves	Decoction	I	Carminative, depurative, vermifuge, antispasmodic in the treatment of gout, antihysteria		
			Seeds	Chopped	E	Lenitive and decongestant in traumatic pains		
			Seeds	Infusion	I	Galactophorous, urinary antiseptic, sudorific pectoral		
AMARANTHACEAE	Sierra	Sanguinaria	Whole plant	Chopped	E	Resolvent for muscular sprain		
			Amaranthus spinosus L.	Ataca, ataco	Aerial parts	Decoction	E	Oral-pharynx antiseptic
				Aerial parts	Decoction	I	Emmenagogue, antirheumatic, urinary antiseptic	
<i>Iresine</i> sp.**	Sierra	Cimora lanza	Roots	Infusion	I	Astringent		
			Leaves	Chopped	E	Antirheumatic, skin depurative		
<i>Iresine celosioides</i> L.	Sierra	Flor blanca	Flowering tops	Decoction	I	Chalagogue, astringent, urinary antiinfective		
<i>Iresine herbstii</i> Hook**	Sierra	Cimora lanza	Leaves	Chopped	E	Skin depurative		
CACTACEAE	Sierra	Tuna, pupa	Tops	Decoction	I	Antipyretic		
			Fruits	Chopped	E	Decongestant, refresher, sedative for rheumatic pains		
			Fruits	Decoction	E	Vulnerary, topical applications in case of epistaxis		
<i>Trichocereus pachanoi</i> Britt. & Rose**	Sierra	San Pedro, achuma	Fruits	Juice	I	Antitussive (whooping cough)		
			Trunk	Decoction	E	Against hair-loss		
<b>ANNONACEAE</b>								
<i>Annona cherimolia</i> Mill.	Cultivated	Chirimoiá	Leaves	Chopped	E	Applications to the nape of the neck in case of headache		
			Seeds	Ground	E	Antiparasitic		
			Leaves	Decoction	I	Antidysenteric		
<i>Annona muricata</i> L.	Sierra	Guanabana	Seeds	Ground	E	Antiparasitic		
MYRISTICACEAE	Selva	Nuez moscada	Leaves	Decoction	I	Digestive, anticatarrhal		
			Seeds	Chopped in pork fat	E	In cases of paralysis, antirheumatic by massages, antiparasitic (mange)		
			Seeds	Chopped	E	Frictions on the forehead in the treatment of "aire"		

Family/Species	Provenance	Common name	Drug	Formulation	Use*	Therapeutic prescription
<b>MONIMIACEAE</b>						
<i>Peumus boldus</i> Mol.	Sierra	Boldo	Leaves	Chopped	E	Sedative cataplasms for headache
			Leaves	Infusion	I	Digestive
<b>LAURACEAE</b>						
<i>Nectandra membranacea</i> (Sw.) Griseb	Costa	Pukeri	Seeds	Decoction	I	Astringent, febrifuge, tonic
			Branches	Powder	I	Tonic, antipyretic, gastric sedative
<i>Ocotea jelskii</i> Mez.**	Selva	Hispingo	Seeds	Decoction	E	Antiechymotic, decongestant
<i>Persea americana</i> L.	Sierra	Palta, aguajate	Seeds	Decoction	E	Vulnerary, decongestant for viper bites, antiinfective
			Fruits	Juice	E	Against dandruff and hair-loss
			Seeds	Decoction	I	Astringent, antiamebic, antidyenteric
			Fruit	Decoction	I	Aphrodisiac, astringent
<b>RANUNCULACEAE</b>						
<i>Laccopetalum giganteum</i> Ulbrich	Sierra	Huamanripa	Leaves and flowers	Decoction	I	Antiasthmatic, antitussive, in the treatment of pulmonary diseases
			Salted flowers		I	Given to sheep to increase fertility
<b>BERBERIDACEAE</b>						
<i>Berberis rariflora</i> Lechl.	Sierra	Agracejo	Roots	Decoction	I	Laxative
			Branches	Decoction	I	Tonic, sedative
<b>PIPERACEAE</b>						
<i>Peperomia flavamenta</i> Trel.	Sierra	Congona, tuna congona	Aerial parts	Decoction	E	Vulnerary
			Leaves	Decoction	E	Auricular antiinflammatory
				Juice	E	Lenitive for hemorrhoids, decongestant for burns, frictions against hair-loss
<i>Peperomia galioides</i> HBK.	Sierra, costa	Congona	Aerial parts	Decoction	E	Vulnerary
			Leaves	Decoction	E	In the treatment of scurvy, antihysteria
			Leaves	Juice	E	In the treatment of scurvy, antihysteria
			Fresh leaves	Infusion	I	In the treatment of scurvy, antihysteria
<i>Peperomia rubea</i> Trel.	Sierra	Lancetilla	Leaves	Decoction	E	Skin antiinflammatory and depurative
			Leaves	Juice	E	Auricular instillations in case of earache
			Leaves	Decoction	I	Antipyretic (terian)
<i>Piper acutifolium</i> R. et P.	Sierra	Matico, hierba del soldado	Leaves	Decoction	E	Topical and vaginal antiinfective
			Leaves	Decoction	I	Pectoral, regulator of the menstrual cycle, sedative for gastric pain

Family/Species	Provenance	Common name	Drug	Formulation	Use*	Therapeutic prescription
<i>Piper angustifolium</i> R. et P.	Selva	Matico	Leaves	Decoction	E	Vulnerary, antiinfective
			Leaves	Infusion	I	General antiinflammatory, antimalarial, antidyenteric, in the treatment of respiratory affections
<i>Piper carpunya</i> R. et P.	Selva	Carpunia	Leaves	Decoction	I	In the treatment of respiratory affections, regulator of the menstrual cycle
<b>CHLORANTHACEAE</b>						
<i>Hediosmum huascari</i> MacBr.	Sierra	Supinuni	Resin		E	Antirheumatic by frictions
<b>CARYOCACEAE</b>						
<i>Anthodiscus pilosus</i> Ducke	Selva	Tahuari	Fruits	Decoction	I	Antitumoral, anti-rheumatic
<b>PAPAVERACEAE</b>						
<i>Bocconia pearcei</i> Hutchinson**	Selva	Yanali	Latex		E	Escharotic
			Aerial parts	Decoction	I	In the treatment of "aire"
<i>Papaver</i> sp.	Selva	Amapola	Leaves	Decoction	I	In the treatment of smallpox
<b>BRASSICACEAE</b>						
<i>Lepidium chichicara</i> Desv.	Selva	Chichicara	Fresh leaves	Chopped	E	Applications to the forehead in case of epistaxis
			Leaves	Infusion	I	Vulnerary, antiinfective
			Leaves	Decoction	E	Antidyenteric
<i>Lepidium meyenii</i> Walp.	Moist places	Maca	Bulbs	Tincture	I	In the treatment of female sterility
			Bulbs	Decoction	I	Antirachitic, in case of fragile bones
<b>SAXIFRAGACEAE</b>						
<i>Saxifraga magellanica</i> Poir.	Sierra	Siempreviva	Aerial parts	Decoction	I	Antiinflammatory, antidote for poisoning
<b>ROSACEAE</b>						
<i>Cydonia vulgaris</i> Pers.**	Cultivated	Membrillo	Leaves	Chopped	E	Decongestant
			Leaves	Decoction	I	Intestinal antiinfective, antidiarrheal, anticatarrhal
<b>MIMOSACEAE</b>						
<i>Prosopis chilensis</i> (Mol.) Stuntz	Costa	Algarrobo	Fruit	Juice	E	Toothache due to caries
			Unripe fruits	Decoction	I	Astringent, galactophorous
			Seeds	Infusion	I	Tonic, reconstituent
<b>CAESALPINACEAE</b>						
<i>Caesalpinia spinosa</i> (Mol.) Kuntze	Costa, Sierra	Tara, talla	Leaves	Infusion	E	Vulnerary, mouth-washes in oral inflammations

Family/Species	Provenance	Common name	Drug	Formulation	Use*	Therapeutic prescription
			Fruits	Chopped	E	Cicatrizant
			Inflorescences	Decoction	I	Purge, febrifuge
			Branches	Infusion	I	Purge, febrifuge, abortive
<i>Cassia</i> sp	Sierra	Sen	Branches	Decoction	I	Astringent
			Leaves	Decoction	I	Laxative
			Roots	Decoction	I	Diuretic
<i>Copaifera reticulata</i> Ducke	Selva	Copaibe	Lymph		I	In urinary incontinence, antiearrhal, antisyphilitic
FABACEAE						
<i>Astragalus garbancillo</i> L.	Sierra	Garbanzo	Aerial parts	Decoction	E	Against mite infestations
			Aerial parts	Decoction	I	Depurative, in case of nettle-rash
<i>Desmonium limense</i> Hook	Sierra	Manayupa	Leaves	Decoction	I	Depurative, antiinflammatory, regulator of the menstrual cycle, to facilitate childbirth
<i>Desmonium vargasianum</i> Schubert	Sierra	Piè de perro	Aerial parts	Decoction	E	Vulnerary, topical antinfecive
			Aerial parts	Infusion	I	Urinary antiseptic, depurative, in the treatment of hydropsy
<i>Psoralea glandulosa</i> L.	Sierra, costa	Culén	Leaves	Decoction	E	Lenitive for hemorrhoids, antiparasitic (mange)
			Leaves	Infusion	I	Digestive, carminative, sudorific, antidiarrheal, vermifuge
			Branches	Infusion	I	In the treatment of children's enteritis
OXALIDACEAE						
<i>Oxalis tuberosa</i> Mol.	Cultivated	Oca	Tubers	Decoction	E	Emollient, depurative
			Leaves	Decoction	E	Auricular installations in case of earache
			Leaves	Decoction	I	Urinary antiinflammatory, to prevent intestinal infections
GERANIACEAE						
<i>Geranium filipes</i> Killip	Sierra	Ajoutillo, chilli	Aerial parts	Decoction	I	Antiearrhal
			Aerial parts		I	Chewed in the sierra against the highland sickness ("soroche")
<i>Geranium lechleri</i> Knuth.	Sierra	Miskamiska	Aerial parts	Decoction	E	Vaginal and oral antiinfective
ERYTHROXYLACEAE						
<i>Erythroxylon coca</i> Lam.**	Cultivated	Coca	Leaves		E	Cataplasms on the nape in case of head-aches, antirheumatic
			Leaves		I	Chewed against "aire"
			Leaves	Decoction	I	Purge, to facilitate the childbirth

Family/Species	Provenance	Common name	Drug	Formulation	Use*	Therapeutic prescription
			Leaves	Decoction	I	In the treatment of respiratory diseases
<i>Acalipha macrostachya</i> Jacq.**	Sierra	Cimora León	Leaves	Chopped	E	Decongestant
<i>Alchornea castanifolia</i> (Willd.) Juss.	Selva	Iporuro	Leaves	Decoction	I	In case of male impotence, to increase female fertility
<i>Croton palanostigma</i> Klotzsch	Selva	Sangre de drago	Leaves	Chopped	E	Decongestant in snake bites
			Resin		E	Vulnerary
			Resin		I	Tonic, antitumoral, antidote for poisoning
<i>Euphorbia huanchahana</i> (Kl. et Gke.) Boiss.	Sierra	Huanchahana	Roots	Decoction	I	Drastic purge, antiecteric, urinary antiseptic, to dissuade from alcoholism
<i>Hura crepitans</i> L.	Selva	Catahua	Leaves		E	Smoked as an antiasthmatic
			Latex		E	For toothache due to caries
			Seeds		I	Purge, emetic
<i>Jatropha curcas</i> L.**	Selva	Piñon	Latex		E	Vulnerary, against earache, rubefacient
			Leaves	Chopped	E	Antirheumatic
			Seeds		I	Purge, in the treatment of hydrodropsy
<i>Jatropha macrantha</i> M. Arg.	Selva	Huanarpo macho	Young branches	Tincture	I	Male aphrodisiac
<i>Phyllanthus niruri</i> L.	Selva	Chanca-piedra	Aerial parts	Decoction	I	Diuretic, gallstones and kidney-stones
RUTACEAE						
<i>Citrus aurantifolia</i> (Christ.) Sw.**	Cultivated	Limón agrio	Epicarps		E	Antidandruff frictions, decongestant for scorpion and insect bites
			Epicarps and flowers	Infusion	I	Sedative and antispasmodic
			Flowers	Infusion		General tonic, antidiarrheal in the treatment of intestinal infections
<i>Ruta chalepensis</i> L.**	Cultivated	Ruda	Leaves	Juice	E	In the treatment of epistaxis
			Leaves	Powder	E	Ocular and auricular decongestant
			Leaves	Decoction in vinegar	E	Decongestant, sedative for muscular pains
			Leaves	Powder	E	Antiparasitic (lice)
			Leaves	Infusion	I	Digestive, sedative, vermifuge, regulator of the menstrual cycle, antihysterical, cardiogenic
BURSERACEAE						
<i>Bursera graveolens</i> (HBK.) Trel.**	Selva	Palo santo, caraña	Resin		E	Frictions in case of rheumatic pains and in case of headache

Family/Species	Provenance	Common name	Drug	Formulation	Use*	Therapeutic prescription
			Branches		E	Chewed in toothache
			Branches	Decoction	I	Antipyretic, sedative, depurative
ANACARDIACEAE						
<i>Loxopterygium hasango</i> Spruce**	Selva	Hualtaco	Branches	Tincture	E	Antirheumatic
<i>Mangifera indica</i> L.	Cultivated	Mango	Flowers	Infusion	I	Antitussive, expectorant, antiasthmatic
<i>Schinus molle</i> L.**	Sierra, Costa	Molle	Young branches	Decoction	E	Veterinary antiinfective
			Leaves	Decoction	E	Oral-pharynx antiinfective
			Leaves and fruits	Decoction	I	Antirheumatic, in the treatment of respiratory affections
			Leaves	Infusion	I	Hypotensive, antibleorrhagic, in the treatment of leukorrhoea
<i>Spondias mombin</i> L.	Selva	Hubo, ciruela	Branches	Decoction	I	Vaginal antiseptic
			Branches	Infusion	I	Astringent
			Fruits		I	Emetic
<i>Paullinia</i> sp	Selva	Cupana, guaraná	Seeds	Decoction	I	Nervine tonic, bitter, astringent
AQUIFOLIACEAE						
<i>Ilex guayusa</i> Loes.	Selva	Guayusa	Leaves	Decoction	I	Chalogue, antipyretic, antirheumatic, in the treatment of female sterility, antiinfective in venereal diseases
CELASTRACEAE						
<i>Maytenus guyanensis</i> Klotzch	Selva	Chuchuhuasi, tonipulmón	Branches	Decoction	I	Tonic, stimulant
BOMBACACEAE						
<i>Ceiba pentandra</i> (L.) Gaertn.	Sierra	Ceiba, lupuna	Branches	Decoction	I	Diuretic, emetic
MALESHERBIACEAE						
<i>Malesherbia ardens</i> Macbr.		Lampaya	Aerial parts	Infusion	I	Antiasthmatic
PASSIFLORACEAE						
<i>Passiflora ligularis</i> Juss.	Sierra	Granadilla, tumbo	Leaves	Chopped	E	Vulnerary
			Leaves	Decoction	I	Antipyretic, mucolytic, stomachic, antimalarial
			Fruits		I	Eaten to prevent yellow fever
			Fruits	Decoction	I	Gastric protective, against gallstones, tonic, against rabies

Family/Species	Provenance	Common name	Drug	Formulation	Use*	Therapeutic prescription
BIXACEAE						
<i>Bixa orellana</i> L.	Selva	Achote	Aerial parts	Decoction	I	Astringent, febrifuge, antidyenteric, venereal antiinfective, aphrodisiac
CARICACEAE						
<i>Carica papaya</i> L.	Sierra	Papaya	Fruits	Chopped	E	Vulnerary, topic antiinfective, escharotic
			Fruits	Maceration	I	Vermifuge, in the treatment of children's enteritis
			Leaves	Infusion	I	Hypotensive, digestive
LOASACEAE						
<i>Cajophora contorta</i> Presl., <i>C. cirsiifolia</i> Presl.	Sierra	Ortiga colorata	Aerial parts	Decoction	I	Cataplasm on forehead in case of epistaxis, antirheumatic
			Aerial parts	Infusion	I	In the treatment of pneumonia and persistent cough
<i>Mentzelia cordifolia</i> Dombey	Sierra	Anhuarote, anhuarotay	Aerial parts	Decoction	I	Cicatrizant of gastric ulcers, anthelmintic, chalogue
CUCURBITACEAE						
<i>Cyclanthera pedata</i> (L.) Schrad.	Costa Sierra	Caihua, caigua	Epicarps	Decoction	I	Antidiabetic
<i>Momordica balsamina</i> L.	Sierra	Balsamina	Fruits	Tincture	E	Antieczymotic, decongestant, vulnerary
			Fruits	Decoction	I	Purge
MYRTACEAE						
<i>Myrcianthes quinquefolia</i> (Mc Vaugh) Mc Vaugh	Selva	Lanchi, lanche	Leaves	Decoction	I	Aromatic, digestive, chalogue, antiicteric
ONAGRACEAE						
<i>Oenothera rosea</i> Ait.	Selva	Chupa sangre	Aerial parts	Chopped	E	Vulnerary, antieczymotic, to consolidate fractures
			Leaves	Decoction	I	Vermifuge, in the treatment of respiratory affections
UMBELLIFERAE						
<i>Coriandrum sativum</i> L.	Cultivated	Culantro	Leaves	Chopped	E	Inhalations in case of epistaxis, applications on forehead in case of highland sickness ("soroche")
<i>Hydrocotyle umbellata</i> L.	Selva	Mattecllu	Leaves	Decoction	E	Ocular decongestant
			Aerial parts	Decoction	E	Skin depurative
			Leaves	Decoction	I	Antipyretic, chalogue, depurative, against headache
GENTIANACEAE						
<i>Gentianella alborosea</i> (Gilg.) Fabris	Selva	Hercampuri, harcapura, chavin	Aerial parts	Decoction	I	Diuretic, chalogue, antiicteric, for weight loss

Family/Species	Provenance	Common name	Drug	Formulation	Use*	Therapeutic prescription	Family/Species	Provenance	Common name	Drug	Formulation	Use*	Therapeutic prescription
<b>APOCYNACEAE</b>										Aerial parts	Decoction	I	Antidiarrheal, in the treatment of respiratory affections, vermifuge, sedative for childbirth pains and colic
<i>Thevetia peruviana</i> (Pers.) Schum.**	Selva	Bellaquillo, çamalonga	Leaves	Juice	E	For toothache due to caries				Aerial parts	Decoction	I	Antiinflammatory for prostatic pains
			Leaves	Decoction	E	Antirheumatic, decongestant	<i>Salvia discolor</i> HBK.	Sierra	Yatama	Aerial parts	Decoction	I	In the treatment of respiratory affections, antipyretic, tonic
			Branches	Tincture	I	Febrifuge, purge	<i>Salvia oppositiflora</i> R. et P.	Sierra	Nūchchu	Leaves	Decoction	I	Vulnerary, topic antiinfective
<b>ASCLEPIADACEAE</b>										Aerial parts	Decoction	E	Emetic, anthelmintic
<i>Asclepias curassavica</i> L.	Selva	Benzenyucu, flor de seda	Aerial parts	Juice or powder	E	Antidote for snake bites	<i>Stachys bogotensis</i> Kunth	Sierra	Hierba del cancer	Aerial parts	Decoction	E	Vulnerary, topic antiinfective, antiparasitic (mange)
			Roots	Decoction	E	Vulnerary, topic antiinfective				Aerial parts	Decoction	I	Antiinflammatory, antitumoral
			Aerial parts	Decoction	I	Emetic, anthelmintic	<b>SOLANACEAE</b>						
<i>Cynanchum corystephanum</i> Malme	Sierra	Aurinsha	Aerial parts	Decoction	E	Vulnerary	<i>Brugmansia</i> sp.**	Sierra	Floripondio, huar-huar	Leaves	Chopped	E	Decongestant, antispasmodic
<b>RUBIACEAE</b>										Leaves	Decoction	E	Topical treatment of dermatitis and orchitis
<i>Arcytophyllum nitidum</i> HBK.**	Sierra	Hierba de la estrella, tren-cilla de plata	Aerial parts	Decoction	E	Ocular decongestant	<i>Capsicum annuum</i> L.**	Cultivated	Aji	Fruits	Tincture	E	Antirheumatic, lenitive for hemorrhoids and insect bites, antiparasitic (mange)
<i>Cinchona</i> sp.	Sierra	Cascarilla	Branches	Decoction	E	Against hair-loss				Fruits	Decoction	E	Mouth-washes in case of pharyngitis
			Branches	Decoction	I	Antispasmodic, diaphoretic, tonic	<i>Cestrum auriculatum</i> L'Hérit.	Costa, Sierra	Hierba santa	Leaves	Decoction	E	Lenitive for hemorrhoids, frictions on forehead in case of headache
<i>Hamelia patens</i> Jacq.	Sierra	Yuto banco	Leaves	Juice	I	Antidysenteric, in the treatment of scurvy				Leaves	Infusion	I	Febrifuge, antirheumatic, astringent
			Leaves	Decoction	I	Depurative, antirheumatic	<i>Datura stramonium</i> L.**	Sierra	Chamico	Leaves	Chopped	E	Vulnerary, in the treatment of dermatitis
<i>Uncaria guianensis</i> (Aubl.) Gmel., <i>U. tomentosa</i> (Willd.) DC.	Selva	Uña de gato, garabato	Barks	Decoction	I	Antitumoral, contraceptive, antiinflammatory, antirheumatic, in the treatment of gastric ulcers	<i>Nicotiana tabacum</i> L.**	Cultivated	Tabaco blanco	Leaves	Decoction	E	Antirheumatic, antiparasitic
<b>POLEMONIACEAE</b>										Leaves	Infusion	I	Earache
<i>Canthua buxifolia</i> Juss.	Sierra	Cantuta, flor de l'Inca	Flowers	Infusion	E	Ocular decongestant	<i>Nicotiana tomentosa</i> R. et P.**	Sierra	Jarato	Leaves	Infusion	I	In the treatment of oral-pharynx affections
			Flowers	Infusion	I	Antitussive, antiicteric	<i>Physalis peruviana</i> L.	Sierra	Aguaymanto	Fruits	Juice	E	Ocular decongestant
<b>BORAGINACEAE</b>										Fruits	Infusion	E	Antitussive, antiicteric, diuretic
<i>Heliotropium curassavicum</i> L.	Costa	Alacrán	Leaves	Decoction	E	Vulnerary, topic antiinfective	<i>Solanum radicans</i> L. fil.	Selva	Kusmaillo	Fruits	Decoction	I	Antidiarrheal, antipyretic, digestive
			Branches	Powder	E	Astringent, lenitive for hemorrhoids	<b>BUDDLEJACEAE</b>						
			Leaves	Decoction	I	Antirheumatic	<i>Buddleja incana</i> R. et P.	Sierra	Alamo, flor blanca	Leaves	Decoction	E	Escharotic, vulnerary, antirheumatic, vaginal antiseptic
<i>Tiquilia paranchioides</i> (Phil.) A. Richardson	Moist places	Flor de arena, tẽ indio	Aerial parts	Decoction	I	Depurative, stomachic, antiallergenic, in the treatment of gonorrhoea				Leaves	Infusion	I	Cholagogue
<b>LABIATAE</b>													
<i>Coleus</i> sp.**	Cultivated	Cimora oso	Leaves	Chopped	E	Antirheumatic frictions							
<i>Coleus blumei</i> Benth.**	Cultivated	Simorilla	Leaves	Chopped	E	General antiinflammatory							
<i>Lavandula spica</i> L.**	Cultivated	Aluchema	Tops	Fried in chicken fat	E	Applications on feet in case of cold							
<i>Myrrhostachys setosa</i> (Briq.) Epl.	Sierra	Muña, muña-muña	Aerial parts	Decoction	E	Antimycotic, antiparasitic (mange)							

Family/Species	Provenance	Common name	Drug	Formulation	Use*	Therapeutic prescription
<b>SCROPHULARIACEAE</b>						
<i>Calceolaria pinnata</i> R. et P.	Selva	Manca-paqui	Aerial parts	Infusion	I	Diuretic
<b>BIGNONIACEAE</b>						
<i>Cybistax quinquefolia</i> (Vall.) Macbr.	Selva	Achichua-achihua	Branches	Decoction	I	Anisyphilitic, diuretic
<i>Jacaranda acutifolia</i> Humbl. et Bompl.	Sierra	Arabisco	Leaves or seeds	Decoction	E	Vulnerary
			Leaves	Decoction	I	Diuretic, genitourinary antiinfective
<i>Pseudocalymma alliaceum</i> (Lam.) Sandw.	Selva	Ajo sachá	Branches	Infusion	I	Antitumoral, antiinflammatory
<b>CAPRIFOLIACEAE</b>						
<i>Sambucus peruviana</i> H.B.K.	Sierra	Sauco, rayán	Leaves	Decoction	E	Mouth-washes in oral affections
			Leaves	Chopped	E	Galactophorous applications
			Inflorescences	Decoction	I	Aphrodisiac, sudorific, urinary antiinfective, depurative, antirheumatic
<b>VALERIANACEAE</b>						
<i>Valeriana pinnatifida</i> R. et P.	Sierra	Valeriana	Leaves	Chopped	E	Vulnerary, antiseptic for burns, to help consolidate fractures
			Leaves	Decoction	I	Antispasmodic, carminative, vermifuge
<b>ASTERACEAE</b>						
<i>Ambrosia peruviana</i> Willd.	Sierra	Marrco	Aerial parts	Decoction	I	Digestive, antispasmodic, tonic, antirheumatic, regulator of the menstrual cycle, vermifuge
<i>Baccharis gemistelloides</i> (Lam.) Pers.	Selva	Cargueja	Aerial parts	Tincture	E	Antirheumatic, anti-ecchymotic
			Aerial parts	Decoction	I	Antiasthmatic, in the treatment of dyspnea
<i>Bidens pilosa</i> L.	Selva	Amor seco, pirra	Aerial parts	Decoction	E	Vulnerary
			Roots	Decoction	I	Vermifuge, in the treatment of hepatic disorders due to alcoholism
<i>Chuiriraga spinoza</i> (R. et P.) D. Don	Sierra	Huamantinta	Aerial parts	Infusion	I	Diuretic, antibleorrhagic, vermifuge
<i>Eryngium weberbaueri</i> Wolf.	Sierra	Escorzonera, chachacroma	Leaves	Decoction	I	Depurative, diuretic, in the treatment of gout, hypotensive, sudorific
<i>Flaveria contrayerba</i> Pers.	Sierra	Matagusano	Aerial parts	Decoction	E	Vulnerary, antiparasitic
<i>Gnaphalium spicatum</i> Lam.	Sierra	Qeto-qeto	Aerial parts	Decoction	E	Antiparasitic (mange); vaginal antiinflammatory
			Aerial parts	Infusion	I	Tonic, antitumoral, cholagogue, antiicteric

Family/Species	Provenance	Common name	Drug	Formulation	Use*	Therapeutic prescription
<i>Jungia paniculata</i> (DC.) A. Gray	Sierra	Caramati	Branches	Decoction	I	Genitourinary antiinfective, antiinflammatory
<i>Mutisia acuminata</i> R. et P.	Sierra	Chinchircuma	Aerial parts	Decoction	E	Vulnerary
			Aerial parts	Infusion	I	Chalagogue, antitumoral, in the treatment of respiratory affections
<i>Perezia multiflora</i> (H. et B.) Less	Sierra	Escorzonera	Leaves	Infusion	I	Diuretic, febrifuge, antidote for poisonings
<i>Salmea scandens</i> (L.) DC.**	Sierra	Huayme-huayme	Fresh leaves	Infusion	I	In the treatment of female sterility
<i>Schkuria pinnata</i> Kuntze	Sierra	Canchalagua	Aerial parts	Decoction	E	Depurative, diuretic
<i>Senecio pseudotites</i> Griseb.	Sierra	Maycha	Aerial parts	Tincture	E	Decongestant
			Leaves	Decoction	I	Diuretic, vermifuge, antiasthmatic
<i>Senecio rhizomatosus</i> Rusby	Sierra	Lanchacausa	Aerial parts	Decoction	E	Vulnerary, skin depurative
			Aerial parts	Decoction	I	In the treatment of pneumonia
<i>Tagetes minuta</i> L.	Selva	Huacatay	Aerial parts	Decoction	E	Vulnerary
			Aerial parts	Decoction	I	Digestive, vermifuge, cholagogue, sedative in gastric pain, antiabortifacient
<i>Tessaria integrifolia</i> R. et P.	Selva	Pajaro bobo	Leaves	Decoction	I	In gallstones and kidney stones, antiasthmatic
<i>Xanthium spinosum</i> L.	Sierra	Juan alonso, alco quisca	Aerial parts	Decoction	I	Antipyretic, genitourinary antiinfective, antitussive, cholagogue, in the treatment of urinary retention
<b>LILIACEAE</b>						
<i>Allium sativum</i> L.**	Cultivated	Ajo	Bulbs	Chopped	E	Antiparasitic (mange)
<i>Aloe vera</i> L.**	Sierra, costa	Savila	Juice		E	Topical antiinflammatory, vulnerary, in toothache due to caries
			Leaves	Decoction	I	Antidote for poisonings, purge
<b>AGAVACEAE</b>						
<i>Agave americana</i> L.	Costa	Mexico, maiguéy	Leaves	Decoction	E	Vulnerary, decongestant
			Leaves	Decoction	I	Anisyphilitic, depurative, antiicteric
<b>AMARYLLIDACEAE</b>						
<i>Stenomesson variegatum</i> R. et P.	Selva	Mayhua	Bulbs	Decoction	I	Emmenagogue, abortifacient

Family/Species	Provenance	Common name	Drug	Formulation	Use*	Therapeutic prescription
<b>BROMELIACEAE</b>						
<i>Ananas comosus</i> (L.) Merr.	Cultivated	Piña	Fruits	Juice	I	Astringent, anthelmintic, tonic, antirheumatic
			Fruits	Processed juice	I	Antiblenorrhagic, in kidney-stones
<i>Paya cerrateana</i> L.B. Smith	Sierra	Achupalla	Resin		E	Vulnerary
<b>POACEAE</b>						
<i>Cymbopogon citratus</i> (DC.) Sapp.	Cultivated	Hierba Luisa	Leaves	Infusion	I	Digestive, tonic, carminative
			Leaves	Decoction	I	Contraceptive
<i>Zea mays</i> L.**	Cultivated	Maíz, choclo	Seeds	Tincture	E	Escharotic, antirheumatic, against hair-loss
			Stigmas	Decoction	I	Diuretic, antiblenorrhagic, tonic, sedative
<b>PALMAE</b>						
<i>Roystonea regia</i> O.F. Cook	Selva	Palma real	Leaves	Decoction	I	Antispasmodic, antidiarrheal, vermifuge
<b>CYPERACEAE</b>						
<i>Cyperus articulatus</i> L.**	Selva	Piri-piri	Aerial parts	Chopped	E	Vulnerary, antihemorrhagic
<i>Scleria malaleuca</i> (Schlecht. et Cham.) Reichb.	Selva	Cortadera	Leaves	Decoction	I	In the treatment of female sterility
<b>MUSACEAE</b>						
<i>Musa acuminata</i> Colla	Cultivated	Platano	Unripe fruits	Decoction	E	Vulnerary
			Unripe fruits	Decoction	I	Vermifuge, antidiarrheal
			Leaves	Juice	I	In the treatment of tuberculosis

\*: I = Internal use; E = External use \*\*: Plants used also in magical rituals (see Table 2).

Table 1 - Medicinal plants.

cies absorption of an alcoholic tincture of the drug through the nasal mucosa is often prescribed. By this means the active principles probably reach the brain faster, potentiated, of course, by the alcohol.

We have not reported species for which we could provide no botanical identification. The people themselves recognize the plants and drugs used in traditional therapy according to their own long-held criteria. Even the toxicity of the species is well known, the dosage being prescribed very carefully and the medicinal species being handled only by the "curandero". Only a few species used in the treatment of minor ailments are commonly used and grown by the uninitiated. Some food plants have been reported as being used for medicinal and magical purposes.

The following plants are used in magical practices and rituals of shamanism of northern Peru. Not all used species have been identified: in fact, for some species it was possible only to get information regarding their magical use, because these plants can be used only by the initiated.  
For an easier presentation of the data, the magical species have been reported according to their ritual use.

#### PLANT USED IN RITUAL OFFERINGS

##### "Florecimientos"

These offerings are made to propitiate the spirits

Ashango	unidentified species belonging to the Myrtaceae family
Bejuco de la montaña	unidentified species
Camalanga	<i>Thevetia peruviana</i> (Pers.) Schum. (Apocynaceae)
Cartapoucho	unidentified species
Cedròn	<i>Simaba cedron</i> Planch (Simaroubaceae)
Ispingo	<i>Ocotea jelskii</i> Mer. (Lauraceae)
Nuez moscada	<i>Myristica fragrans</i> Houtt. (Myristicaceae)

The seeds of these plants, known by the collective name of "montañesas", are put in holy water and talcum powder with

Limòn agrio	<i>Citrus aurantifolia</i> (Christ.) Sw. (Rutaceae)
Maiz blanco	<i>Zea mays</i> L. (Poaceae)

Some of these plants have also other magical virtues if placed on the person. In fact, the cedròn protects from viper bites, the camalanga and the bejuco de la montaña are used in love magic.

##### "Fumes"

Smoke offerings: the leaves of these plants are smoked and the smoke is offered to the spirits.

Tabaco blanco	<i>Nicotiana tabacum</i> L. (Solanaceae)
Tabaco cimarròn	<i>Nicotiana paniculata</i> L. (Solanaceae)

#### SPECIES USED FOR DIVINATION

San Pedro	<i>Trichocereus pachanoi</i> Britt. & Rose
	<i>Trichocereus peruvianus</i> Britt. & Rose

These two species, known also as huacuma, aguacolla, cimarròn, are the most important magical plants used in shamanism in northern Peru. They are picked according to special rituals: the knife used to cut them must be new; ritual offerings must be made; they must be picked by a "curandero" who has followed a strictly vegetarian diet in the three days preceding the harvest. The San Pedro cactus is used to induce medianistic trance and is itself the reincarnation of the most potent spirit (the "Inca") who leads the "curandero" to see the origin of the sickness and the remedy for it. After administration of the plant decoction, alcohol is forbidden, unless it is "shingado" (absorbed through the nasal mucosae).

Hornamo amarillo	<i>Senecio elatus</i> HBK. (Asteraceae)
Tabaco blanco	<i>Nicotiana tabacum</i> L. (Solanaceae)
Tabaco cimarròn	<i>Nicotiana paniculata</i> L. (Solanaceae)
Tabaco moro	<i>Nicotiana rustica</i> L. (Solanaceae)

The tincture of these plants is "shingada" during the mesada to potentiate the activity of the San Pedro.

Misha colambo	<i>Brugmansia suaveolens</i> (H. et B.) Brecht et Presl. (Solanaceae)
Misha curandera	<i>Brugmansia x candida</i> Pers. (Solanaceae)
Misha del Inca	<i>Brugmansia versicolor</i> Lagerhein (Solanaceae)
Misha galga	<i>Brugmansia aurea</i> Lagerhein (Solanaceae)
Misha leòn	<i>Brugmansia arborea</i> Lagerhein (Solanaceae)
Misha rastrera	<i>Brugmansia x insignis</i> (Barb. et Rodr.) Lockwood (Solanaceae)
Misha toro	<i>Brugmansia sanguinea</i> (R. et P.) D. Don (Solanaceae)

These species, all known also as Floripondio, Huar-huar, Hierba del diablo, Cojones del diablo, are often used outside the "mesada" to reach altered states of consciousness; they are also used in black magic to cause irreversible harm to enemies.

#### PLANTS USED TO INTERRUPT THE EFFECTS OF HALLUCINOGENIC DRUGS

To interrupt activity of San Pedro or of other hallucinogenic species, the "corte" or "arranque" is used. It is made of holy water ("agua de manantial"), white sugar, perfumes, "montañesas", "maiz blanco" (*Zea mays* L.) and limòn agrio (*Citrus aurantifolia* (Christm.) Sw.).

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## PLANTS USED IN PARTICULAR DISEASES

### "Aire"

Aji	<i>Capsicum annuum</i> L. (Solanaceae)
Coca	<i>Erythroxylon coca</i> Lam. (Erythroxylaceae)
Jarato	<i>Nicotiana tomentosa</i> R. et P. (Solanaceae)
Molle	<i>Schinus molle</i> L. (Anacardiaceae)
Nuez moscada	<i>Myristica fragrans</i> Houtt. (Myristicaceae)
Nogal	<i>Juglans neotropica</i> Diels (Juglandaceae)
Ruda	<i>Ruta chalepensis</i> L. (Rutaceae)
Tabaco moro	<i>Nicotiana rustica</i> L. (Solanaceae)

### "Susto"

Aluchema	<i>Lavandula spica</i> L. (Labiatae)
Ceiba	<i>Ceiba pentandra</i> (L.) Gaertn. (Bombaceaceae)
Cebada	<i>Hordeum vulgare</i> L. (Poaceae)
Paico	<i>Chenopodium ambrosioides</i> L. (Chenopodiaceae)
Romero	<i>Rosmarinus officinalis</i> L. (Labiatae)
Toronjil	<i>Melissa officinalis</i> L. (Labiatae)
Yanali	<i>Bocconia pearcei</i> Hutchinson (Papaveraceae)

The plants are blessed by the "curandero" with water from the lagoon, put in canvas bags tied around one's neck.

### Hemorrhoids

Higo, higuera	<i>Ficus carica</i> L. (Moraceae)
Limón agrio	<i>Citrus aurantifolia</i> (Christ.) Sw. (Rutaceae)

To cure hemorrhoids, all one must do is carry an amulet made of leaves of these plants.

### Insomnia

Nogal	<i>Juglans neotropica</i> Diels (Juglandaceae)
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The leaves of this species, put in bed, keep away the spirits that disturb one's sleep.

## PLANTS USED TO PROTECT FROM "ENCANTOS"

Ruda	<i>Ruta chalepensis</i> L. (Rutaceae)
Salvia real	<i>Salvia grandiflora</i> R. et P. (Labiatae)
Savila	<i>Aloe vera</i> L. (Liliaceae)

The plants, blessed on Good Friday, are put on the doors to keep bad luck away.

### "Ajuste" o "seguro"

An amulet made of magical plants, water from holy places, holy water, honey, white sugar, white wine, magical plants. The "ajuste" protects from "encantos" and "contagios".

Hierba de la plata	<i>Chryptophyllum</i> sp. (Aizoaceae)
Pegapega	<i>Boerhavia caribaea</i> Jacq. (Nyctaginaceae)
Paja del carpintero	<i>Stipa</i> sp. (Poaceae)
Piri piri	<i>Cyperus articulatus</i> L. (Cyperaceae)

Montañas and other unidentified species: hierba del oro, hierba del buen querer, hierba del novio, hierba del sol, hierba de la luna, toro curandera.

All the ingredients are put in a bottle during a "mesada". The "ajuste" is taken through the nostrils and mouth and is used for spraying on objects, places and for moistening one's face and hands.

### "Purgas"

Plants used for their drastic and emetic activity to expel the bad spirits ("contagios" o "daños") from the body:

Condor blanco	<i>Lycopodium saururus</i> Lam. (Lycopodiaceae)
Hornamo amarillo	<i>Senecio elatus</i> HBK. (Asteraceae)
Hornamo morado	<i>Valeriana adscendens</i> Trel. (Valerianaceae)
Hornamo caballo	unidentified species
Hornamo mishá	unidentified species
Huaminga	<i>Huperzia</i> ssp. (Lycopodiaceae)
Huaminga	<i>Lycopodium</i> ssp. (Lycopodiaceae)
Piñón	<i>Jatropha curcas</i> L. (Euphorbiaceae)
Yumbi	<i>Phytolacca weberbaueri</i> H. Walt. (Phytolaccaceae)

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## "Sahumerios"

Fumigations to keep the "contagios" far from the patient's body

Palo santo *Bursera graveolens* L. (Burseraceae)

Romero *Rosmarinus officinalis* L. (Labiatae)

The branches of the first species and the aerial parts of the second, blessed by the "curandero", are burned and the fumes are brought to the patient's body.

## Magical canes

These canes ("varas") are made of woods from the Amazonian forest and they can have a good or a bad spirit. They are used for defense, to cure, to attack enemies, to "be able to see". They are always present in the "mesa" and they are handed down as heredity from one "curandero" to another.

Añasquiro *Perebea xanthochyma* Karsten (Moraceae)

Chonta *Bactris* sp. (Palmae)

Chonta *Iriartea* sp. (Palmae)

Chiquir huande *Aiphanes* sp. (Palmae)

Guayacan *Tabebuia impetiginosa* Standl. (Bignoniaceae)

Hualtaco *Loxopterygium hualtaco* Spruce (Anacardiaceae)

Membrillo *Cordia* sp. (Boraginaceae)

Ajo aspe, ajo squiro, cachudo, chota citadora, shimir: unidentified species.

## PLANTS USED IN LOVE MAGIC

These species are used to promote falling in love. Their magical activity works when they are held in the hands while speaking to the person desired.

Bejuco de la montaña unidentified species

Camalanga *Thevetia peruviana* (Pers.) Schum. (Apocynaceae)

Huarmi unidentified species

Hayme-huayme *Salmea scandens* (L.) DC. (Asteraceae)

Piri piri *Cyperus articulatus* L. (Cyperaceae)

## PLANTS USED TO PROMOTE GOOD LUCK

Huaminga chica *Huperzia* sp. (Lycopodiaceae)

The plant is put in a bottle with hierba de la estrella (*Acrytophyllum nitidum* HBK.), hierba del carpintero (unidentified species), piri piri (*Cyperus articulatus* L.). Then perfume is added with 7 drops of lagoon water, honey and other magical plants (trencilla de plata, hierba de la princesa, chambita de la laguna, quinde, hierba del sol, hierba de la fortuna, trencilla de oro: all unidentified species). Magical words are spoken while naming the person that the ritual is made for.

Maiz colorado *Zea mays* L. (Poaceae)

Corn seeds of different colors are believed to be a very potent amulet when carried in the pocket.

## SPECIES USED IN BLACK MAGIC

Cimora *Sanchezia* sp. (Acanthaceae)

Cimora lanza *Iresine* sp. (Amaranthaceae)

Cimora leon *Acalypha macrostacya* Jacq. (Amaranthaceae)

Cimora oso *Coleus* sp. (Labiatae)

Cimora señorita *Iresine herbstii* Hook f. (Amaranthaceae)

Cimorilla *Coleus blumei* Benth. (Labiatae)

These plants promote "suchaduras", they suck the vital spirit from the enemy, causing psychological and physical disorders till death occurs.

Cimorilla dominadora *Coleus* sp. (Labiatae)

It is used to kill enemies. It is mixed with ceibo [*Ceiba pentandra* (L.) Gaertn.], higròn (unidentified species), resin of lechero (*Euphorbia* sp.), ají (*Capsicum annuum* L.), salt, alcohol and holy water. This solution is sprayed from the mouth naming the designated victim.

Ají *Capsicum annuum* L. (Solanaceae)

Ajo *Allium sativum* L. (Liliaceae)

The fumes of these two plants, burned during certain black magic rituals cause the "suchadura de la sombra" of enemies.

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Table 2 - Plants used in magical practices.

The Euphorbiaceae, the Solanaceae and the Asteraceae are the families from which the largest number of the species used in traditional medicine are drawn. Many ancient indigenous beliefs regarding magical plants<sup>21</sup> combine with ritual elements of European origin. The chief of these plants are species with psychotropic activity and those of the Solanaceae family.

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