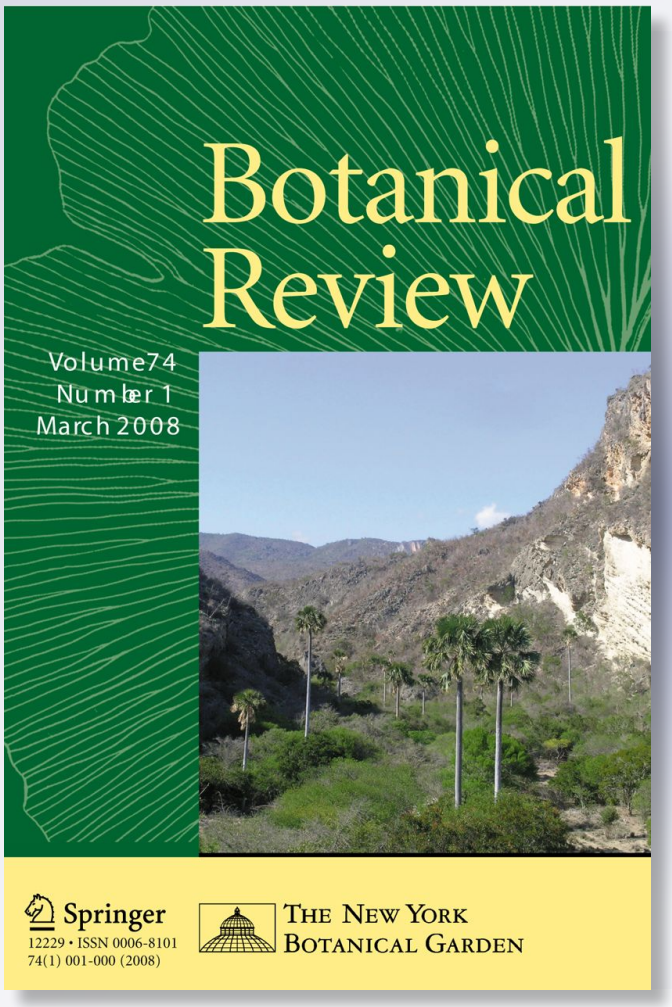
Palm Uses in Northwestern South America: A Quantitative Review

Manuel J. Macía, Pedro J. Armesilla, Rodrigo Cámara-Leret, Narel Paniagua-Zambrana, Soraya Villalba, Henrik Balslev & Manuel Pardo-de-Santayana

The Botanical Review

ISSN 0006-8101

Bot. Rev.
DOI 10.1007/
s12229-011-9086-8



Springer

Bot. Rev.
DOI 10.1007/s12229-011-9086-8

Palm Uses in Northwestern South America: A Quantitative Review

Manuel J. Macía[1,5] · Pedro J. Armesilla[1] · Rodrigo Cámara-Leret[1] · Narel Paniagua-Zambrana[2] · Soraya Villalba[3] · Henrik Balslev[4] · Manuel Pardo-de-Santayana[1]

[1] Departamento de Biología, Área de Botánica, Universidad Autónoma de Madrid, Calle Darwin 2, ES–28049 Madrid, Spain
[2] Herbario Nacional de Bolivia, Universidad Mayor de San Andrés, Campus Universitario, Cota Cota calle 27, Casilla 10077—Correo Central, La Paz, Bolivia
[3] Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AE, United Kingdom
[4] Department of Biological Sciences, Ecoinformatics & Biodiversity Research Group, Aarhus University, Build. 1540, Ny Munkegade 114, DK–8000 Aarhus C, Denmark
[5] Author for Correspondence; e-mail: manuel.macia@uam.es

Abstract A thorough review concerning palm uses in tropical rainforests of northwestern South America was carried out to understand patterns of palm use throughout ecoregions (Amazonia, Andes, Chocó), countries (Colombia, Ecuador, Peru, Bolivia), and among the different human groups (indigenous, mestizos, afroamericans, *colonos*) that occur there. A total of 194 useful palm species, 2,395 different uses and 6,141 use-reports were recorded from 255 references. The Amazon had the highest palm use, whereas fewer, but similar uses were recorded for the Andes and Chocó. Ecuador was the most intensively studied country. Most palms were used for human food, utensils and tools, construction, and cultural purposes. Indigenous people knew more palm uses than mestizos, afroamericans and *colonos*. The use of palms was not random and the main uses were the same throughout the studied ecoregions and countries. Palms satisfy basic subsistence needs and have great importance in traditional cultures of rural indigenous and peasant populations in our study area. Arecaceae is probably the most important plant family in the Neotropics, in relation to use diversity and abundance.

Resumen Se realizó una revisión exhaustiva de los usos de las palmeras en los bosques tropicales lluviosos del noroeste de América del Sur para comprender los patrones de uso de las palmeras por ecorregiones (Amazonia, Andes, Chocó), países (Colombia, Ecuador, Perú, Bolivia) y entre los diferentes grupos humanos (indígenas, mestizos, afroamericanos, colonos) existentes. Se registraron 194 especies de palmeras útiles, 2,395 usos distintos y 6,141 registros de uso a partir de 255 referencias. La Amazonia tuvo el uso más alto de palmeras, mientras que en los Andes y el Chocó se encontraron menores usos aunque similares. Ecuador fue el país que se estudió más intensamente. La mayoría de las especies se usaron para alimentación humana, utensilios y herramientas, construcción y usos culturales. Los

Published online: 24 June 2011

indígenas conocieron más usos de palmeras que los mestizos, afroamericanos y colonos. El uso de las palmeras no fue al azar y los usos principales fueron los mismos en todas las ecorregiones y países estudiados. Las palmeras cubren necesidades básicas de subsistencia y tienen una gran importancia en las culturas tradicionales de las poblaciones indígenas y campesinas rurales en nuestra área de estudio. Arecaceae es probablemente la familia de plantas más importante del Neotrópico, en relación a su diversidad y abundancia de usos.

Keywords Arecaceae · Ecosystem Services · Indigenous Communities · Livelihood · Plant Valuation · Quantitative Ethnobotany · Tropical Rainforest

Palabras clave Arecaceae · Servicios de los Ecosistemas · Comunidades Indígenas · Subsistencia · Valoración de Plantas · Etnobotánica Cuantitativa · Bosque Tropical Lluvioso

Introduction

The great and quantitatively dominant ethnobotanical importance of palms (Arecaceae) in comparison to other botanical families in tropical American forests is well documented (Prance et al., 1987; Pinedo-Vasquez et al., 1990; Phillips & Gentry, 1993; Galeano, 2000; Macía et al., 2001; Lawrence et al., 2005). Palms have great cultural and economic importance among rural indigenous and peasant populations in tropical America (Schultes, 1974; Bodley & Benson, 1979; Balick, 1984; Balslev & Barfod, 1987; Balée, 1988; DeWalt et al., 1999; Galeano, 2000; Macía, 2004; Paniagua-Zambrana et al., 2007; Brokamp et al., 2011), and numerous studies have described their essential role in covering basic needs for human subsistence, such as for food and house construction (López-Parodi, 1988; Morcote-Ríos et al., 1998; Coomes & Burt, 2001; Campos & Ehringhaus, 2003; Macía, 2004; Paniagua-Zambrana et al., 2007). Their great importance is closely related to their ecological, morphological, physiological and bromatological characteristics. Palms are conspicuous and abundant in many different tropical forest types (Henderson et al., 1995; Macía & Svenning, 2005; Balslev et al., 2011) and they are distributed in all forest strata and soil types (Kahn & de Granville, 1992; Kahn & Henderson, 1999; Vormisto, 2002b; Balslev et al., 2010a; 2011). Palms have distinctive morphological and physiological characteristics: they have straight and generally un-branched stems, large pinnate leaves, a vascular system with living cells throughout the plant's lifespan, they produce many adventitious roots, and are highly durable (Balick, 1984; Tomlinson, 2006). Their fruits and seeds contain starch, essential amino acids, and oils that are rich in polyunsaturated fatty acids (Balick, 1984; Balée, 1988; Moraes et al., 1996; Olvera-Fonseca, 2004).

Their extensive use and relatively well known taxonomy have facilitated their utilisation as model organisms for analysing the influence of ecological and socioeconomic variables on interrelations between humans and plants in tropical American ecosystems (Uhl & Dransfield, 1987; Henderson, 1995; Henderson et al., 1995; Borchsenius et al., 1998; Moraes, 2004; Govaerts & Dransfield, 2005; Dransfield et al., 2008; Galeano & Bernal, 2010). Several studies have shown that

humans tend to use to a higher degree those species that are widespread and conspicuous (Ruokolainen & Vormisto, 2000; Byg et al., 2006). However the most used species are not always the same as those with greatest ecological importance (Boom, 1986). Moreover, higher species diversity in one region does not necessarily imply a greater use by the local population (Byg et al., 2007). The most abundant species in an ecosystem are often used, although with different intensities, and some of the more important species are managed to obtain a better use of their products (Paniagua-Zambrana, 2005; Byg et al., 2006; Bernal et al., 2011). Palms are used more by human groups which have more limitations in their access to markets (Byg & Balslev, 2004; Macía, 2004; Byg & Balslev, 2006; Byg et al., 2007; Paniagua-Zambrana et al., 2007). Recent studies have shown that indigenous people usually posses greater ethnobotanical knowledge than other human groups (Campos & Ehringhaus, 2003; Byg & Balslev, 2004; De la Torre et al., 2008).

Despite the large number of publications on traditional use of palms in tropical America, at a local or regional scale, comparative studies presenting a general vision of the use of palms at a larger geographical scale, and comparing use patterns in different biogeographic regions, habitats, countries or human groups, have not been done so far. Here, we present an exhaustive revision of the use of palms in north-western South America, where an effort has been done to compile existing bibliographical references at the local scale and of limited diffusion. The specific aims of this compilation are: (a) to quantitatively evaluate the use of palms in north-western South America, comparing different ecoregions (the Amazon, Andes and Chocó) and countries (Colombia, Ecuador, Peru and Bolivia); (b) to compare palm use patterns in different ethnobotanical use-categories and subcategories; (c) to analyze differences in the use of palms among different human groups (indigenous, mestizos, afroamericans and *colonos*) and compare the knowledge between different indigenous groups; and (d) to identify the most important palm species for the local populations living in the tropical forests of the study region.

Methods

Study Area

We compiled ethnobotanical information for palms occurring in the Amazon and Andes of Colombia, Ecuador, Peru and Bolivia, and the Chocó of Colombia and Ecuador (Fig. 1). The Amazon ecoregion was defined as the lowlands to the east of the Andes up to 1,000 m elevation (Renner et al., 1990; Jørgensen & León-Yánez, 1999). Data for species existing in all broad forest types were included: both well-drained *terra firme* forests and floodplain forests, and poorly-drained swamp forests. The Andes ecoregion was defined as the montane forests on both slopes of the Andes above 1,000 m, including the forests of the inter-Andean valleys of Bolivia with lower precipitation (Beck et al., 1993). The Chocó ecoregion was defined as the area of humid forests along the Pacific coast of Colombia and northern Ecuador.

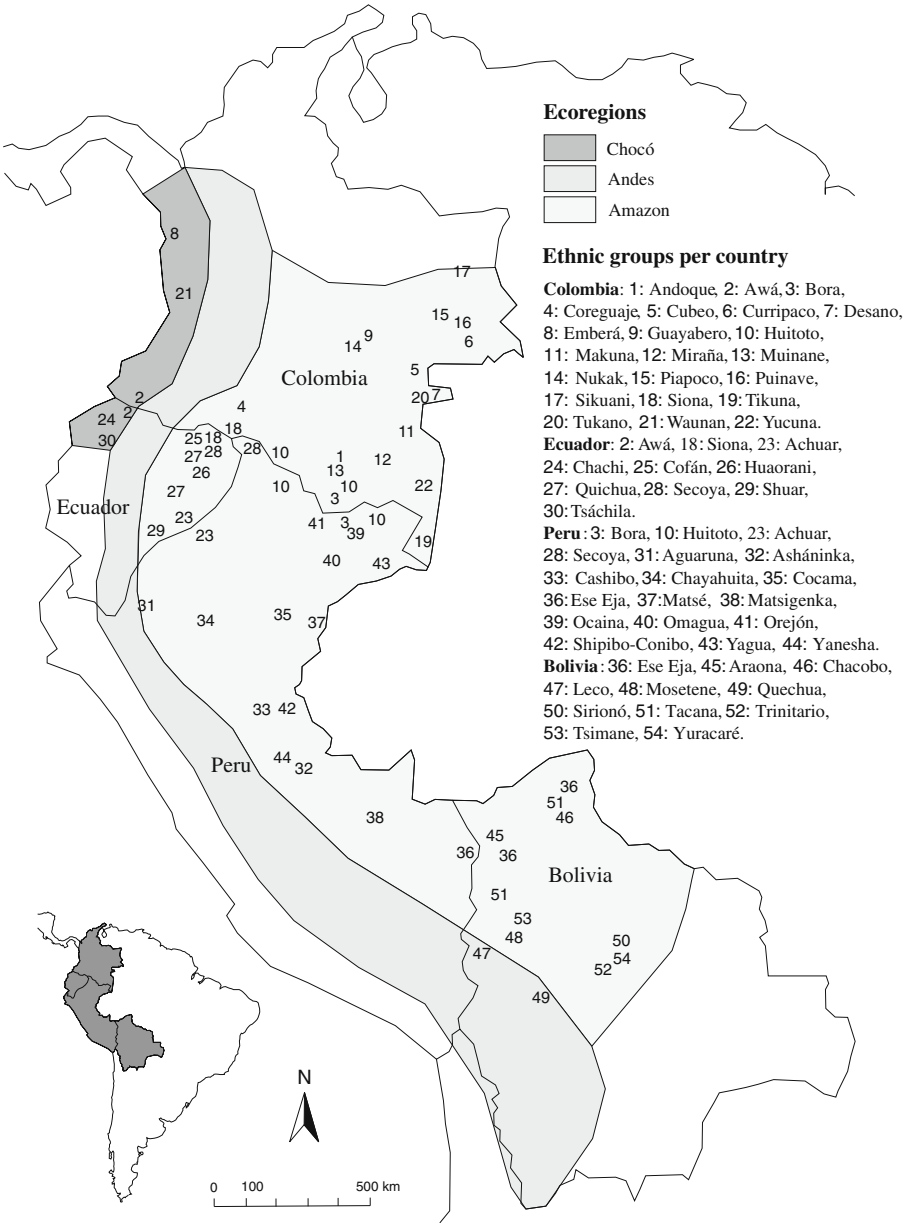


Fig. 1 Map of the study area in north-western South America showing ecoregions (Amazon, Andes, Chocó), countries (Colombia, Ecuador, Peru, Bolivia) and indigenous groups where palm ethnobotanical data were recorded

Bibliographical Search and Data Organization

A thorough bibliographic revision was performed to search for international and national publications for each of the four countries, including ethnographical publications with data on the uses of palms, when species identification was clear.

Three categories of publications were selected. The first included publications based on original data gathered from fieldwork, including scientific papers, books, monographs, book chapters, and graduate, masters and doctoral theses. The second category included review publications for which we checked that data had not been previously published, in order to avoid duplication of information. The third type included publications based on herbarium material which included ethnobotanical information that was not included in any publications (Borchsenius et al., 1998; Moraes, 2004; Moreno Suárez & Moreno Suárez, 2006).

A database was constructed in Microsoft Access. For each publication, the following information was included (when available): scientific name of the species as it was published, country, ecoregion, human group, assignation to categories and subcategories of use, plant part used, and vernacular names. To unify the nomenclature of the scientific names, the world checklist of palms was followed (Govaerts & Dransfield, 2005; Govaerts et al., 2006). The only exception was *Ceroxylon peruvianum,* which was recently described (Galeano et al., 2008), and therefore was not included in the checklist. The three broad habitat types in the Amazon ecoregion were lumped because most bibliographical references did not specify which of the three regions they referred to. Four human groups were recognized: (a) Indigenous, original population of a particular geographic region; (b) Mestizo, population of mixed origin, born from a father and mother of different race, generally white-indigenous; (c) Afroamerican, population of black race descendant of African slaves brought to America; in the study area they only live in the Chocó of Colombia and Ecuador; and (d) *Colono*, native to an ecoregion different to the one where they presently live due to recent migrations (e.g. Andean people living in the Amazon). Those use-reports where no indication of human group was mentioned were classified as "Not identified." The Ecuadorean Quichua and Shuar indigenous groups living in the transition between the Amazon and the Andes ecoregions were considered Amazonian groups because the majority of existing literature referring to them is from that ecoregion. Mixed populations of two or more indigenous groups were considered as a single group for analysis, but were not computed as a different ethnic group.

All uses recorded from the literature were classified in 10 ethnobotanical categories that were further divided into subcategories (Table 1). When the ethnobotanical information was not classifiable within the previous subcategories, it was assigned to the subcategory "*Other*". In the *Medicinal and Veterinary* category we also used the term "*Not Specified*" when a medicinal use description contained insufficient information to assign the use to one of the described subcategories. The vernacular names of all palm species cited in the bibliography were compiled, independent of the existence of ethnobotanical information.

Data Analysis

All data analysis were performed at the species level and thus the ethnobotanical information obtained for infraspecific taxa (i.e., subspecies or varieties) were lumped into the corresponding species. Ethnobotanical data recorded only at the genus level (460 use-reports) were excluded from the analysis, and seven references recorded palm uses only at this level (Acosta-Solis, 1948; Forero, 1980; Tournon et al., 1986; Salick, 1989; Fujisaka & White, 1998; Vásquez, 2000; Bussmann & Sharon, 2006).

Table 1 Description of use categories and subcategories in the present review

Use category	Use subcategory	Description
Animal Food	Fish Bait	Bait for fishing
	Fodder	Food for domestic animals
	Wildlife Attractant	Palms that provide food for mammals and whose location constitutes preferential areas for hunting
Construction	Bridges	Materials to bridge watercourses
	Houses	Houses and other constructions such as temporary camps, animal yards
	Thatch	House thatching and other constructions
	Transportation	Canoes, rafts, oars and other materials for sealing
	Other	Uses not classifiable within the previous subcategories, for example stems used as posts for telephone lines and gutters to transport water
Cultural Uses	Clothes and Accessories	Articles of clothing and accessories such as hats
	Cosmetic	Beauty products, including perfumes, oils, shampoo, and other hair care products
	Dyes	Dyeing of diverse materials (vegetables) and as body paint
	Personal Adornment	Necklaces, bracelets, earrings, armbands, pectorals, anklets
	Recreational	Musical instruments, toys, ashes as additives to the consumption of tobacco and coca leaves
	Ritual	Uses related to myth-religious aspects, including festivals and feasts, construction of coffins, to drive away feared animals, sorcery
	Other	Uses not classifiable under the previous subcategories
Environmental Uses	Agroforestry	Palms that are part of agroforestry systems with different management degrees
	Fences	Delimitation of properties, barriers
	Ornamental	Palms cultivated for ornamental purposes
	Soil Improvers	Fertilizers, edaphic protectors and agents against soil erosion
Fuel	Firewood	Wood to make fire
	Fire Starter	Combustion starters
	Lighting	Lamps, torches and candles
	Other	Uses not classifiable within the previous subcategories, for example for waterproofing canoes
Human Food	Beverages	Elaboration of unfermented or fermented drinks
	Food	Edible, generally with little preparation
	Food Additives	Ingredients used in the preparation and processing of foods
	Oils	Edible fats
Medicinal and Veterinary	Blood and Cardio-vascular System	Anemia, cardiovascular problems and ailments, cardiac diseases, varicose veins, hypertension, hypotension, haemorrhoids
	Cultural Diseases and Disorders	Ailments or disorders of magic-religious origin recognized by a specific culture, like mal aire

Table 1 (continued)

Use category	Use subcategory	Description
		('bad air'), arrebato ('outburst'), susto, huaraña
	Dental Health	Caries, tooth pains, fillings, dental hygiene
	Digestive System	Carminative, colics, flatulence, emetic, indigestion, purgative, gastric or intestinal ulcers, diarrhea, laxatives, liver and vesicular disorders, hepatitis
	Endocrine System	Diabetes
	General Ailments with Unspecific Symptoms	General ailments like body pains, general discomfort, weakness, headache, fever
	Infections and Infestations	Malaria, leishmaniasis, measles, antihelminthic, louse, fleas, chiggers, scabies
	Metabolic System and Nutrition	Obesity, weight loss
	Muscular-Skeletal System	Rheumatism, twists, fractures, sciatic, lumbalgia
	Nervous System and Mental Health	Migraine, mental disorders, epilepsy, paralysis, nervous disorders
	Poisoning	Snakebites, scorpion stings, rays, spiders, insects
	Pregnancy, Birth and Puerperium	Gestation, haemorrhage, childbirth, postnatal, lactation, abortive, postpartum
	Reproductive System and Reproductive Health	Menstruation, fertility, venereal diseases, prostrate, impotence, menopause, aphrodisiacs, contraceptives
	Respiratory System	Flu, cold, loss of voice, bronchitis, pneumonia, expectorant, cough
	Sensory System	Eye infections, cataracts, loss of sight or smell, deafness, ear infection
	Skin and Subcutaneous Tissue	Acne, boils, eczemas, burns, extraction of spines stuck on the skin
	Urinary System	Diuretic, kidney stones, urinary incontinence, urinary infections, cystitis
	Veterinary	Treatment of diseases or ailments for domestic animals
	Not Specified	Medicinal use or with pharmacological properties, but with insufficient information to assign to one of the described subcategories
	Other	Uses not classifiable within the previous subcategories, for example tumours, cancer, anaesthetic
Toxic	Fishing	Fish poison
	Hunting	Poison for hunting
Utensils and Tools	Domestic Utensils	Baskets, fans, hammocks, bags, domestic furniture, air freshener
	Hunting and Fishing Tools	Bows, arrows, blowpipes, harpoons, fishing nets, hunting traps
	Labour Tools	Agricultural or domestic tools like spinners, machetes and lubricants of these materials
	Rope	Manufacturing of ropes and moorings
	Wrappers	Wrappers for materials and foods

Table 1 (continued)

Use category	Use subcategory	Description
	Other	Uses not classifiable within the previous subcategories, for example insect repellents
Other Uses	Miscellaneous	Uses not classifiable within the previous categories. Indirect use of palms: insect larvae feeding on rotting stems used as food, medicine or bait

To analyse the uses of palms in different ecoregions, countries and human groups, the term "palm use" for a given species was defined as the use associated to a use category and use subcategory for a specific plant part. To analyse the abundance of palm uses, the term "use-report" was defined as the palm use described previously in one bibliographical reference.

To quantify the relative importance of the different use categories, the percentage of useful species for each category with respect to the total number of species used per ecoregion or country was used. In the case of the use subcategories, the percentage of useful species in each subcategory with respect to the total species used in the associated category was used.

To have an estimation of the ethnobotanical knowledge that exists in both different countries and ecoregions with respect to the total number of palm species, the percentage of useful species was calculated following the catalogue of Pintaud et al. (2008). To have an estimation of the number of indigenous groups with ethnobotanical information with respect to the existing total number of indigenous groups in the study area, the percentage of indigenous groups was calculated following Lewis (2009). In these latter calculations, the linguistic variants for the denomination of the same indigenous group were not considered.

To identify the most important useful species in each ecoregion, the Relative Importance (RI) index was calculated: RI=NUC+NT, where NUC=number of use categories in which a given species is used, divided by the total number of use categories of the most versatile species; NT=number of total use subcategories in which the cited species is found, divided by the total number of use subcategories that the most versatile species obtained (Bennett & Prance, 2000; Albuquerque et al., 2006). The maximum RI value that a species could obtain was 2. This index values the importance of the different species as a function of their versatility, without considering data relative to the number of bibliographic citations (Cartaxo et al., 2010).

Results

Palm Use by Ecoregions and Countries

A total of 194 useful palm species (representing 63% of the potentially existing species in north-western South America), 2,395 different uses, and 6,141 use-reports were found in the revision of 255 bibliographical references, including 95 palm use

monographs (Table 2; Appendix). The average (± SD) number of different uses per species was 12.3 (± 18.7) although great variability was observed between different species. Ethnobotanical information was recorded for 54 indigenous groups, which represents 49% of the total indigenous groups living in the study area (Lewis, 2009; Fig. 1).

The Amazon was the ecoregion with the highest values in all the variables compared: 134 useful species (90% of those potentially present), 82% of total different uses, 84% of total use-reports, an average (± SD) of 14.7 (± 20.0) uses per species, and 81% of total bibliographic references found (Table 2). Ethnobotanical information was found for 48% of all indigenous groups living in the area. Comparing the Amazon ecoregion in each of the four countries (Colombia, Ecuador, Peru and Bolivia) independently also gave the highest values in all the variables analysed (Table 2). The highest number of useful species, different uses and bibliographical references was found in the Peruvian Amazon, but the number of uses per species was the lowest there. In the Ecuadorean Amazon we found both the highest percentage of useful species and the highest percentage of indigenous groups studied, while the lowest percentages for these variables were found in the Amazon of Colombia and Peru.

In the Andes and Chocó ecoregions similar results were found for many of the studied variables, including number of palm uses, percentage of useful species, and number of bibliographic references (Table 2). However, even if the Andes ecoregion was slightly more diverse in useful palm species than the Chocó ecoregion (68 vs. 52), the average of different uses per species was highest in Chocó (6.7 vs. 5.1), where we found a higher number of use-reports (569 vs. 439). In general, the Andes was the second ecoregion in relative importance for Ecuador, Peru and Bolivia, whereas in Colombia the Chocó was more important than the Andes. The Andean region of Bolivia was the best studied of the four countries since in the Andes of Colombia, Ecuador and Peru no information was recorded for any indigenous group.

Colombia was the country with the highest number of useful palm species (105) and the highest number of indigenous groups for which ethnobotanical information about palms has been published (23), although the proportion of indigenous groups studied with respect to the total groups for the country was moderate (49%), and inferior only to Peru (Table 2). However, in Colombia the percentage of useful species in relation to palm species richness was the lowest of the four countries (48%), as was the average number of uses per species (7.8±10.1). Colombia was the country with the second lowest number of bibliographical references referring to palm uses, but the number of different palm uses and use-reports was comparatively high, only surpassed by Ecuador.

In Ecuador, the number of useful species found was slightly lower than for Colombia (103 vs. 105). Nonetheless, it was the country with the highest values for many of the variables compared: the highest number of different uses (936), use-reports (2010), percentages of useful species in relation to the palm species richness of the country (79%), percentage of indigenous groups studied (83%) and number of bibliographical references (81), including 31 palm monographs (Table 2).

Peru had intermediate values for most analyzed variables (Table 2). It was the country with the second highest proportion of useful species relative to the total palm species number in the country (76%), and also with respect to the number of

Table 2 Palm uses in the Amazon and Andes ecoregions of Colombia, Ecuador, Peru and Bolivia, and in the Chocó ecoregion of Colombia and Ecuador

Country/Ecoregion	Useful species	Palm uses	Palm use-reports	Average±SD of palm uses per species	Percentage of useful species/Potential total species	Indigenous groups with ethnobotanical information (Percentage of indigenous groups with info/Total indigenous groups)	Bibliographical references (Palm monographs)
All countries	**194**	**2,395**	**6,141**	**12.3±18.7**	**63.2**	**54 (49.1)**	**255 (95)**
Amazon	134	1,972	5,144	14.7±20.0	89.9	47 (47.5)	202 (69)
Andes	68	344	439	5.1±6.0	52.7	2 (28.6)	40 (27)
Chocó	52	347	569	6.7±7.3	49.0	5 (83.3)	38 (20)
Colombia	**105**	**814**	**1,429**	**7.8±10.1**	**47.5**	**22 (48.9)**	**63 (20)**
Amazon	70	615	1,049	8.8±10.6	67.6	19 (48.7)	41 (12)
Andes	18	35	39	1.9±1.2	19.8	–	6 (5)
Chocó	38	225	341	5.9±5.7	43.2	3 (75.0)	25 (11)
Ecuador	**103**	**936**	**2,010**	**9.1±11.9**	**79.4**	**10 (83.3)**	**81 (31)**
Amazon	62	676	1,494	10.9±12.3	91.2	7 (87.5)	59 (17)
Andes	52	240	295	4.6±5.3	82.5	–	20 (12)
Chocó	30	167	228	5.6±5.2	44.6	3 (75.0)	13 (10)
Peru	**96**	**785**	**1,390**	**8.2±10.1**	**75.6**	**18 (38.3)**	**74 (28)**
Amazon	93	772	1,369	8.3±10.1	87.7	18 (38.3)	70 (26)
Andes	4	19	21	4.8±3.4	9.1	–	4 (2)
Bolivia	**62**	**655**	**1,348**	**10.6±14.7**	**73.8**	**11 (61.1)**	**47 (22)**
Amazon	54	603	1,267	11.2±14.6	85.7	10 (58.8)	41 (17)
Andes	13	77	84	5.9±6.7	43.3	2 (100)	11 (9)

Total number of species in each ecoregion and country was obtained from Pintaud et al. (2008), and total number of indigenous groups from Lewis (2009)

bibliographical references with information on palm uses (74). And while it was the country with the second highest number of indigenous groups with published ethnobotanical information about palms (18), the percentage of indigenous groups studied (38%) was the lowest of the four countries.

Bolivia had the lowest values in most of the analyzed variables except for the average number of uses per species, which was the highest of the four countries (10.6±14.7) (Table 2). The percentage of useful species in relation to the total palm species richness in the country (74%) and the percentage of indigenous groups with published ethnobotanical palm information (61%) were the second most important. Concerning the published bibliographical references, a great number of palm use monographs were registered compared to other countries.

Palms in Different Use Categories and Plant Parts Used

In general, the use categories and subcategories with most useful species were the same as those with most use-reports. The main exceptions to this were (a) the *Agroforestry* subcategory in the *Environmental Uses* category, where the number of use-reports was frequently higher than the number of species found (e.g. overall 48% of the species and 53% of the use-reports; in Colombia 48% vs. 94%), as well as (b) in the *Firewood* subcategory in the *Fuel* category (e.g. in Colombia, especially in the Chocó ecoregion, 88% of the species and 94% of the use-reports). Therefore, to facilitate the interpretation of data in Table 3, only percentages of useful species for different use categories and subcategories are shown.

The main uses of palms in north-western South America were in the categories *Human Food* (70%), *Utensils and Tools* (66%), *Construction* (63%) and *Cultural Uses* (56%) (Table 3). The categories *Animal Food* (37%), *Medicinal and Veterinary* (35%), *Environmental Uses* (35%) and *Fuel* (22%) had the lowest numbers of useful species. In the initially proposed *Toxic* category, there were no use-reports. All parts of the palms had some ethnobotanical use, although the most used parts among all use categories (except in *Construction*) were fruits, stem and leaves (Table 4). For 9% of the use-reports, the plant part used was not indicated.

At the ecoregion level, the percentages of palm uses were higher in the lowlands (the Amazon and Chocó) than in the Andes for the majority of the use categories (Table 3). In the Amazon, the relative importance of the different use categories was similar to the general pattern previously described, with the only exception of *Medicinal and Veterinary* palms, which were more important than *Animal Food* (46% vs. 43%). The Chocó ecoregion had the same pattern of palm use as the Amazon, except in the *Environmental Uses* category, which was more prevalent (35% vs. 29%). In the Andes, the general pattern of palm use described above was also found, but with some notable exceptions: the *Construction* category had greater relative importance in the Andes compared to the lowlands, the *Environmental Uses* category, such as in Chocó, had more relevance than in the Amazon, and the *Utensils and Tools* category was less important in the Andes than in it was in the lowlands.

At the country level, the categories *Human Food, Construction, Utensils and Tools* and *Cultural Uses* were, in this order of importance, the ones that presented the highest percentages of useful species, except in Colombia, where *Utensils and Tools* was the most important category (62%) and *Human Food* occupied the fourth

Table 3 Percentages of useful palm species by different use categories and subcategories in tropical forests of north-western South America, broken down by ecoregion and country. Total percentages of each category (in bold) were calculated relative to the total useful species registered for each ecoregion and country. The percentages for the different subcategories were calculated relative to the total useful species registered in each of the categories by ecoregion and country

Use category/Subcategory	Total	Ecoregion			Country			
		Amazon	Andes	Chocó	Colombia	Ecuador	Peru	Bolivia
Human Food	**69.6**	**76.9**	**57.4**	**61.5**	**52.4**	**64.1**	**75.0**	**67.7**
Food	95.6	95.1	97.4	93.8	96.4	95.5	94.4	90.5
Beverages	41.5	44.7	25.6	34.4	32.7	37.9	34.7	40.5
Oils	20.0	20.4	10.3	34.4	27.3	13.6	12.5	33.3
Food Additives	8.9	10.7	5.1	6.3	10.9	4.5	4.2	14.3
Utensils and Tools	**65.5**	**73.9**	**32.4**	**57.7**	**61.9**	**58.3**	**56.3**	**53.2**
Domestic	77.2	81.8	86.4	53.3	64.6	75.0	81.5	90.9
Hunting and Fishing	55.9	63.6	27.3	46.7	63.1	65.0	48.1	39.4
Labour Tools	17.3	17.2	4.5	20.0	9.2	20.0	13.0	9.1
Wrappers	13.4	16.2	4.5	–	7.7	15.0	13.0	9.1
Rope	11.8	9.1	9.1	13.3	13.8	10.0	9.3	12.1
Other	34.6	26.3	18.2	66.7	43.1	30.0	16.7	24.2
Construction	**63.4**	**70.1**	**48.5**	**55.8**	**56.2**	**63.1**	**67.7**	**56.5**
Thatch	83.7	86.2	87.9	82.8	76.3	86.2	83.1	80.0
Houses	63.4	60.6	57.6	58.6	44.1	47.7	66.2	62.9
Transportation	8.9	7.4	3.0	13.8	5.1	7.7	6.2	2.9
Bridges	8.1	8.5	3.0	3.4	1.7	4.6	6.2	5.7
Other	21.1	25.5	3.0	17.2	32.2	4.6	9.2	20.0
Cultural Uses	**55.7**	**59.0**	**42.6**	**34.6**	**55.2**	**48.5**	**37.5**	**50.0**
Ritual	49.1	40.5	62.1	61.1	44.8	56.0	16.7	51.6
Recreational	45.4	57.0	13.8	33.3	60.3	20.0	25.0	41.9
Personal Adornment	39.8	50.6	6.9	16.7	32.8	50.0	25.0	32.3
Cloth and Accessories	34.3	36.7	24.1	27.8	22.4	24.0	36.1	48.4
Cosmetic	25.0	32.9	13.8	11.1	10.3	26.0	33.3	48.4
Dyes	9.3	8.9	3.3	16.7	3.4	10.0	8.3	6.5
Other	9.3	12.7	–	–	5.2	8.0	13.9	12.9
Animal Food	**36.6**	**42.5**	**20.6**	**19.2**	**20.0**	**44.7**	**23.9**	**35.5**
Wildlife Attractant	71.8	78.9	42.9	50.0	76.2	91.3	30.4	63.6
Fodder	38.0	31.6	57.1	50.0	19.0	21.7	26.1	50.0
Fish Bait	26.8	29.8	–	20.0	28.6	10.9	52.2	9.1
Medicinal and Veterinary	**35.1**	**45.5**	**16.2**	**23.1**	**27.6**	**31.1**	**34.4**	**33.9**
Digestive System	55.9	54.1	54.5	33.3	31.0	37.5	63.6	42.9
Respiratory System	38.2	39.3	18.2	16.7	20.7	31.3	18.2	47.6
General Ailments with Unspecified Symptoms	33.8	37.7	–	8.3	6.9	18.8	42.4	47.6
Infections and Infestations	30.9	32.8	18.2	–	20.7	15.6	42.4	9.5
Skin and Subcutaneous Tissue	26.5	27.9	27.3	8.3	6.9	21.9	12.1	38.1

Table 3 (continued)

Use category/Subcategory	Total	Ecoregion			Country			
		Amazon	Andes	Chocó	Colombia	Ecuador	Peru	Bolivia
Muscular-Skeletal System	22.1	23.0	9.1	8.3	10.3	12.5	15.2	33.3
Poisoning	19.1	21.3	9.1	–	24.1	3.1	9.1	23.8
Reproductive System and Reproductive Health	16.2	14.8	18.2	25.0	6.9	9.4	21.2	19.0
Cultural Diseases and Disorders	14.7	13.1	18.2	25.0	10.3	12.5	3.0	19.0
Blood and Cardio-Vascular System	11.8	9.8	–	16.7	6.9	3.1	9.1	14.3
Urinary System	8.8	8.2	27.3	8.3	13.8	6.3	6.1	14.3
Pregnancy, Birth and Puerperium	8.8	9.8	18.2	–	3.4	12.5	12.1	9.5
Dental Health	7.4	8.2	–	–	6.9	6.3	3.0	9.5
Endocrine System	7.4	8.2	–	–	–	–	9.1	9.5
Nervous System and Mental Health	7.4	6.6	9.1	–	–	9.4	6.1	–
Metabolic System and Nutrition	4.4	4.9	–	–	3.4	–	–	9.5
Sensory System	4.4	1.6	9.1	8.3	–	6.3	–	4.8
Veterinary	2.9	3.3	–	–	–	–	3.0	4.8
Not Specified	35.3	36.1	36.4	25.0	27.6	43.8	24.2	33.3
Other	5.9	6.6	–	–	–	6.3	6.1	–
Environmental Uses	**34.5**	**29.4**	**36.8**	**34.6**	**25.7**	**32.0**	**25.0**	**37.1**
Ornamental	62.7	57.5	68.0	55.6	48.1	66.7	37.5	52.2
Agroforestry	47.8	57.5	40.0	33.3	48.1	39.4	70.8	52.2
Fences	34.3	37.5	36.0	22.2	18.5	27.3	41.7	43.5
Soil Improvement	4.5	7.5	–	–	–	–	8.3	4.3
Fuel	**22.2**	**24.6**	**17.6**	**9.6**	**16.2**	**27.2**	**7.3**	**14.5**
Firewood	72.1	84.8	58.3	40.0	88.2	75.0	42.9	88.9
Fire Starter	23.3	21.2	16.7	20.0	11.8	21.4	28.6	11.1
Lighting	18.6	9.1	25.0	40.0	–	21.4	–	22.2
Other	9.3	12.1	–	–	–	10.7	28.6	–
Other uses	**22.7**	**29.1**	**8.8**	**17.3**	**21.9**	**14.6**	**28.1**	**14.5**

position (52%) (Table 3). In Colombia and Peru, the greater relative importance of the *Medicinal and Veterinary* category was notable compared to Ecuador and Bolivia, although the latter country had the highest percentage of use-reports for this category. The categories of *Animal Food* and *Environmental Uses* had varying importance in the different countries, without a recognizable pattern. Finally, the categories of *Fuel* and *Other Uses* were the least important in all countries.

Human Food. Palm uses in the different subcategories of *Human Food* were similar for all ecoregions and countries (Table 3; Appendix). Over 90% of the species were

Table 4 Percentages of use-reports for the different palm parts used in each category in tropical forests of north-western South America

Plant part	Human Food	Utensils and Tools	Construction	Cultural	Animal Food	Medicinal and Veterinary	Environmental	Fuel	Other Uses	Total
Fruit	60.6	2.4	–	13.7	76.5	23.8	1.1	7.8	6.0	25.1
Stem	0.8	30.0	36.1	7.7	0.9	4.0	20.7	52.3	64.7	18.1
Entire leaf	0.1	20.2	53.4	17.6	4.3	4.5	5.2	21.9	1.3	16.7
Seed	11.6	4.4	–	17.4	5.2	11.6	2.9	7.8	8.2	7.9
Palm heart	19.5	0.5	–	3.1	2.2	9.4	0.4	–	–	7.1
Root	0.2	3.2	–	2.5	–	31.3	–	–	0.4	3.9
Entire plant	–	–	–	7.4	–	0.4	65.3	–	–	3.6
Spear leaf	–	10.6	0.1	8.3	–	–	–	0.8	4.7	3.1
Petiole	–	5.1	0.5	1.3	–	0.2	–	0.8	0.9	1.2
Leaf rachis	–	4.8	0.2	1.3	–	0.2	–	–	–	1.1
Leaf sheath	–	3.1	–	0.5	–	0.2	–	3.1	0.9	0.8
Bract	–	1.7	–	3.5	–	–	–	–	–	0.7
Inflorescence	0.3	0.7	–	2.9	0.9	1.0	0.4	–	–	0.7
Flower	0.6	–	–	0.6	0.9	2.4	0.4	–	–	0.5
Spine	–	0.4	–	1.3	–	1.4	–	–	0.4	0.4
Infructescence	<0.1	0.2	–	0.3	–	0.2	0.4	–	–	0.1
Not specified	6.3	12.6	9.7	10.5	9.1	9.4	3.3	5.5	12.5	9.0

used as food or snack and more than 25% were used to prepare fermented or unfermented drinks, such as *leche* or *chicha* especially in the Amazon. Preparation of oils for human consumption was very important throughout the study region, though most prominent in the Chocó (34%) and Bolivia (33%). The use of palms for food additives was more prominent in the Amazon (11%) compared to other ecoregions, and at the country level in Bolivia and Colombia (14% and 11%, respectively). The palm parts most often used in this category were fruits (61%), palm heart (20%) and seeds (12%) (Table 4).

Utensils and Tools. In all ecoregions and countries, most species (77%) were used to make several objects for domestic use, such as hammocks, fans, carrying bags, baskets or mats (Table 3; Appendix). The second most important activity was the construction of tools for hunting and fishing (56%), including bows, arrows, harpoons and different types of traps, although this category had lower importance in the Andes (27%). The manufacturing of tools for cultivation in their fields (*chacras* or *chagras*) and homegardens was more important in the lowlands than in the Andes, especially in Ecuador (20%). The use of palm leaves for wrapping food or other objects was mostly recorded in the Amazon of Ecuador and Peru. Rope manufacture was less important, but uniform, for all ecoregions and countries, except in the Colombian Andes and Chocó. The subcategory *Other uses* had high values because many use-reports simply described the use as 'handicrafts' or 'ivory' (for instance, the use of *Phytelephas* seeds which were also used as handicrafts), and therefore could not be precisely assigned to a particular subcategory. The most important palm parts used for utensils and tools were the stem (30%), leaves (20%) and immature spear leaves (11%) (Table 4).

Construction. In this category, most species (>76%) were used for thatching houses and for temporal sheds in all ecoregions and countries (Table 3; Appendix). In second place was the use of palms in the construction of different house parts, such as beams, walls, floors or materials for the roof. The use of palms for construction of canoes was particularly relevant in the Chocó (14%) and the Amazon (7%), and for construction of bridges in the Amazon (9%). In the subcategory *Other Uses*, many use-reports only mentioned 'construction', which is a general term, for which reason the use could not be assigned with precision to a particular subcategory. The most used palm parts were the leaves (53%) and the stem (36%) (Table 4).

Cultural Uses. The most important cultural use in all ecoregions and countries was for ritual purposes, including festivals and feasts, particularly in the Andes (62%), and among the countries in Ecuador (56%) and Bolivia (52%) (Table 3; Appendix). In the Amazon (57%) and particularly in Colombia (60%), the recreational use of palms for the manufacture of musical instruments and toys, and for the preparation of ashes from several palm parts to be used in the traditional consumption of tobacco (*Nicotiana* spp.) and coca leaves (*Erythroxylum coca*) were of great importance. The use of palms for personal adornment, such as necklaces, bracelets, armbands, pectorals or earrings, had great importance in the Amazon (51%), and at the country level in Ecuador (50%). In the manufacture of cloth and accessories, like hats or buttons, and in the preparation of cosmetics, the highest importance was recorded in the Amazon, and at the country level in Bolivia (37% and 48% for the first

subcategory and 33% and 48% for the second, respectively). The use of palms to produce natural dyes was minor, but it was registered in all ecoregions and countries, and was of particular importance in the Chocó (17%). The most used palm parts were the entire leaves (18%), seeds (17%), and the fruits (14%) (Table 4).

Animal Food. The highest percentage of species used for *Animal Food* were used as wildlife attractant for hunting (72%), particularly in the Amazon (79%), and among the countries in Ecuador (91%) and Colombia (76%) (Table 3; Appendix). However, in the Andes and Chocó the use of palms as fodder had greater importance (57% and 50% respectively), and particularly in Bolivia (50%). The use of palms as fish bait had high values in the Amazon (30%) and in Peru (52%). The fruits were clearly the palm part most used (77%), followed by the seeds (5%) and leaves (4%) (Table 4).

Medicinal and Veterinary. Medicinal uses were found in all the proposed subcategories and were especially important in the Amazon, where the highest percentages were recorded for most subcategories (Table 3; Appendix). The highest percentage of medicinal species (56%) was registered for the treatment of ailments of the digestive system (e.g. stomach pains and diarrhoea), particularly in the Andes and the Amazon (55% and 54%, respectively) and, among the countries, for Peru (64%). The treatment of respiratory ailments, in particular colds and catarrh, were very important in the Amazon (39%) and Bolivia (48%). The use of palms to treat general common ailments of nonspecific character, such as headaches, general discomfort and body pains, was the subcategory with the third highest percentage of useful species (34%) in particular in the Amazon, and among the countries in Peru and Bolivia. Similarly, the treatment of infectious and parasitic diseases was most prominent in the Amazon (33%) and in Peru (42%). The percentages of palms used for skin and subcutaneous ailments were higher in the Amazon and Andes than in the Chocó, and among countries its use was highest in Bolivia (38%). The treatment of ailments and injuries of the muscular-skeletal system such as traumatisms, bone fractures, dislocations or sprains were more relevant in the Amazon (23%) and in Bolivia (33%). Palms were also used as antidotes against snakebites, scorpion stings and ant bites and stings, especially in the Amazon (21%), and in Colombia and Bolivia (24% in both cases). The percentage of palm species used for treating diseases of the reproductive system and for sexual health was higher in Chocó (25%) than in the other ecoregions, and among countries in Peru and Bolivia. Palms were also used to treat less well defined diseases, such as *aire*, evil eye, and *arrebato*, especially in the Chocó (25%) the Andes (18%), and in Bolivia (19%). For the treatment of blood and cardiovascular system ailments, the highest percentage of species was reported for the Chocó (17%) and in Bolivia (14%). The percentage of species used in both diseases and ailments of the urinary system, like cystitis, and the treatment of problems relating to pregnancy, birth and puerperium was highest in the Andes in both cases (27% and 18%, respectively). For the treatment of dental problems, diseases of the endocrine system, metabolic and nutritional problems, and for veterinary use, medicinal palm species were only reported in the Amazon, and the greatest percentage was registered in Bolivia (10% in all cases, except in the subcategory *Veterinary Uses* which was 5%). For treating diseases and ailments of the nervous system, mental health and sensory system, the highest percentage of

useful species was found in the Andes (9% in both cases) and in Ecuador (9% and 6%, respectively). The subcategory *Other Uses* included species with medicinal uses which could not be assigned to a described subcategory, for example for the treatment of cancer, hernia, or when the nature of an illness was not specified. The most used plant parts in popular medicine were the roots (31%), fruits (24%) and seeds (12%) (Table 4).

Environmental Uses. The main use in the category *Environmental Uses* was as ornamental plants for all ecoregions and countries except Peru, with special importance in the Andes (68%) and among the countries in Ecuador (67%) (Table 3; Appendix). The use of palms in agroforestry systems with different degrees of management ranked second, particularly in the Amazon (58%) and in Peru (71%), where it was the most important use. The use of palms as natural barriers and to delimit properties was used in all ecoregions and especially in Bolivia and Peru. The use of palms to improve soils was only registered in the Amazon of Peru and Bolivia. In this category the whole plant (65%) and the stem (21%) were mostly used (Table 4).

Fuel. The majority of the species were used for firewood in all countries and ecoregions, especially in the Amazon (85%) and among the countries in Bolivia and Colombia (89% and 88%, respectively) (Table 3; Appendix). The palms had notable importance as fire starters and as torches, candles, and lamps, particularly in the Chocó. Within the subcategory *Other Uses*, the use of palm leaves for burning and water-proofing canoes was important in the Amazon, particularly in Peru. The predominant parts used were the stem (52%), leaves (22%) and the fruits (8%) (Table 4).

Other Uses. The highest percentage of useful palms in all ecoregions and countries was related to the use of the larvae of the *Rhyncophorus palmarum* (Coleoptera) for human food (66% of total species), medicinal use, and as fish bait (Table 3; Appendix). These larvae develop mainly in rotting palm stems. The remaining uses are miscellaneous. The plant parts mostly used were the stem (65%), seeds (8%) and fruits (6%) (Table 4).

Palm Uses by Different Human Groups

Indigenous groups clearly used palms more prominently than other human groups. They presented the highest palm use values: number of useful species (129), different uses (1,555), use-reports (3,713), and higher average number of uses per species (12.1±16.7), although they were also the best studied human group (166 bibliographical references) (Table 5). The Amazon was the ecoregion with the highest values in all countries and for all human groups, except for the mestizos in Ecuador. In the Chocó, the indigenous groups recorded higher values for all variables compared to the Andes of Colombia and Ecuador, although in Ecuador the differences between these ecoregions were small.

The mestizos were the second human group in terms of palm use values (Table 5). The Amazon was the ecoregion with the highest values, with the exception of

Table 5 Use of palms by different human groups in tropical forests of north-western South America. For some ecoregions and countries no data was available

Human group/ Country	Ecoregion	Useful species	Palm uses	Palm use-reports	Uses±SD per species	References
Indigenous	**Total**	**129**	**1,555**	**3,713**	**12.1±16.7**	**166**
Colombia	All ecoregions	74	574	926	7.8±9.8	48
	Amazon	59	513	823	8.7±10.3	37
	Andes	1	1	1	1.0±0.0	1
	Chocó	26	87	102	3.3±2.9	13
Ecuador	All ecoregions	78	770	1,704	9.9±11.9	67
	Amazon	59	656	1,448	11.1±12.2	57
	Andes	23	95	109	4.1±3.0	10
	Chocó	24	110	149	4.6±3.8	8
Peru	All ecoregions/ Amazon	47	278	402	5.9±5.8	29
Bolivia	All ecoregions	33	397	716	12.0±13.3	30
	Amazon	32	385	694	12.0±12.2	28
	Andes	3	25	25	8.3±11.0	3
Mestizo	**Total**	**49**	**215**	**304**	**4.4±4.5**	**30**
Ecuador	All ecoregions	15	28	30	1.9±1.8	4
	Amazon	5	6	5	1.0±0.0	2
	Andes	11	24	25	2.2±2.0	3
Peru	All ecoregions	35	163	239	4.7±4.5	22
	Amazon	34	155	226	4.6±4.1	20
	Andes	2	11	13	5.5±4.9	2
Bolivia	All ecoregions	10	35	35	3.5±2.1	4
	Amazon	9	29	29	3.2±2.1	3
	Andes	2	6	6	3.0±1.4	1
Afroamerican	**Total**	**24**	**82**	**90**	**3.4±2.7**	**7**
Colombia	All ecoregions/ Chocó	23	77	84	3.3±2.4	5
Ecuador	All ecoregions/ Chocó	3	6	6	2.0±1.7	2
Colono	**Total**	**15**	**56**	**61**	**3.7±2.7**	**12**
Colombia	All ecoregions/ Amazon	10	33	33	3.3±1.6	3
Ecuador	All ecoregions	8	14	14	1.8±1.0	7
	Amazon	6	9	9	1.5±0.5	5
	Andes	1	1	1	1.0±0.0	1
	Chocó	1	4	4	4.0±0.0	1
Peru	All ecoregions/ Amazon	4	9	9	2.3±0.5	1
Bolivia	All ecoregions/ Amazon	2	5	5	2.5±0.7	1
Not identified	**Total**	**170**	**1,166**	**2,012**	**6.9±10.1**	**86**

Table 5 (continued)

Human group/ Country	Ecoregion	Useful species	Palm uses	Palm use-reports	Uses±SD per species	References
Colombia	All ecoregions	82	293	393	3.6±3.9	21
	Amazon	51	173	199	3.4±3.3	11
	Andes	18	35	39	1.9±1.2	6
	Chocó	29	113	156	3.9±3.1	12
Ecuador	All ecoregions	61	242	273	4.0±5.0	18
	Amazon	19	36	43	1.9±2.7	6
	Andes	38	155	160	4.1±4.6	9
	Chocó	16	63	74	3.9±5.0	9
Peru	All ecoregions	87	531	750	6.1±6.9	30
	Amazon	85	523	742	6.2±7.0	28
	Andes	2	8	8	4.0±2.8	2
Bolivia	All ecoregions	56	382	596	6.8±8.0	18
	Amazon	48	340	543	7.1±8.2	15
	Andes	10	47	53	4.7±5.3	7

Ecuador, where the Andes had a greater importance. Peru was the country with the highest number of bibliographical references. No use-report was found for mestizos in the Chocó ecoregion or Colombia.

A greater number of useful palms were registered for the afroamericans, when compared to *colonos* (Table 5). Colombia reported higher values than Ecuador for all the variables analyzed, and these values were similar to those registered for the Colombian indigenous groups of the same ecoregion, despite having a lower number of references.

The *colonos* presented the lowest values of all groups compared in all countries, except for the average number of uses per species, which was slightly higher than for afroamericans (Table 5). Most information was registered in the Amazon, and among the countries in Colombia and Ecuador.

Finally, it is worth mentioning that for all ecoregions and countries very high values were registered for unidentified human groups, since the bibliographical information was not precise. Curiously, they registered the highest number of useful species (170) (Table 5).

Palm Uses by Indigenous Groups

Ethnobotanical information concerning palms was found for 54 indigenous groups: 47 in the Amazon ecoregion, two in the Andes, and five in the Chocó (Fig. 1; Table 2). There was great variation in the ethnobotanical knowledge of palms for the different indigenous groups, and the greatest knowledge was observed in Ecuador for all three ecoregions (Table 6). In general, the most studied indigenous groups were also those with the greatest observed ethnobotanical knowledge. For example, for some indigenous groups (e.g. Quichua, Huaorani or Shuar in Ecuador) many

Table 6 Use of palms by the different indigenous groups living in the tropical forests of north-western South America

Indigenous group	Country	Useful species	Palm uses	Palm use-reports	Uses±SD per species	References
Amazon						
Quichua (also in Andes)	Ecuador	44	243	387	5.5±6.8	23
Huaorani	Ecuador	43	337	500	7.8±6.8	13
Shuar (also in Andes)	Ecuador	40	186	305	4.7±4.7	15
Muinane	Colombia	36	183	183	5.1±3.8	2
Secoya	Ecuador/Peru	29	93	105	3.2±2.1	6
Cofán	Ecuador	26	99	127	3.8±2.8	5
Cocama	Peru	25	59	59	2.4±1.4	2
Tacana	Bolivia	23	205	262	8.9±8.1	5
Siona	Colombia/ Ecuador	22	39	40	1.8±1.9	4
Shipibo-Conibo	Peru	20	55	63	2.8±1.5	4
Tikuna	Colombia	19	77	80	4.1±2.7	5
Tsimane/ Mosetene	Bolivia	18	108	121	6.0±2.9	3
Cubeo	Colombia	18	45	46	2.5±2.8	4
Achuar	Ecuador/Peru	18	41	49	2.3±1.4	7
Huitoto	Colombia/ Peru	17	62	62	3.6±3.6	9
Chayahuita	Peru	17	26	26	1.5±0.9	1
Miraña	Colombia	16	63	67	3.9±2.9	4
Matsigenka	Peru	16	31	31	1.9±1.0	1
Nukak	Colombia	15	120	168	8.0±5.2	3
Bora	Colombia/ Peru	14	58	66	4.1±2.9	10
Matsé	Peru	14	36	36	2.6±1.5	1
Chacobo	Bolivia	13	36	37	2.8±1.5	2
Quechua/ Tacana	Bolivia	12	73	73	6.1±3.3	1
Aguaruna	Peru	11	36	40	3.3±2.0	2
Yucararé/ Trinitario	Bolivia	10	69	69	6.9±3.4	2
Andoque	Colombia	10	28	28	2.8±1.3	2
Yucuna	Colombia	10	20	20	2.0±1.1	4
Puinave	Colombia	9	18	18	2.0±1.4	4
Yagua	Peru	9	15	15	1.7±0.9	3
Ese Eja	Bolivia/Peru	9	14	14	1.6±0.7	2
Tsimane	Bolivia	8	39	43	4.9±3.9	5
Mosetene	Bolivia	7	26	29	3.7±2.3	4

Table 6 (continued)

Indigenous group	Country	Useful species	Palm uses	Palm use-reports	Uses±SD per species	References
Siona-Secoya	Colombia/Ecuador	6	11	11	1.8±0.8	2
Bora-Ocaina-Huitoto	Peru	5	21	21	4.2±2.0	1
Sirionó	Bolivia	5	16	26	3.2±4.9	3
Orejón	Peru	5	7	7	1.4±0.9	2
Guayabero	Colombia	3	18	18	6.0±1.7	1
Curripaco	Colombia	3	8	8	2.7±2.9	2
Yuracaré	Bolivia	3	8	9	2.7±2.1	3
Ocaina	Peru	3	5	5	1.7±1.2	2
Omagua	Peru	3	4	4	1.3±0.6	1
Yanesha	Peru	2	8	8	4.0±2.8	2
Asháninka	Peru	2	3	3	1.5±0.7	1
Desano	Colombia	2	2	2	1.0±0.0	1
Makuna	Colombia	2	2	2	1.0±0.0	1
Piapoco	Colombia	1	2	2	2.0±0.0	1
Trinitario	Bolivia	1	2	2	2.0±0.0	1
Tukano	Colombia	1	2	2	2.0±0.0	1
Cashibo	Peru	1	1	1	1.0±0.0	1
Coreguaje	Colombia	1	1	1	1.0±0.0	1
Sikuani	Colombia	1	1	1	1.0±0.0	1
Araona	Bolivia	1	1	1	1.0±0.0	1
Andes						
Leco	Bolivia	2	24	24	12.0±12.7	2
Quechua	Bolivia	1	1	1	1.0±0.0	1
Chocó						
Awá	Colombia/Ecuador	18	74	84	4.1±3.4	8
Chachi	Ecuador	15	70	87	4.9±3.5	6
Tsáchila	Ecuador	13	27	28	2.1±1.1	3
Emberá	Colombia	6	9	9	1.5±1.2	2
Waunan	Colombia	1	8	8	8.0±0.0	1

useful palm species, different uses and use-reports were found, but this may be because they were particularly well studied (≥13 bibliographical references per group). However, other indigenous groups (e.g. Muinane of Colombia or Cocama of Peru) also had many useful palm species, different uses and use-reports, but these were described in just two bibliographical references.

A total of 1,933 vernacular palm names were registered (including orthographic variants), corresponding to 178 palm species. Of these names, 33% were in Spanish (158 species) and 67% in different indigenous languages (130 species).

Outstanding Useful Palm Species by Ecoregions

In general, the species with the highest relative importance values also had the highest number of palm uses, use-reports and bibliographical references (Table 7). Five species were found as the most important in all three ecoregions: *Bactris gasipaes*, *Iriartea deltoidea*, *Oenocarpus bataua*, *O. mapora* and *Socratea exorrhiza*. In the Amazon ecoregion, the most important genera were *Astrocaryum*, *Attalea*, *Oenocarpus* and *Phytelephas,* each with more than one species with the highest relative importance whereas in the Chocó three of them, *Attalea*, *Oenocarpus* and *Phytelephas*, were among the most important. In contrast, in the Andes the genera *Ceroxylon*, *Oenocarpus* and *Parajubaea* were the most important. In the Amazon and Chocó ecoregions, the most versatile species were used in all countries, but in the Andes the most important species did not have such a broad geographical range of use, with the exception of *Bactris gasipaes,* which was registered in all four countries.

Discussion

Arecaceae is probably the most important plant family in the Neotropics, in terms of use diversity and abundance. Palms are widely used for a great number of purposes throughout all ecoregions and by all human groups in north-western South America. The use of palms has been documented in several monographs with local or national scope (e.g. Balslev & Barfod, 1987; Bernal, 1992; Borchsenius et al., 1998) and in numerous ethnobotanical studies with diverse indigenous groups (e.g. Boom, 1986; Kronik, 2001; Macía, 2004), mestizos (e.g. Mejía, 1988; Stagegaard et al., 2002; Balslev et al., 2008), afroamericans (e.g. Galeano, 2000), and *colonos* (e.g. Flores Paitán, 1998). The present quantitative revision underlines the great importance of comparative ethnobotanical studies at a regional geographic scale, and call attention to many different uses and species consistently shared between different human groups across the western Amazon, the Chocó and the Andes ecoregions.

The use of palms is not random since their main uses are the same in different ecoregions and countries: palms are mostly used for human food, for manufacture of objects and utensils of domestic use, and for the construction of houses. This underlines their fundamental role in satisfying basic subsistence needs of rural indigenous and peasant population of north-western South America, in the same way that previous studies have demonstrated the importance of palms on local scales (Galeano, 2000; Narváez et al., 2000; Gertsch et al., 2002; Campos & Ehringhaus, 2003; Macía, 2004; Paniagua-Zambrana et al., 2007). Palms also have great importance in different cultural practices, which also confirms at regional scales the results of previous papers showing the cultural importance of palms for some ethnic groups in South America (Schultes, 1974; Bodley & Benson, 1979; Gertsch et al., 2002).

The enormous importance of palms in the Amazon can be explained by two complementary factors. On the one hand, their high species diversity allows access to a wide array of potential resources (Begossi, 1996; De la Torre et al., 2009; Brokamp et al., 2011), and on the other hand, the great diversity of

Table 7 Useful palms with high relative importance value index in different ecoregions of tropical forests of north-western South America

Species per ecoregion	Relative Importance	Palm uses	Palm use-reports	Countries	References
Amazon					
Bactris gasipaes	2.0	76	414	C, E, P, B	109
Euterpe precatoria	2.0	89	358	C, E, P, B	91
Oenocarpus bataua	2.0	107	544	C, E, P, B	117
Attalea phalerata	1.9	78	227	P, B	28
Mauritia flexuosa	1.9	95	381	C, E, P, B	101
Attalea maripa	1.7	61	136	C, E, P, B	31
Iriartea deltoidea	1.7	70	283	C, E, P, B	79
Oenocarpus mapora	1.7	50	175	C, E, P, B	51
Socratea exorrhiza	1.7	63	236	C, E, P, B	69
Astrocaryum chambira	1.6	60	255	C, E, P	68
Astrocaryum murumuru	1.6	53	103	C, E, P, B	24
Attalea butyracea	1.6	37	85	C, E, P, B	26
Astrocaryum aculeatum	1.5	39	65	C, P, B	17
Phytelephas macrocarpa	1.5	35	118	C, E, P, B	47
Phytelephas tenuicaulis	1.4	30	72	C, E, P	18
Andes					
Bactris gasipaes	2.0	34	45	C, E, P, B	8
Oenocarpus bataua	1.6	22	38	E, B	6
Iriartea deltoidea	1.4	18	24	C, E	4
Attalea phalerata	1.3	21	21	B	1
Wettinia maynensis	1.3	17	26	E	5
Socratea exorrhiza	1.1	10	15	E	3
Ceroxylon echinulatum	1.0	8	14	C, E, P	4
Oenocarpus mapora	1.0	10	12	E	2
Ceroxylon ventricosum	0.9	7	7	E	1
Parajubaea sunkha	0.9	16	16	B	3
Phytelephas aequatorialis	0.9	8	8	E	2
Prestoea ensiformis	0.9	9	9	E	1
Dictyocaryum lamarckianum	0.8	9	11	C, E, B	6
Parajubaea torallyi	0.8	12	13	B	3
Chocó					
Cocos nucifera	2.0	30	48	C, E	11
Bactris gasipaes	1.6	24	46	C, E	13
Wettinia quinaria	1.6	20	32	C, E	13
Astrocaryum standleyanum	1.4	27	54	C, E	18
Iriartea deltoidea	1.4	17	32	C, E	14
Euterpe oleracea	1.3	17	40	C, E	12
Oenocarpus bataua	1.2	18	36	C, E	15
Phytelephas aequatorialis	1.2	14	20	E	5

Table 7 (continued)

Species per ecoregion	Relative Importance	Palm uses	Palm use-reports	Countries	References
Oenocarpus mapora	1.1	14	20	C, E	8
Attalea colenda	1.0	12	21	C, E	8
Socratea exorrhiza	1.0	14	21	C, E	10
Manicaria saccifera	0.9	10	20	C	9
Attalea cuatrecasana	0.8	10	13	C	5
Geonoma cuneata	0.8	8	10	C, E	5
Phytelephas seemannii	0.8	7	13	C	7
Synechanthus warscewiczianus	0.8	7	8	E	5

Country abbreviations

C Colombia, *E* Ecuador, *P* Peru, *B* Bolivia

indigenous groups favours a highly distinctive ethnobotanical knowledge (Campos & Ehringhaus, 2003). Although the Amazon was clearly the best studied ecoregion, ethnobotanical studies (that include palms) have so far only been conducted among less than 50% of the remaining indigenous groups. Likewise, in the Andes and the Chocó, ethnobotanical knowledge of palms is even more restricted, and for more than 50% of the species in both ecoregions, no uses have been documented.

We found that Ecuador is the best studied of the four countries in all ecoregions. There, and to a lesser degree in Bolivia, the percentage of useful palm species and the percentage of indigenous groups with documented palm uses were higher, which indicates that the use of palms is comparatively better documented than in Peru and Colombia. The high average number of uses per species recorded in Bolivia could be explained by the higher number of palm monographs from that country. Following this thinking, Peru and Colombia would be less known in palm ethnobotany than the two other countries. In Peru, the high number of indigenous groups for which we do not have ethnobotanical information underlines that the available data on palm uses remains incomplete. In Colombia a very low percentage of useful species was recorded, even though it is the country with the highest species richness. All this points to the need for more studies to complement the ethnobotanical knowledge on palms in all three ecoregions, but particularly in the Chocó where a great richness of potentially useful species has been reported (Galeano & Bernal, 2010).

Previous studies suggested that indigenous people possess a greater knowledge about the uses of palms than mestizos or *colonos* possess in north-western South America (Campos & Ehringhaus, 2003; Byg & Balslev, 2004; Byg et al., 2007) and our paper reinforces this conclusion. This is the result of a complex set of interactions between diverse factors, including: (a) historical ones, since a long occupation of a territory facilitates the development of extensive ethnobotanical knowledge, (b) cultural ones, based on hundreds of years of orally transmitted traditional ecological knowledge, and (c) economic ones, in particular by the

reduced degree of access to markets which mean they use palms for subsistence and are not able to purchase palm products substitutes (Alcorn, 1981; Balée, 1994; Byg & Balslev, 2004; Byg et al., 2007; Paniagua-Zambrana et al., 2007). Moreover, indigenous knowledge is highly differentiated, even between ethnic groups that occupy nearby geographical areas and share similar resources such as palms (Campos & Ehringhaus, 2003), or medicinal plants (Shepard, 2004; Collins et al., 2006). In general, the best studied indigenous groups had a richer and more diversified ethnobotanical knowledge. But, not only the number of publications existing for each group is important, so is the existence of monographs on palms that contribute to a greater degree to the number of useful species and different uses. This again underlines the need for more ethnobotanical studies focusing on palms, as information is nonexistent for over 50% of the indigenous groups in north-western South America.

The traditional knowledge of mestizos should not be undervalued, since it is equally diverse and even complementary to that of indigenous groups in several use categories (see also De la Torre et al., 2008). Frequently, mestizos have a long settlement history, which allow them to develop a profound ecological knowledge in their environment, which may be similar to those of various indigenous groups. In our study, the number of palm uses for mestizo people could probably be higher, because many publications do not mention explicitly the human group studied, and it is likely that many of these publications refer to mestizos.

The Colombian afroamericans, who have been better studied than the Ecuadorean afroamericans, had a similar level of knowledge of palms as did indigenous groups in the Chocó ecoregion. This can be explained by the group´s long history of residence and their prolonged contact with indigenous people in this region (Mendoza et al., 1995).

Some palm species have an enormous importance due to their large number of different uses. This uneven distribution in their uses has also been registered in previous studies (Campos & Ehringhaus, 2003; Macía, 2004; Byg et al., 2006; Paniagua-Zambrana et al., 2007; Balslev et al., 2010b). Such species are often trees that are relatively abundant in the different habitats, due to their wide ecological amplitude (Ruokolainen & Vormisto, 2000; Byg et al., 2006; Balslev et al., 2011). The preference for certain uses can be interpreted as the result of a number of factors, including easy accessibility to the species, larger quantities of resources available, and the potentially greater sustainability of their use under minimum management (Byg et al., 2006; Bernal et al., 2011). These multi-use species play a fundamental role in the local subsistence strategies and represent key cultural species (Garibaldi & Turner, 2004; Balslev et al., 2010b).

The unequal number of bibliographic references and monographs that refer to the different variables analyzed (ecoregions, countries, human groups, indigenous groups, and palm species), certainly limits the strength of the conclusions that can be drawn. Nevertheless, the variables with higher use-reports showed a more intense and diversified use of palms.

As a result of the experience gained in this palm use revision, we suggest a more precise ethnobotanical data collection that would include: (a) making an effort to identify plants to the species level; (b) writing vernacular names carefully and indicating the language in each case; (c) gathering information from different uses as

completely as possible in order to subsequently classify uses within at least two levels of utility (category and subcategory); (d) noting the plant part used for each different use; (e) specifying the human group and/or ethnic group from which the information was gathered; (f) obtaining detailed geographical information of the study area, including forest types or habitats; and lastly, (g) in the case of medicinal species, writing precisely the medicinal indication, mode of preparation and ways of administration for each case.

Acknowledgements We kindly thank Joaquina Albán, Rodrigo Bernal, Roxanna Castañeda, Lucía de la Torre, Gloria Galeano, Eva Ledezma, and Laura Mesa for their assistance in searching for bibliographical references, Bob Allkin, Bill Baker and Anders Barfod for their help in the construction of our database, and Patricia Balvanera, Rodrigo Bernal, Jamie Nicole Cotta, and Lucía de la Torre for their helpful comments on an earlier draft of the manuscript. This study was funded by European Union, 7th Framework Programme (contract no. 212631) for which we are grateful. Henrik Balslev also acknowledges support from the Danish Council for Independent Research - Natural Sciences (grant no. 10–83348).

Literature Cited

Acero-Duarte, L. E. 1979. Principales plantas útiles de la Amazonia colombiana. Editora Guadalupe, Bogotá.

Acosta-Solis, M. 1948. Tagua or vegetable ivory—a forest product of Ecuador. Economic Botany 2: 46–57.

——— 1952. Las fibras y lanas vegetales en el Ecuador. Contribución No. 21, Instituto Ecuatoriano de Ciencias Naturales, Quito.

——— 1971. Palmas económicas del Noroccidente ecuatoriano. Naturaleza Ecuatoriana 1: 80–163.

Aguilar, Z. 2006. Influence of the Huaorani on the conservation of *Oenocarpus bataua*, Arecaceae in Yasuní National Park and Biosphere Reserve, Amazonian Ecuador. Lyonia 10: 83–90.

Aguirre, G. 2006. Plantas medicinales utilizadas por los indígenas Mosetén-Tsimane´ de la comunidad Asunción del Quiquibey en la RB-TCO Pilón Lajas, Beni, Bolivia. Graduate thesis, Facultad de Ciencias Puras y Naturales, Universidad Mayor de San Andrés, La Paz.

Aguirre, Z., O. Cabrera, A. Sanchez, B. Merino & B. Maza. 2003. Composición florística, endemismo y etnobotánica de la vegetación del Sector Oriental, parte baja del Parque Nacional Podocarpus. Lyonia 3: 5–14.

Alarcón, R. 1988. Etnobotánica de los Quichuas de la Amazonia ecuatoriana. Miscelánea Antropológica Ecuatoriana, Serie Monográfica (Ecuador) 7: 1–179.

——— 1994. El taller "Etnobotánica y valoración económica de los recursos florísticos silvestres". Pp 1–44. *In:* R. Alarcón, P. Mena, & A. Soldi (eds). Etnobotánica, valoración económica y comercialización de recursos florísticos silvestres en el Alto Napo, Ecuador. Ecociencia, Quito.

Albán, J. 1994. La mujer y las plantas útiles silvestres en la comunidad Cocama-Cocamilla de los ríos Samiria y Marañón. World Wildlife Foundation, Biodiversity Support Program 7560, Lima.

Albuquerque, U. P., R. F. P. Lucena, J. M. Monteiro, A. T. N. Florentino & C. F. C. Almeida. 2006. Evaluating two quantitative ethnobotanical techniques. Ethnobotany Research and Applications 4: 51–60.

Alcorn, J. B. 1981. Factors influencing botanical resource perception among the Huastec: suggestions for future ethnobotanical inquiry. Journal of Ethnobiology 1: 221–230.

Alexiades, M. N. 1999. Ethnobotany of the Ese Ejja: plants, health, and change in an Amazonian society. PhD thesis, The City University of New York, New York.

Allen, P. H. 1947. Indians of Southeastern Colombia. Geographical Review 37: 567–582.

Anderson, P. J. 2004. The social context for harvesting *Iriartea deltoidea* (Arecaceae). Economic Botany 58: 410–419.

Antezana, L. 1976. Palmeras nativas de Bolivia de valor económico. Pp. 87–97. *In:* Anonymous (ed.), Simposio internacional sobre plantas de interés económico de la flora amazónica. IICA, Turrialba.

Armesilla, P. J. 2006. Usos de las palmeras (Arecaceae) en la Reserva de la Biosfera-Tierra Comunitaria de Origen Pilón Lajas, (Bolivia). Graduate thesis, Facultad de Ciencias, Universidad Autónoma de Madrid, Madrid.

Ayala, F. 1984. Notes on some medicinal and poisonous plants of Amazonian Peru. Advances in Economic Botany 1: 1–8.

Báez, S. 1998. Dictionary of plants used by the Canelos-Quichua. Pp 64–70. *In:* H. Borgtoft, F. Skov, J. Fjeldså, I. Schjellerup, & B. Øllgaard (eds). People and biodiversity– Two case studies from the Andean foothills of Ecuador. Centre for research on cultural and biological diversity of Andean rainforests (DIVA), Rønde.

——— **& Å. Backevall.** 1998. Dictionary of plants used by the Shuar of Makuma and Mutints. Pp 125–133. *In:* H. Borgtoft, F. Skov, J. Fjeldså, I. Schjellerup, & B. Øllgaard (eds). People and biodiversity– Two case studies from the Andean foothills of Ecuador. Centre for research on cultural and biological diversity of Andean rainforests (DIVA), Rønde.

Balée, W. 1988. Indigenous adaptation to Amazonian palm forests. Principes 32: 47–54.

——— 1994. Footprints of the forest– Ka' apor ethnobotany: the historical ecology of plant utilization by an Amazonian people. Columbia University Press, New York.

Balick, M. J. 1984. Ethnobotany of palms in the Neotropics. Advances in Economic Botany 1: 9–23.

——— 1986. Systematics and economic botany of the *Oenocarpus-Jessenia* (Palmae) complex. Advances in Economic Botany 3: 1–140.

Balslev, H. & A. Barfod. 1987. Ecuadorean palms– an overview. Opera Botanica 92: 17–35.

——— **& U. Blicher-Mathiesen.** 1994. La "palma real" de la Costa ecuatoriana (*Attalea colenda*, Arecaceae) un recurso poco conocido de aceite vegetal. Pp 47–62. *In:* M. Rios & H. Borgtoft (eds). Las plantas y el hombre. Memorias del primer simposio ecuatoriano de etnobotánica y botánica económica. Ediciones Abya-Yala, Quito.

——— **& A. Henderson.** 1987a. Palm portrait, Prestoea palmito. Principes 31: 11.

——— **&** ———**.** 1987b. A new *Ammandra* (Palmae) from Ecuador. Systematic Botany 12: 501–504.

———**, W. Eiserhardt, T. Kristiansen, D. Pedersen & C. Grandez.** 2010a. Palms and palm communities in the upper Ucayali river valley—a little known region in the Amazon basin. Palms 54: 57–72.

———**, C. Grandez, N. Y. Paniagua-Zambrana, A. L. Møller & S. L. Hansen.** 2008. Useful palms (Arecaceae) near Iquitos, Peruvian Amazon. Revista Peruana de Biología 15: 121–132.

———**, F. Kahn, B. Millan, J. C. Svenning, T. Kristiansen, F. Borchsenius, D. Pedersen & W. Eiserhardt.** 2011. Species diversity and growth forms in tropical American palm communities. Botanical Review. doi:10.1007/s12229-011-9084-x.

———**, T. R. Knudsen, A. Byg, A. M. Kronborg & C. Grandez.** 2010b. Traditional knowledge, use, and management of *Aphandra natalia* (Arecaceae) in Amazonian Peru. Economic Botany 64(1): 55–67.

———**, M. Rios, G. Quezada & B. Nantipa.** 1997. Palmas útiles en la cordillera de los Huacamayos. PROBONA, Quito.

Barfod, A. & H. Balslev. 1988. The use of palms by the Cayapas and Coaiqueres on the Coastal plain of Ecuador. Principes 32: 29–42.

Barriga, R. 1994. Plantas útiles de la Amazonia peruana: características, usos y posibilidades. CONCYTEC, Lima.

Beck, S. G., T. J. Killeen & E. García. 1993. Vegetación de Bolivia. Pp 6–24. *In:* T. J. Killeen, E. García, & S. G. Beck (eds). Guía de árboles de Bolivia. Herbario Nacional de Bolivia/Missouri Botanical Garden, La Paz.

Begossi, A. 1996. Use of ecological methods in ethnobotany: diversity indices. Economic Botany 50: 280–289.

Bennett, B. C. & G. T. Prance. 2000. Introduced plants in the indigenous pharmacopoeia of northern South America. Economic Botany 54: 90–102.

———**, M. A. Baker & P. Gómez-Andrade.** 2002. Ethnobotany of the Shuar of Eastern Ecuador. Advances in Economic Botany 14: 1–299.

Bergman, R. 1990. Economia Amazonica. Estrategias de subsistencia en las riberas del Ucayali en el Perú. Centro Amazónico de Antropología y Aplicación Práctica, Lima.

Bernal, R. 1992. Colombian palm products. Pp 158–172. *In:* M. Plotkin & L. Famolare (eds). Sustainable harvest and marketing of rain forest products. Island Press, Washington.

——— 1998. Demography of the vegetable ivory palm *Phytelephas seemannii* in Colombia, and the impact of seed harvesting. Journal of Applied Ecology 35: 64–74.

——— **& G. Galeano.** 1993. Las palmas del andén Pacífico. Pp. 220–23. *In* I. P. Leyva (ed.), Colombia Pacífico. Fondo para la protección del Medio Ambiente "José Celestino Mutis", Bogotá.

——— & ———, **N. García, I. L. Olivares & C. Cocomá.** 2010. Uses and commercial prospects for the wine palm, *Attalea butyracea*, in Colombia. Ethnobotany Research and Applications 8: 255–268.

———, **C. Torres, N. García, C. Isaza, J. Navarro, M. I. Vallejo, G. Galeano & H. Balslev.** 2011. Palm management in South America. Botanical Review. doi:10.1007/s12229-011-9088-6.

Bianchi, C. 1982. Artesanías y técnicas Shuar. Ediciones Mundo Shuar, Quito.

Blicher-Mathiesen, U. & H. Balslev. 1990. *Attalea colenda* (Arecaceae), a potential lauric oil resource. Economic Botany 44: 360–368.

Bodley, J. H. & F. C. Benson. 1979. Cultural ecology of Amazonian palms. Washington State University, Laboratory of Anthropology, Pullman.

Boll, T., J. C. Svenning, J. Vormisto, S. Normand, C. Grández & H. Balslev. 2005. Spatial distribution and environmental preferences of the piassaba palm *Aphandra natalia* (Arecaceae) along the Pastaza and Urituyacu rivers in Peru. Forest Ecology and Management 213: 175–183.

Boom, B. M. 1986. The Chacobo indians and their palms. Principes 30: 63–70.

Borchsenius, F., H. Borgtoft & H. Balslev. 1998. Manual to the palms of Ecuador. AAU Reports 37: 1–217.

Borgtoft, H. 1992. Uses and management of *Aphandra natalia* (Palmae) in Ecuador. Bulletin de l´Institute Française d´Études Andines 21: 741–753.

——— 1994. Mocora palm-fibers: use and management of *Astrocaryum standleyanum* (Arecaceae) in Ecuador. Economic Botany 48: 310–325.

——— 1996. Production and harvest of fibers from *Aphandra natalia* (Palmae) in Ecuador. Forest Ecology and Management 80: 155–161.

Bourdy, G. 1999. Conozcan nuestros árboles, nuestras hierbas. UMSA/CIPTA/IRD, La Paz.

———, **C. Valadeau & J. Albán.** 2008. Yato` Ramuesh: plantas medicinales **Yaneshas**. PRODAPP/IRD, Lima.

Brokamp, G., N. Valderrama, M. Mittelbach, C. A. Grandez A. Barfod & M. Weigend. 2011. Trade in palm products in northwestern South America. Botanical Review. doi:10.1007/s12229-011-9087-7.

Bussmann, R. W. & D. Sharon. 2006. Traditional medicinal plant use in Loja province, Southern Ecuador. Journal of Ethnobiology and Ethnomedicine 2: 44.

Byg, A. & H. Balslev. 2004. Factors affecting local knowledge of palms in Nangaritza valley, Southeastern Ecuador. Journal of Ethnobiology 24: 255–278.

——— & ———. 2006. Palms in indigenous and settler communities in southeastern Ecuador: Farmers' perceptions and cultivation practices. Agroforestry Systems 67: 147–158.

———, **J. Vormisto & H. Balslev.** 2006. Using the useful: characteristics of used palms in south-eastern Ecuador. Development, Environment and Sustainability 8: 495–506.

———, ——— & ———. 2007. Influence of diversity and road access on palm extraction at landscape scale in SE Ecuador. Biodiversity and Conservation 16: 631–642.

Caballero, M. R. 1995. La etnobotánica en las comunidades negras e indígenas del delta del Río Patía. Ediciones Abya-Yala, Quito.

Cabrera, G., C. Franky & D. Mahecha. 1999. Los nukak: nómadas de la Amazonía colombiana. Unibiblos, Universidad Nacional de Colombia, Bogotá.

Cadena-Vargas, C., M. Diazgranados-Cadelo & H. Bernal-Malagón. 2007. Plantas útiles para la elaboración de artesanías de la comunidad indígena Monifue Amena (Amazonas, Colombia). Universitas Scientiarum, Revista de la Facultad de Ciencias 12: 97–116.

Califano, M. 1999. Los indios Sirionó de Bolivia oriental. Editorial Ciudad Argentina, Buenos Aires.

Campos, M. T. & C. Ehringhaus. 2003. Plant virtues are in the eyes of beholders: a comparison of know palm uses among indigenous and folk communities of southwestern Amazonia. Economic Botany 57: 324–344.

Cárdenas, M. 1970. Palm forests of the Bolivian high Andes. Principes 14: 50–54.

——— 1989. Manual de plantas económicas de Bolivia. Editorial Los Amigos del Libro, La Paz.

Cárdenas, D. & G. Politis. 2000. Territorio, movilidad, etnobotánica y manejo del bosque de los nukak orientales. Universidad de Los Andes, Bogotá.

——— & **J. G. Ramírez.** 2004. Plantas útiles y su incorporación a los sistemas productivos del Departamento del Guaviare (Amazonía colombiana). Caldasia 26: 95–110.

———, **J. C. Arias, J. A. Vanegas, D. A. Jiménez, O. Vargas & L. Gómez.** 2007. Plantas útiles y promisorias en la Comunidad de Wacurabá (Caño Cuduyarí) en el Departamento de Vaupés (Amazonía colombiana). Instituto Amazónico de Investigaciones Científicas (SINCHI), Bogotá.

———, **C. A. Marín, L. S. Suárez, A. C. Guerrero & P. Nofuya.** 2002. Plantas útiles en dos comunidades del Departamento de Putumayo. Instituto Amazónico de Investigaciones Científicas (SINCHI), Bogotá.

Cartaxo, S. L., M. M. Souza & U. P. Albuquerque. 2010. Medicinal plants with bioprospecting potential used in semi-arid northeastern Brazil. Journal of Ethnopharmacology 131: 326–342.

Castaño-Arboleda, N., D. Cárdenas & E. Otavo. 2007. Ecología, aprovechamiento y manejo sostenible de nueve especies de plantas del Departamento del Amazonas, generadoras de productos maderables y no maderables. Instituto Amazónico de Investigaciones Científicas (SINCHI), Bogotá.

Cayón, E. & S. Aristizábal. 1980. Lista de plantas utilizadas por los indígenas Chami de Risaralda. Cespedesia 9: 7–110.

CEATA/Trópico/CI-Bolivia. 2007. Transformación del fruto del majo (*Oenocarpus bataua*). Recomendaciones para su aprovechamiento sostenible. Guía para técnicos extensionistas. Conservación Internacional-Bolivia, La Paz.

Cerón, C. E. 1993a. Etnobotánica Quichua en la vía Hollín-Loreto, provincia del Napo. Hombre y Ambiente 25: 131–171.

——— 1993b. Manejo florístico Shuar-Achuar (Jívaro) del ecosistema amazónico en el Ecuador. Hombre y Ambiente 25: 173–197.

——— 1995. Etnobiología de los Cofanes de Dureno, provincia de Sucumbíos, Ecuador. Museo Ecuatoriano de Ciencias Naturales y Ediciones Abya-Yala, Quito.

——— 2002. Etnobotánica del Río Upano, Sector Purshi-Zuñac, Parque Nacional Sangay. Cinchonia 3: 36–45.

——— 2003. Etnobotánica Quichua del Río Yasuní. Cinchonia 4: 1–20.

——— **& C. G. Montalvo.** 1998. Etnobotánica de los Huaorani de Quehueiri-Ono, Napo-Ecuador. Ediciones Abya-Yala, Quito.

——— **&** ———**.** 2000. Reserva biológica Limoncocha, formaciones vegetales, diversidad y etnobotánica. Cinchonia 1: 1–19.

——— **&** ———**.** 2002a. Etnobotánica Awa de Guadualito, San Lorenzo Esmeraldas. Cinchonia 3: 46–54.

——— **&** ———**.** 2002b. Etnobotánica Huaorani de Tivacuno-Tiputini Parque Nacional Yasuní. Cinchonia 3: 64–94.

——— **& C. I. Reyes.** 2007a. Parches de bosque y etnobotánica Shuar en Palora, Morona-Santiago, Ecuador. Cinchonia 8: 66–83.

——— **&** ———**.** 2007b. Aspectos florísticos, ecológicos y etnobotánica de una hectárea de bosque en la comunidad Secoya Sehuaya, Sucumbíos-Ecuador. Pp 123–164. *In:* S. De la Torre & P. Yépez (eds). Caminando sobre el sendero: hacia la conservación del ambiente y la cultura Secoya. Fundación VIHOMA, Quito.

———**, C. Montalvo, A. Calazacón & G. V. Toasa.** 2004. Etnobotánica Tsáchila, Pichincha-Ecuador. Cinchonia 5: 109–194.

———, ———**, C. I. Reyes & D. Andi.** 2005a. Etnobotánica Quichua Limoncocha, Sucumbíos-Ecuador. Cinchonia 6: 29–55.

———, ———**, J. Umenda & E. Chica-Umenda.** 1994. Etnobotánica y notas sobre la diversidad vegetal en la comunidad Cofán de Sinangüé, Sucumbíos, Ecuador. Ecociencia, Quito.

———**, A. Payaguaje, D. Payaguaje, H. Payaguaje, C. I. Reyes & P. Yépez.** 2005b. Etnobotánica Secoya. Pp 71–83. *In:* P. Yépez, S. De la Torre, C. Cerón, & W. Palacios (eds). Al inicio del Sendero: Estudios Etnobotánicos Secoya. Editorial Arboleda, Quito.

———**, C. I. Reyes, L. Tonato, A. Grefa & M. Mendúa.** 2006. Estructura, composición y etnobotánica del sendero "Cottacco Shaiqui", Cuyabeno-Ecuador. Cinchonia 2: 82–114.

Cerro, W., W. Nauray, P. Zegarra & E. Flores. 2003. Proyecto Tambopata Inambari –Estudio etnobotánico en las cuencas altas de los ríos Tambopata e Inambari. Cooperazione Italiana, DEVIDA, INRENA, IUCN, CESVI and Pro-Naturaleza, Lima.

Chávez, F. 1996. Estudio preliminar de la familia Arecaceae (Palmae) en el Parque Nacional del Manu (Pakitza y Cocha Cashu). Pp 141–168. *In:* D. E. Wilson & A. Sandoval (eds). Manu: The biodiversity of southeastern Peru. Editorial Horizonte, Lima.

Chicchon, A. 1992. Chimane resource use and market involvement in the Beni Biosphere Reserve, Bolivia. PhD thesis, University of Florida, Gainesville.

Chirif, A. 1978. Salud y nutrición en sociedades nativas. CIPA, Lima.

Collins, S., X. Martins, A. Mitchell, A. Theshome & J. T. Arnason. 2006. Quantitative ethnobotany of two Timorese cultures. Economic Botany 6: 347–361.

Coomes, O. T. 2004. Rain forest 'conservation-through-use'? Chambira palm fibre extraction and handicraft production in a a land-constrained community, Peruvian Amazon. Biodiversity and Conservation 13: 351–360.

——— **& N. Ban.** 2004. Cultivated plant species diversity in home gardens of an Amazonian peasant village in northeastern Peru. Economic Botany 58: 420–434.

——— **& G. J. Burt.** 1997. Indigenous market-oriented agroforestry: dissecting local diversity in western Amazonia. Agroforestry Systems 37: 27–44.

——— **& ———.** 2001. Peasant charcoal production in the Peruvian Amazon: rainforest use and economic reliance. Forest Ecology and Management 140: 39–50.

Copeticona, R. C. 2002. Actividad de recolección de frutos silvestres en las comunidades de San Antonio de Matty y Abaroa (Puerto Rico-Pando). Graduate thesis, Facultad de Ciencias Puras y Naturales, Universidad Mayor de San Andres, La Paz.

Cornejo, M. 1998. Ver, saber, poder. Chamanismo de los Yagua de la Amazonía Peruana. IFEA/CAAAP/CAEA-CONICET, Lima.

Crizón, I. 2001. Por los territorios de la marama. Extracción de la fibra de chiqui chiqui en la Amazonía colombiana. Instituto de Estudios Ambientales para el Desarrollo (IDEADE), Facultad de Estudios Ambientales y Rurales, Pontificia Universidad Javeriana, Bogotá.

Davis, E. W. 1983. The ethnobotany of chamairo: *Mussatia hyacinthina*. Journal of Ethnopharmacology 9: 225–236.

——— **& J. A. Yost.** 1983. The ethnobotany of the Waorani of eastern Ecuador. Botanical Museum Leaflets 29: 159–217.

De Jong, W. 2001. Tree and forest management in the floodplains of the Peruvian Amazon. Forest Ecology and Management 150: 125–134.

De la Torre, L., L. M. Calvo-Irabién, C. Salazar, H. Balslev & F. Borchsenius. 2009. Contrasting palm species and use diversity in the Yucatan Peninsula and the Ecuadorian Amazon. Biodiversity and Conservation 18: 2837–2853.

———**, H. Navarrete, P. Muriel, M. J. Macía & H. Balslev.** 2008. Enciclopedia de las plantas útiles de Ecuador. Pontificia Universidad Católica del Ecuador/Universidad de Aarhus, Quito, Aarhus.

DeFeo, V. 1992. Medicinal and magical plants in the northern Peruvian Andes. Fitoterapia 63: 417–440.

Denevan, W. & J. M. Treacy. 1987. Young managed fallows at Brillo Nuevo. Pp 8–49. *In:* W. M. Denevan & C. Padoch (eds). Swidden-fallow agroforestry in the Peruvian Amazon. The New York Botanical Garden, New York.

Descola, P. 1989. La selva culta– Simbolismo y praxis en la ecología de los Achuar. Ediciones Abya-Yala, Quito.

DeWalt, S. J., G. Bourdy, L. R. Chávez de Michel & C. Quenevo. 1999. Ethnobotany of the Tacana: quantitative inventories of two permanent plots of northwestern Bolivia. Economic Botany 53: 237–260.

Díaz Piedrahita, S. 1981. Las hojas de las plantas como envoltura de alimentos. Ediciones CIEC, Bogotá.

Dransfield, J., N. W. Uhl, C. B. Asmussen, W. J. Baker, M. M. Harley & C. E. Lewis. 2008. Genera palmarum– The evolution and classification of palms. Royal Botanic Gardens, Kew.

Duchelle, A. E. 2007. Observations on natural resource use and conservation by the Shuar in Ecuador's Cordillera del Cóndor. Ethnobotany Research and Applications 5: 5–23.

Dugand, A. 1961. Palms of Colombia. Principes 5: 135–144.

Duke, J. A. 1970. Ethnobotanical observations on the Chocó Indians. Economic Botany 24: 344–366.

Einzmann, H. 1988. Artesanía indígena del Ecuador: los Cofanes. Revista del CIDAP (Ecuador) 26: 19–86.

Enssle, J., H. Ferrufino & P. L. Ibisch. 2006. Conservation status and economic potential of *Parajubaea sunkha*, an endemic palm of Bolivia. Palms 50: 143–151.

Etter, A. 2001. Puinawai y Nukak.Caracterización ecológica general de dos Reservas Nacionales Naturales de la Amazonía Colombiana. Instituto de Estudios Ambientales para el Desarrollo (IDEADE), Bogotá.

Fadiman, M. G. 2008. Use of mocora, *Astrocaryum standleyanum* (Arecaceae), by three ethnic groups in Ecuador: differences, similarities and market potential. Journal of Ethnobiology 28: 92–109.

Feisal, E. 2009. Productos Forestales No Maderables (PFNM) en seis comunidades campesinas del norte amazónico boliviano: causas de éxito o fracaso de comercialización. PROMAB, Riberalta.

Flores, C. F. & P. M. S. Ashton. 2000. Harvesting impact and economic value of *Geonoma deversa*, Arecaceae, an understory palm used for roof thatching in the Peruvian Amazon. Economic Botany 54: 267–277.

Flores Paitán, S. 1987. Old managed fallows at Brillo Nuevo. Pp 53–66. *In:* W. M. Denevan & C. Padoch (eds). Swidden-fallow agroforestry in the Peruvian Amazon. The New York Botanical Garden, New York.

——— 1998. Agroforestería amazónica: una alternativa a la agricultura migratoria. Pp. 417–440. *In:* R. Kallioka & S. Flores Paitán (eds.), Geoecología y desarrollo amazónico. Estudio integrado en la zona de Iquitos, Perú. Turku University, Turku.

Forero, L. E. 1980. Etnobotánica de las comunidades indígenas Cuna y Waunana, Chocó (Colombia). Cespedesia 9: 117–302.

Forero, M. C. 2005. Aspectos etnobotánicos de uso y manejo de la familia Arecaceae (Palmas) en la comunidad indígena Ticuna de Santa Clara de Tarapoto, del resguardo Ticoya del municipio de Puerto Nariño, Amazonas, Colombia. Graduate thesis, Facultad de Estudios Ambientales y Rurales, Pontificia Universidad Javeriana, Bogotá.

Freire, B. H. 2006. Ethnobotany of the Huaorani communities in the Ecuadorian Northwest. Lyonia 10: 7–17.

Fujisaka, S. & D. White. 1998. Pasture or permanent crops after slash-and-burn cultivation? Land-use choice in three Amazon colonies. Agroforestry Systems 42: 45–59.

Galeano, G. 1992. Las palmas de la región de Araracuara. TROPENBOS, Bogotá.

——— 1995a. Novedades en el género *Ceroxylon*. Cadalsia 17: 82–85.

——— 1995b. Diversidad de los bosques de colina del Golfo de Tribuga, costa pacífica del Chocó, y su uso y manejo por parte de las comunidades negras– Informe final. Universidad Nacional de Colombia, Bogotá.

——— 2000. Forest use at the Pacific coast of Chocó, Colombia: A quantitative approach. Economic Botany 54: 358–376.

——— **& R. Bernal.** 1987. Palmas del Departamento de Antioquia, región occidental. Universidad Nacional de Colombia, Centro Editorial, Bogotá.

——— **&** ———**.** 2010. Palmas de Colombia, guía de campo. Instituto de Ciencias Naturales, Facultad de Ciencias, Universidad Nacional de Colombia, Bogotá.

———**, M. J. Sanín, K. Mejía, J. C. Pintaud & B. Millán.** 2008. Novelties in the genus *Ceroxylon* (Arecaceae) from Peru, with description of a new species. Revista Peruana de Biología 15: 65–72.

Gallego, B. 1995. Materias primas vegetales utilizadas en la elaboración de artesanías por las comunidades indígenas Waunan del bajo Río San Juan. Convenio FES-Artesanías de Colombia, Santiago de Cali.

García, L. J., M. J. E. Gómez, S. F. I. Ortiz & P. J. J. Zuluaga. 1996. Principales especies nativas de fauna y flora del Caquetá. Usos actuales y potenciales. PNR/CORPOICA, Regional Amazonía, Florencia.

García Barriga, H. 1974. Flora medicinal de Colombia. Botánica Médica. Instituto de Ciencias Naturales, Universidad Nacional, Bogotá.

García Cossio, F., Y. A. Ramos, J. C. Palacios & A. Ríos. 2002. La familia Arecaceae, recurso promisorio para la economía en el Departamento del Chocó. Revista Institucional de la Universidad Tecnológica del Chocó 15: 96–101.

Garibaldi, A. & N. Turner. 2004. Cultural keystone species: implications for ecological conservation and restoration. Ecology and Society 9: 1.

Garzón, N. C. 1985. Aproximación etnobotánica en la comunidad Guayabero de Barranco, Guaviare. Graduate thesis, Facultad de Ciencias Humanas, Universidad Nacional de Colombia, Bogotá.

Garzón, C. & V. Macuritofe. 1992. La noche, las plantas y sus sueños: aproximación al conocimiento botánico en una cultura amazónica. Corporación Colombiana para la Amazonia, Bogotá.

Gentry, A. H. 1988. New species and a new combination for plants from Trans-Andean South America. Annals of the Missouri Botanical Garden 75: 1429–1439.

Gertsch, J., F. W. Stauffer, A. Narváez & O. Sticher. 2002. Use and significance of palms (Arecaceae) among the Yanomamï in southern Venezuela. Journal of Ethnobiology 22: 219–246.

Gilmore, M. P., W. H. Eshbaugh & A. M. Greenberg. 2002. The use, construction, and importance of canoes among the Maijuna of the Peruvian Amazon. Economic Botany 56: 10–26.

Girard, R. 1958. Indios selváticos de la Amazonía Peruana. Editorial Libro Mexicano, México.

Girault, L. 1987. Kallawaya: Curanderos itinerantes de los Andes. UNICE/OPS/OMS, La Paz.

Glenboski, L. L. 1983. The ethnobotany of the Tukuna Indians. Universidad Nacional de Colombia, Bogota.

Gomez, D., L. Lebrun, N. Paymal & A. Soldi. 1996. Palmas útiles en la provincia de Pastaza, Amazonía ecuatoriana. Fundación Omaere, Quito.

González, M. S. 1994. Flora utilizada por los Awa de Albi con énfasis en especies medicinales –estudio de botánica económica. Master thesis, Departamento de Biología, Universidad Nacional de Colombia, Bogotá.

Govaerts, R. & J. Dransfield. 2005. World checklist of palms. Royal Botanic Gardens, Kew.

——— **&** ——— **S. F. Zona, D. R. Hodel & A. Henderson.** 2006. World checklist of Arecaceae. The Board of Trustees of the Royal Botanic Gardens, Kew. Published on the Internet; http://www.kew.org/wcsp/ accessed February 2009.

Grández, C. A. & A. Henderson. 1993. A new record of *Manicaria* for Peru. Principes 37: 159–160.

Guallart, J. M. 1968. Nomenclatura Jíbaro-Aguaruna de palmeras en el distrito de Cenepa. Biota 7: 230–251.

Gutiérrez-Vásquez, C. A. & R. Peralta. 2001. Palmas comunes de Pando. PANFOR/OIMT/BOLFOR, Santa Cruz de la Sierra.

Hamlin, C. C. & J. Salick. 2003. Yanesha agriculture in the upper Peruvian Amazon: persistence and change fifteen years down the 'road'. Economic Botany 57: 163–180.

Harner, M. J. 1984. The Jívaro, people of the sacred waterfalls. University of California Press, Berkeley.

Henderson, A. 1995. The palms of the Amazon. Oxford University Press, New York.

——— **& F. Chávez.** 1993. *Desmoncus* as a useful palm in the western Amazon basin. Principes 37: 184–186.

———**, G. Galeano & R. Bernal.** 1995. Field guide to the palms of the Americas. Princeton University Press, New Jersey.

Henkemans, A. B. 2001. Tranquilidad and hardship in the forest: livelihoods and perceptions of Camba forest dwellers in the northern Bolivian Amazon. PROMAB Scientific Series 5, Riberalta.

Hinojosa, I. 1991. Plantas utilizadas por los Mosetenes de Santa Ana (Alto Beni, Depto. La Paz). Graduate thesis, Facultad de Ciencias Puras y Naturales, Universidad Mayor de San Andres, La Paz.

———**, E. Uzquiano & J. Flores.** 2001. Los Yuracaré: su conocimiento, experiencia y la utilización de recursos vegetales en el río Chapare. Instituto de Ecología, Universidad Mayor de San Andrés, La Paz.

Hissink, K. & A. Hahn. 2000. Los Tacana– datos sobre la historia de su civilización. Plural Editores, La Paz.

Holmberg, A. R. 1978. Nómadas del arco largo: los Sirionó del oriente boliviano. Instituto Indigenista Interamericano, México.

Holm-Jensen, O. & H. Balslev. 1995. Ethnobotany of the fiber palm *Astrocaryum chambira* (Arecaceae) in Amazonian Ecuador. Economic Botany 49: 309–319.

Huanca, T. 1999. Tsimane indigenous knowledge, swidden fallow management and conservation. PhD thesis, University of Florida, Gainesville.

Hübschmann, L. K., L. P. Kvist, C. Grandez & H. Balslev. 2007. Uses of Vara Casha—a neotropical liana palm, *Desmoncus polyacanthos*—in Iquitos, Peru. Palms 51: 167–176.

Huertas, B. 2007. Nuestro territorio Kampu Piyawi (Shawi). Editorial Terra Nuova, Lima.

Iglesias, G. 1987. Hierbas medicinales de los Quichua del Napo. Ediciones Abya-Yala, Quito.

——— 1989a. Hierbas medicinales de los Quichua del Napo. Enfermedades femeninas y enfermedades del "susto". Ediciones Abya-Yala, Quito.

——— 1989b. Sacha Jambi– El uso de las plantas en la medicina tradicional de los Quichuas del Napo. Ediciones Abya-Yala, Quito.

IIAP. 2008. Investigación aplicada e implementación de buenas prácticas para el aprovechamiento y transformación sostenible de materias primas vegetales de uso artesanal en los Departamentos de Valle y Chocó. Instituto de Investigaciones Ambientales del Pacífico.

Irvine, D. 1989. Succesion management and resource distribution in an Amazonian rain forest. Advances in Economic Botany 7: 223–237.

Játiva, M. I. & R. Alarcón. 1994. Sobre la etnobotánica y la comercialización de la ungurahua, *Oenocarpus bataua* (Arecaceae), en la zona del Alto Napo, Ecuador. Pp 53–89. *In:* R. Alarcón, P. A. Mena, & A. Soldi (eds). Etnobotánica, valoración económica y comercialización de recursos florísticos silvestres en el Alto Napo. Ecuador. Ecociencia, Quito.

Johnson, D. 1975. Some palm products of the Peruvian Amazon. Principes 19: 78–79.

——— **& K. Mejía.** 1998. The making of a dugout canoe from the trunk of the palm *Iriartea deltoidea*. Principes 42: 201–208.

Jordan, C. B. 1970. A study of germination and use in twelve palms of northeastern Peru. Principes 14: 26–32.

Jørgensen, P. M. & S. León-Yánez. 1999. Catalogue of the vascular plants of Ecuador. Monographs in Systematic Botany from the Missouri Botanical Garden 75: 1–1181.

Kahn, F. & J. J. de Granville. 1992. Palms in forest ecosystems of Amazonia. Springer, Berlin.

——— **& A. Henderson.** 1999. An overview of the palms of the várzea in the Amazon region. Advances in Economic Botany 13: 187–193.

——— **& K. Mejía.** 1987. Notes on the biology, ecology, and use of a small Amazonian palm: *Lepidocaryum tessmannii*. Principes 31: 14–19.

Karsten, R. 1988. La vida y la cultura de los Shuar. Ediciones Abya-Yala, Quito.

Knudsen, H. 1995. Demography, palm-heart extractivism, and reproductive biology of *Prestoea acuminata* (Arecaceae) in Ecuador. Master thesis, Aarhus University, Aarhus.

Kothari, B. 1993. Ñucanchic panpa janpicuna– Plantas medicinales del campo. Ediciones Abya-Yala, Quito.

Koziol, M. J. & H. Borgtoft. 1993. *Phytelephas aequatorialis* (Arecaceae) in human and animal nutrition. Economic Botany 47: 401–407.

Kronik, J. 1999. Fééjahisuu– Palmas de los nietos de la Tierra y Montaña Verde del Centro. Centro de Investigación del Desarrollo, Copenhague.

——— 2001. Living knowledge: institutionalizing learning practices about biodiversity among the Muinane and the Uitoto in the Colombian Amazon. PhD thesis, Institute of Environment, Technology and Social Studies, Roskilde University/Centre for Development Research, Copenhagen.

Kvist, L. P., M. K. Andersen, J. Stagegaard, M. Hesselsoe & C. Llapapasca. 2001. Extraction from woody plants in flood plain communities in Amazonian Peru: use, choice, evaluation and conservation status of resources. Forest Ecology and Management 150: 147–174.

———**, I. C. Oré & D. Llapapasca.** 1998. Plantas utilizadas en trastornos ginecológicos, parto y control de natalidad en mujeres de la parte baja del Río Ucayali, Amazonas Peruano. Folia Amazonica 9: 115–141.

La Rotta, C. 1983. Observaciones etnobotánicas sobre algunas especies utilizadas por la comunidad indígena Andoque (Amazonas, Colombia). Graduate thesis, Universidad Nacional de Colombia, Bogotá.

———**, P. Miraña, M. Miraña, B. Miraña, M. Miraña & N. Yucuna.** 1986. Estudio etnobotánico sobre las especies utilizadas por la comunidad indígena Miraña, Amazonas, Colombia. Editorial Presencia Ltda, Bogotá.

Langevin, M. 2002. Mapajo –Nuestra selva y cultura. PRAIA (FIDA/CAF), La Paz.

Lawrence, A., O. L. Phillips, A. Reategui, M. Lopez, S. Rose, D. Wood & A. J. Farfan. 2005. Local values for harvested forest plants en Madre de Dios, Peru: towards a more contextualised interpretation of quantitative ethnobotanical data. Biodiversity and Conservation 14: 45–79.

León, L. M., P. G. Cueva, Z. Aguirre & L. P. Kvist. 2006. Floristic composition, structure, endemic and ethnobotany in the native forest "El Colorado", in Puyango, Province of Loja. Lyonia 10: 105–115.

Lewis, M. P. 2009. Ethnologue: languages of the world. SIL International, Dallas.

López-Parodi, J. 1988. The use of palms and other native plants in non-conventional, low cost rural housing in the Peruvian Amazon. Advances in Economic Botany 6: 119–129.

Macbride, J. F. 1960. Flora of Peru. Field Museum of Natural History, Chicago.

Macía, M. J. 2004. Multiplicity in palm uses by the Huaorani of Amazonian Ecuador. Botanical Journal of the Linnean Society 144: 149–159.

——— **& J.-C. Svenning.** 2005. Oligarchic dominance in western Amazonian plant communities. Journal of Tropical Ecology 21: 613–626.

———**, H. Romero-Saltos & R. Valencia.** 2001. Patrones de uso en un bosque primario de la Amazonía ecuatoriana: comparación entre dos comunidades Huaorani. Pp 225–249. *In:* J. F. Duivenvoorden, H. Balslev, J. Cavelier, C. Grandez, H. Tuomisto, & R. Valencia (eds). Evaluación de recursos vegetales no maderables en la Amazonía noroccidental. IBED, Universiteit van Amsterdam, Amsterdam.

Marchán, N. 2001. Etnobotánica cuantitativa de una comunidad Chachi de la Provincia de Esmeraldas, Ecuador. Graduate thesis, Facultad de Ciencias Exactas y Naturales, Departamento de Ciencias Biológicas, Pontificia Universidad Católica del Ecuador, Quito

Marles, R. J., D. A. Neill & N. R. Farnsworth. 1988. A contribution to the ethnopharmacology of the lowland Quichua people of Amazonian Ecuador. Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales 16: 111–120.

Mayer, W. E. 2006. The piassaba palm: conservation and development in the buffer zone of Peru´s Cordillera Azul National Park. PhD thesis, Duke University, Duke.

Mejía, K. 1983. Palmeras y el selvícola amazónico. Museo Historia Natural, Universidad Nacional Mayor de San Marcos, Lima.

——— 1988. Utilization of palms in eleven Mestizo villages of the Peruvian Amazon (Ucayali river, department of Loreto). Advances in Economic Botany 6: 130–136.

——— 1992. Las palmeras en los mercados de Iquitos. Bulletin de l´Institute Française d´Études Andines 21: 755–769.

——— **& E. Rengifo.** 1995. Plantas medicinales de uso popular en la Amazonía peruana. AECI/IIAP, Lima.

Mendoza, P. 1994. Identificación de los frutos comestibles silvestres recolectados por los indígenas Huaorani de la comunidad de Toñiampari en la Amazonía del Ecuador. Graduate thesis, Facultad de Ciencias Exactas y Naturales, Pontificia Universidad Católica del Ecuador, Quito.

Mendoza, D. E. & A. Panduro. 2005. El tejido de las hojas de palmera en la vivienda amazónica. Proyecto Araucaria Amazonas Nauta/AECI/Gobierno Regional de Loreto, Iquitos.

Mendoza, A. C., J. M. Gómez & H. C. Restrepo. 1995. Los indios de Colombia. MAPFRE/Ediciones Abya-Yala, Cayambe.

Miller, C. 2002. Fruit production of the ungurahua palm (*Oenocarpus bataua* subsp. *bataua*, Arecaceae) in an indigenous managed reserve. Economic Botany 56: 165–176.

Miranda, J., M. Moraes & R. Müller. 2009. Estructura poblacional, producción de frutos y uso tradicional de la palmera "majo" (*Oenocarpus bataua* Mart.) en bosque montano (La Paz, Bolivia). La Revista GAB 4: 1–10.

Mollinedo, L. G. 2000. Motacú (*Attalea phalerata*) en la comunidad Leco Irimo. Publicaciones Proyecto de Investigación CIDOB-DFID, Santa Cruz.

Mondragón, M. L. & R. Smith (eds). 1997. Bete Quiwiguimamo. Salvando el bosque para vivir sano. Ediciones Abya-Yala, Quito.

Moore, S. J., N. Hill, C. Ruiz & M. M. Cameron. 2007. Field evaluation of traditionally used plant-based insect repellents and fumigants against the malaria vector *Anopheles darlingi* en Riberalta, Bolivian Amazon. Journal of Medical Entomology 44: 624–630.

Moraes, M. 1991. Contribución al estudio del ciclo biológico de la palma *Copernicia alba* en un área ganadera (Espíritu, Beni, Bolivia). Ecología en Bolivia 18: 1–20.

——— 2004. Flora de palmeras de Bolivia. Plural Editores, La Paz.

——— **& J. Sarmiento.** 1999. La jatata (*Geonoma deversa* (Poit.) Kunth, Palmae)– un ejemplo de producto forestal no maderable en Bolivia: uso tradicional en el este del departamento de La Paz. Revista de la Sociedad Boliviana de Botánica 2: 183–196.

———**, F. Borchsenius & U. Blicher-Mathiessen.** 1996. Notes on the biology and uses of the Motacú palm (*Attalea phalerata*, Arecaceae) from Bolivia. Economic Botany 50: 423–428.

———**, J. Sarmiento & E. Oviedo.** 1995. Richness and uses in a diverse palm site in Bolivia. Biodiversity and Conservation 4: 719–727.

Morcote-Ríos, G., G. Cabrera-Becerra, D. Mahecha-Rubio, C. E. Franky-Calvo & I. Cavelier. 1998. Las palmas entre los grupos cazadores-recolectores de la Amazonia colombiana. Caldasia 20: 57–74.

Moreno Suárez, L. & O. I. Moreno Suárez. 2006. Colecciones de las palmeras de Bolivia. Editorial FAN, Santa Cruz de la Sierra.

Mundo Shuar. 1977. Las plantas. Mundo Shuar (Ecuador) 5: 1–90.

Narváez, A., F. W. Stauffer & J. Gertsch. 2000. Contribución al estudio de la etnobotánica de las palmas del estado Amazonas, Venezuela. Scientia Guaianae 10: 27–34.

Ojeda, P. 1994. Diagnóstico etnobotánico y comercialización del morete, *Mauritia flexuosa* (Arecaceae), en la zona del Alto Napo, Ecuador. Pp 90–109. *In:* R. Alarcón, P. A. Mena, & A. Soldi (eds). Etnobotánica, valoración económica y comercialización de recursos florísticos silvestres en el Alto Napo, Ecuador. Ecociencia, Quito.

Olvera-Fonseca, S. 2004. Evaluation of the bromatological potential of seeds and fruits of *Sabal mexicana* Mart. (Arecaceae). Economic Botany 58: 536–543.

Oré, I. & D. Llapapasca. 1996. Huertas domésticas como sistema tradicional de cultivo en Moena Caño, Río Amazonas, Iquitos-Perú. Folia Amazonica 8: 91–110.

Orejuela, J. E. 1992. Traditional productive systems of the Awa (Cuaiquer) indians of soutwestern Colombia and neighboring Ecuador. Pp 58–82. *In:* K. H. Redford & C. Padoch (eds). Conservation of Neotropical Forests. Columbia University Press, New York.

Ortiz, R. 1994. Uso, conocimiento y manejo de algunos recursos naturales en el mundo Yucuna (Miritíparaná, Amazonas, Colombia). Ediciones Abya-Yala, Quito.

Ortiz Gómez, F. 1989. Botanica médica Guahibo. Plantas medicinales, mágicas y psicotrópicas utilizadas por los Sikuani y Cuiba (Llanos orientales de Colombia). Cadalsia 16: 14–22.

Otterburg, M. & M. Mamani. 2008. Buenas prácticas de aprovechamiento de jatata. Editorial Trópico, La Paz.

Pacheco, T., R. Burga, P. A. Angulo & J. Torres. 1998. Evaluación de bosques secundarios de la zona de Iquitos. Pp 389–416. *In:* R. Kalliola & S. Flores Paitán (eds). Geoecología y desarrollo Amazónico: estudio integrado en la zona de Iquitos, Perú. Turku University, Turku.

Padoch, C. 1988. Aguaje (*Mauritia flexuosa* L. f.) in the economy of Iquitos, Peru. Advances in Economic Botany 6: 214–224.

——— **& W. De Jong.** 1989. Production and profit in agroforestry: an example from the Peruvian Amazon. Pp 102–113. *In:* J. O. Browder (ed). Fragile lands of Latin America. Strategies for sustainable development. Westview Press, London.

———**, J. Chota-Inuma, W. De Jong & J. Unruh.** 1985. Amazonian agroforestry: a market-oriented system in Peru. Agroforestry Systems 3: 47–58.

———, ———, ——— **&** ———**.** 1987. Market-oriented agroforestry at Tamshiyacu. Pp 90–96. *In:* W. Denevan & C. Padoch (eds). Swidden-fallow agroforestry in Peruvian Amazon. The New York Botanical Garden, New York.

Paniagua-Zambrana, N. Y. 1998. Estudio comparativo de la densidad y los niveles de producción de hojas, frutos y semillas en poblaciones naturales del *Attalea phalerata* (Palmae) sometidas a diferente intensidad de extracción (Riberalta, Depto. Beni, Bolivia). Graduate thesis, Facultad de Ciencias Puras y Naturales, Universidad Mayor de San Andrés, La Paz.

——— 2001. Guía ilustrada de plantas leñosas útiles de la comunidad San José de Uchupiamonas (Provincia Abel Iturralde, Departamento de La Paz, Bolivia). LPB/FUND-ECO/LIDEMA, La Paz.

——— 2005. Diversidad, densidad, distribución y uso de las palmas en la región del Madidi, noreste del departamento de La Paz (Bolivia). Ecología en Bolivia 40: 265–280.

———**, A. Byg, J. C. Svenning, M. Moraes, C. Grandez & H. Balslev.** 2007. Diversity of palm uses in the western Amazon. Biodiversity and Conservation 16: 2771–2787.

Parra, J. H. & S. Virsano. 1994. Por el camino culebrero. Etnobotánica y medicina de los Indígenas Awá del Sábalo (Nariño). Ediciones Abya-Yala, Quito.

Patiño, V. M. 1977. Palmas oleaginosas de la costa colombiana del Pacífico. Cespedesia 6: 131–263.

Patiño, A. L. 2006. Uso y manejo de la flora entre los Awa de Cuambi-Yaslambi, con énfasis en especies medicinales (Barbacoas, Nariño-Colombia): estudio etnobotánico. Graduate thesis, Facultad de Ciencias, Universidad Nacional de Colombia, Bogotá.

Peña-Claros, M. 1996. Ecology and socioeconomics of palm heart extraction from wild populations of *Euterpe precatoria* Mart. in Eastern Bolivia. Master thesis, University of Florida, Gainesville.

Pérez, D. 2002. Etnobotánica medicinal y biocidas para malaria en la región de Ucayali. Folia Amazonica 13: 87–108.

Pérez, H., P. E. Bucheli & B. G. Benavides. 2006. La agroforestería en Guainía: Una alternativa sostenible. Instituto Amazónico de Investigaciones Científicas (SINCHI), Bogotá.

Pérez-Arbeláez, E. 1956. Plantas útiles de Colombia. Librería Colombiana, Bogotá.

Peters, C. M., A. H. Gentry & R. Mendelsohn. 1989. Valuation of an Amazonian rainforest. Nature 339: 655–656.

Phillips, O. L. 1993. The potential for harvesting fruits in tropical rainforests: new data from Amazonian Peru. Biodiversity and Conservation 2: 18–38.

——— **& A. H. Gentry.** 1993. The useful plants of Tambopata. Peru: I. Statistical hypothesis tests with a new quantitative technique. Economic Botany 47: 15–32.

Pinedo-Vasquez, M., D. Zarin, P. Jipp & J. Chota-Inuma. 1990. Use-values of tree species in a communal forest reserve in northeast Peru. Conservation Biology 4: 405–416.

Pino, B. N. & H. Valois. 2004. Ethnobotany of four black communities of the municipality of Quibdó, Chocó, Colombia. Lyonia 7: 61–69.

———**, A. R. Castro & D. Abadia.** 2003. Una aproximación al uso tradicional de las especies vegetales colorantes del municipio de Quibdó. Revista Institucional de la Universidad Tecnológica del Chocó 18: 37–42.

Pintaud, J. C. & F. Anthelme. 2008. *Ceroxylon echinulatum* in an agroforestry system of Northern Peru. Palms 52: 96–102.

———**, G. Galeano, H. Balslev, R. Bernal, F. Borchsenius, E. Ferreira, J. J. de Granville, K. Mejía, B. Millán, M. Moraes, L. Noblick, F. W. Stauffer & F. Kahn.** 2008. The palms of South America: diversity, distribution and evolutionary history. Revista Peruana de Biología 15: 7–29.

Pohle, P. & S. Reinhardt. 2004. Indigenous knowledge of plants and their utilization among the Shuar of the lower tropical mountain forest in southern Ecuador. Lyonia 7: 133–149.

Ponce, M. 1992. Etnobotánica de palmas de Jatun Sacha. Pp. 43–51. *In* Anonymous (ed.), Memorias del 3er Simposio Colombiano de Etnobotánica. INCIVA, Bogotá.

Prance, G. T., W. Balée, B. M. Boom & R. L. Carneiro. 1987. Quantitative ethnobotany and the case for conservation in Amazonia. Conservation Biology 1: 296–310.

Proctor, P., J. Pelham, B. Baum, C. Ely & M. A. Rogríguez-Girones. 1992. Expedición de la Universidad de Oxford a Bolivia –Investigación etnobotánica de las Palmae en el noroeste del departamento de Pando, 25 junio–7 de septiembre de 1992. Informe final: Sección B, Universidad de Oxford.

Quintana, G. & L. Vargas. 1995. Guía popular de plantas utilizadas por los Mosetenes de Covendo, Santa Ana y Muchanes (Alto Beni, Bolivia). FONAMA, La Paz.

Renner, S. S., H. Balslev & L. B. Holm-Nielsen. 1990. Flowering plants of Amazonian Ecuador– a checklist. AAU Reports 24: 1–241.

Restrepo, E. 1996. El naidí entre los "grupos negros" del Pacífico sur colombiano. Pp 351–383. *In:* J. I. del Valle & E. Restrepo (eds). Renacientes del guandal: "grupos negros" de los Ríos Satinga y Sanquianga, Pacífico sur colombiano. Biopacífico-Universidad Nacional de Colombia, Bogotá.

Rios, M. & J. Caballero. 1997. Las plantas en la alimentación de la comunidad Ahuano, Amazonía ecuatoriana. Pp 235–254. *In:* M. Rios & H. Borgtoft (eds). Uso y manejo de recursos vegetales– Memorias del segundo simposio ecuatoriano de etnobotánica y botánica económica. Ediciones Abya-Yala, Quito.

Rodriguez, F. 1996. Pp 3–4. Waorani hunting and harvesting practices en Ecuador. Center for Tropical Forest Science of the STRI Newsletter, Summer.

Rojas, R., G. Ruiz, P. Ramírez, C. F. Salazar, C. Rengifo, C. L. Flores, C. Marín, D. Torres, J. Ojanama, W. Silvano, V. Muñoz, H. Luque, N. Vela, N. del Castillo, J. Solignac, V. R. López de Oliveira & F. M. Panduro. 2001. Comercialización de masa y «fruto verde» de aguaje (*Mauritia flexuosa* L.f.) en Iquitos (Perú). Folia Amazonica 12: 15–38.

Román, F. J. 2002. Especies forestales utilizadas en la construcción de la vivienda tradicional Asháninka en el ámbito del Río Perené (Junín, Perú). Graduate thesis, Facultad de Ciencias Forestales, Universidad Nacional Agraria La Molina, Lima.

Romanoff, S., D. Manquid, F. Shoque & D. W. Fleck. 2004. La vida tradicional de los Matsés. CAAP, Lima.

Ruiz Echeverry, M. 1984. Contribución al conocimiento de la palma de almendrón *Attalea victoriana* Dugand. en su medio natural. Cespedesia 13: 139–151.

Ruokolainen, K. & J. Vormisto. 2000. The most widespread Amazonian palms tend to be tall and habitat generalists. Basic and Applied Ecology 1: 97–108.

Salick, J. 1989. Ecological basis of Amuesha agriculture, Peruvian upper Amazon. Advances in Economic Botany 7: 189–212.

San Sebastián, M. 1995. Ñucanchic Janpi– Tratamientos con plantas medicinales de los Naporunas. CICAME/SANDI YURA, Coca.

Sánchez, M. 2005. Use of tropical rain forest biodiversity by indigenous communities in northwestern Amazonia. PhD thesis, Universtiteit van Amsterdam/Colciencias, Bogotá.

——— **& P. Miraña.** 1991. Utilización de la vegetación arbórea en el Medio Caquetá: 1. El árbol dentro de las unidades de la tierra, un recurso para la comunidad Miraña. Colombia Amazónica 5: 69–98.

Santín Luna, F. 2004. Ethnobotany of the communities of the upper Rio Nangaritza. Lyonia 7: 105–122.

Schultes, R. E. 1951. Plantae Austro-Americanae VII. Botanical Museum Leaflets 15: 29–78.

——— 1974. Palms and religion in the Northwest Amazon. Principes 18: 3–21.

——— **& R. F. Raffauf.** 1990. The healing forest– Medicinal and toxic plants of the Northwest Amazonia. Dioscorides Press, Portland.

Seoane, E. & S. Soplín. 1999. Plantas medicinales utilizadas en la regulación de la fertilidad. Biota 17: 82–89.

Shepard, G. H. 2004. A sensory ecology of medicinal plant therapy in two Amazonian societies. American Anthropologist 106: 252–266.

———**, D. W. Yu, M. Lizarralde & M. Italiano.** 2001. Rain forest habitat classification among the Matsigenka of the Peruvian Amazon. Journal of Ethnobiology 21: 1–38.

Silva, H. & J. García. 1997. La medicina tradicional en Loreto. Instituto Peruano de Seguridad Social/ Instituto de Medicina Tradicional, Iquitos.

Skov, F. & H. Balslev. 1989. A revision of *Hyospathe* (Arecaceae). Nordic Journal of Botany 9: 189–202.

Smith, N., R. Vásquez & W. H. Wust. 2007. Amazon river fruits. Flavors for conservation. Amazon Conservation Association (ACA)/Missouri Botanical Garden Press, Lima.

Stagegaard, J., M. Sørensen & L. P. Kvist. 2002. Estimations of the importance of plant resources extracted by inhabitants of the Peruvian Amazon flood plains. Perspectives in Plant Ecology, Evolution and Systematics 5: 103–122.

Svenning, J. C. & H. Balslev. 1998. The palm flora of the Maquipucuna montane forest reserve, Ecuador. Principes 42: 218–226.

——— **& M. J. Macía.** 2002. Harvesting of *Geonoma macrostachys* Mart. leaves for thatch: an exploration of sustainability. Forest Ecology and Management 167: 251–262.

Thomas, E. 2008. Quantitative ethnobotanical research on knowledge and use of plants for livelihood among Quechua, Yuracaré and Trinitario communities in the Andes and Amazon regions of Bolivia. PhD thesis, Faculty of Bioscience Engineering, Ghent University, Ghent.

——— **& I. Vandebroek.** 2006. Guía de plantas medicinales de los Yuracarés y Trinitarios del Territorio Indígena Parque Nacional Isiboro-Sécure, Bolivia. Industrias gráficas Sirena, Santa Cruz.

Ticona, J. P. 2001. Los Tsimane': conocimiento y uso de plantas medicinales en la comunidad Tacuaral del Matos (Provincia Ballivián, Departamento del Beni). Graduate thesis, Facultad de Ciencias Puras y Naturales, Universidad Mayor de San Andrés, La Paz.

Tomlinson, P. B. 2006. The uniqueness of palms. Botanical Journal of the Linnean Society 151: 5–14.

Tournon, J. 2006. Las plantas, los Rao y sus espíritus (Etnobotánica del Ucayali). Gobierno Regional de Ucayali, Pucallpa.

———**, G. Serrano, U. Reátegui & J. Albán.** 1986. Plantas y árboles medicinales de los Conibo del Alto Ucayali: concepciones nativas y botánica. Revista Forestal del Perú 13: 107–130.

Townsend, W. R. 1996. Nyao Itõ: caza y pesca de los Sirionó. Instituto de Ecología, Universidad Mayor de San Andrés, La Paz.

Triana, G. 1985. Los Puinaves del Inirida– Formas de subsistencia y mecanismos de adaptación. Biblioteca José Jerónimo Triana nº 8, Instituto de Ciencias Naturales-Museo de Historia Natural, Universidad Nacional de Colombia, Bogotá.

Uhl, N. W. & J. Dransfield. 1987. Genera palmarum: A classification based on the work of Harold E. Moore. JR. Allen Press, Kansas.

Van den Eynden, V., E. Cueva & O. Cabrera. 2004. Edible palms of Southern Ecuador. Palms 48: 141–147.

Van der Linden, M. & R. López. 1990. Utilización de palmeras amazónicas en el nororiente peruano. Revista Forestal del Perú 17: 65–74.

Vargas, I. 1994. Ecology and uses of *Parajubaea torallyi* en Bolivia. Principes 38: 146–152.

Vargas, L. 1997. Vida y medicina tradicional de los Mosetenes de Muchanes. Ecología en Bolivia 29: 19–44.

Vargas, G. 2006. Transformación y elaboración de alimentos con especies vegetales y animales por las comunidades cubeas del Cuduyari. Instituto Amazónico de Investigaciones Científicas (SINCHI), Bogotá.

Vásquez, R. 1992. Sistemática de las plantas medicinales de uso frecuente en el área de Iquitos. Folia Amazonica 4: 65–80.

Vásquez, J. B. 2000. La manufactura de muebles a partir de productos forestales no maderables en Iquitos-Perú. Folia Amazonica 11: 181–192.

Vásquez, R. & A. H. Gentry. 1989. Use and misuse of forest-harvested fruits in the Iquitos area. Conservation Biology 3: 350–361.

Vásquez, M. & J. B. Vásquez. 1998. La extracción de productos forestales diferentes de la madera en el ámbito de Iquitos-Perú. Folia Amazonica 9: 69–84.

Vélez, G. A. & A. J. Vélez. 1999. Sistema agroforestal de las chagras indígenas del Medio Caquetá. TROPENBOS, Bogotá.

Vickers, W. T. & T. Plowman. 1984. Useful plants of the Siona and Secoya indians of Eastern Ecuador. Fieldiana 15: 1–63.

Vormisto, J. 2002a. Making and marketing chambira hammocks and bags in the village of Brillo Nuevo, northeastern Peru. Economic Botany 56: 27–40.

——— 2002b. Palms as rainforest resources: how evenly are they distributed in Peruvian Amazonia? Biodiversity and Conservation 11: 1025–1045.

Wheeler, M. A. 1970. Siona use of chambira palm fiber. Economic Botany 24: 180–181.

Zuluaga, G. 2003. La botella curada. ACT/Instituto de Etnobiología. Universidad El Bosque, Cundinamarca.

Appendix

Palm uses by different use categories and subcategories in tropical forests of north-western South America

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
Acrocomia aculeata (Jacq.) Lodd. ex Mart.	AnFood	Fodder	Lf	Am	B	Ni	124, 177
	Cultur	Cloth and accessories	Lf	Am	B	I	131
		Cosmetics	Sd	Am	B	Ni	124
	Environ	Agroforestry	Ep	Am	B	C, I	13, 131
		Ornamental	Ep	Am	B	Ni	13, 177, 182
	Fuel	Firewood	Fr, Sd	Am	B	Ni	177
	HuFood	Beverages	Rt, St	Am	B	Ni	177
		Food	Fr, Ph, Rt, Sd, St	Am, An	B, C	C, I, Ni	13, 48, 50, 107, 131, 177, 179, 182
		Food additives	Fr	Am	B	Ni	182
		Oils	Fr, Sd	Am, An	B, C	I, Ni	107, 131
	MedVet	Digestive system	Rt	Am	B	Ni	177
		Respiratory system	Fr	Am	B	Ni	124
		Sensory system	Fr	Am	B	Ni	124
Aiphanes grandis Borchs. & Balslev	HuFood	Beverages	Sd	An	E	M	243
		Food	Ph	An	E	M	243
Aiphanes horrida (Jacq.) Burret	Cultur	Recreational	Fr, Sd, St	Am, An, Ch	B, C, E	A, I, Ni	3, 14, 204
		Other	St	Am	B	I	14
	Environ	Ornamental	Ep	Am, An, Ch	B, C, E	Ni	19, 107, 177
	HuFood	Beverages	Sd	Am	B	I	161
		Food	Fr, Sd	Am, An, Ch	B, C, E, P	I, Ni	14, 19, 29, 75, 107, 161, 182, 204

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Food additives	Sd	An	C	Ni	29
	UtenTool	Domestic	St	Am	B	I	14
Aiphanes linearis Burret	HuFood	Food	Sd	An	C	Ni	107
Aiphanes tricuspidata Borchs., M. Ruíz & Bernal	UtenTool	Hunting and fishing	St	Ch	E	I	70
Aiphanes ulei (Dammer) Burret	Cultur	Ritual	Sp, St	Am	E	I	72, 160
	HuFood	Food	Fr, Ph	Am, An	E	I	17, 23
	MedVet	Blood and cardiovascular system	Sd	Am	E	I	174
		Cultural diseases and disorders	Rt	Am	E	I	160
		Nervous system and mental health	Rt	Am	E	I	160
		Respiratory system	Ph, Rt	Am	E	I	160, 174
		Skin and subcutaneous tissue	Ph	Am	E	I	38
		Not specified	Rt	Am	E	I	72
	UtenTool	Hunting and fishing	Sd, St	Am	E	I	27, 160
Aiphanes verrucosa Borchs. & Balslev	Constr	Thatch	Lf	An	E	M	243
	HuFood	Food	Fr	An	E	M	243
Aiphanes weberbaueri Burret	HuFood	Beverages	Fr	An	E	Ni	44
		Food	Fr, Ph	An	E	Ni	44
Allagoptera leucocalyx (Drude) Kuntze	AnFood	Fodder	Lf	Am	B	Ni	182
	Cultur	Cloth and accessories	Lf	Am	B	Ni	182
	HuFood	Food	Fr, Sd	Am	B	Ni	177, 179, 182, 197
	UtenTool	Domestic	Lf	Am	B	Ni	177, 182

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
Ammandra decasperma O.F. Cook	Constr	Thatch	Lf	Am	E	I	71, 72, 160
	Cultur	Cosmetics	Pt, Sl	Am	E	I	69, 72
		Personal adornment	Sl	Am	E	I	72
	Environ	Ornamental	Fr, Sd	Ch	C	A	208
	HuFood	Food	Fr, Sd	Am	E	I	69, 71, 160
	MedVet	Digestive system	Fr	Am	E	I	160
	UtenTool	Domestic	Lf, Ls	Am, Ch	C, E	I, Ni	29, 160
		Other	Fr, Sd	Ch	C	Ni	112
Aphandra natalia (Balslev & A.J. Hend.) Barfod	AnFood	Fodder	Infl	Am	E	Ni	39
		Wildlife attractant	Fr	Am	E	Ni	39
	Constr	Houses	St	Am	P	Ni	24
		Thatch	Lf	Am	E, P	I, Ni	16, 24, 27, 33, 36, 39, 160, 250
	Cultur	Personal adornment	Sd	Am	E	I	120
		Ritual	Lr, St	Am	E	I	38, 120
	Environ	Agroforestry	Ep	Am	E, P	C, I, Ni	39, 41, 164
	Fuel	Fire starter	Ls	Am	E	I	38
	HuFood	Beverages	Fr, Ph, Sd	Am, An	E, P	I, Ni	24, 27, 44, 120, 216
		Food	Fr, Ph, Sd	Am, An	E, P	I, Ni	16, 22, 24, 27, 36, 39, 41, 44, 120, 139, 160, 164, 169, 174, 212, 250
		Oils	Fr	Am	E	I	120
	UtenTool	Domestic	Lf, Lr, Ls, Pt, Sd, Sl, St	Am	E, P	I, Ni	16, 22, 24, 27, 38, 39, 41, 120, 160, 164, 167, 174, 183, 212, 250
		Hunting and fishing	Lf, Lr, Ls, Ns, Sl, St	Am	E, P	I, Ni	24, 33, 38, 39, 120
		Rope	Ls, Pt	Am	E	Ni	39
		Other	Sd	Am	E	I, Ni	39, 183

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Other	Miscellaneous	Ls, Sd, St	Am	E, P	I, Ni	16, 36, 39, 120
Archontophoenix alexandrae (F. Muell.) H. Wendl. & Drude	Environ	Ornamental	Ep	Ch	E	I	19
Asterogyne martiana (H. Wendl.) H. Wendl. ex Drude	Constr	Thatch	Lf	An	C	Ni	107
Astrocaryum acaule Mart.	HuFood	Food	Fr	Am	B	Ni	182
Astrocaryum aculeatum G. Mey.	AnFood	Fish bait	Fr	Am	B	I	37
		Wildlife attractant	Fr, Ns	Am	B, C	I, Ni	124, 181
	Constr	Houses	St	Am	B, C	I, Ni	181, 182
		Thatch	Lf	Am	C	I	102
	Cultur	Cloth and accessories	Lf, Ns, Sl	Am	B, C, P	I, Ni	117, 151, 177, 213
		Personal adornment	Ns, Sd, Sl	Am	C	I	47, 51, 102, 151
		Recreational	Ns, Ph, Sl	Am	C	I	47, 151, 181
		Ritual	Ns	Am	C	I	47
	Environ	Ornamental	Ns	Am	C	I	151
	Fuel	Firewood	Lf, St	Am	C	I	181
	HuFood	Beverages	Fr	Am	P	Ni	249
		Food	Fr, Ph, Sd	Am	B, C, P	I, Ni	37, 51, 102, 104, 124, 151, 177, 181, 182, 213, 240
		Oils	Fr	Am	B	Ni	213
	MedVet	Digestive system	Ph	Am	C	I	151
		Infections and infestations	Ph	Am	C	I	151
		Respiratory system	Fr, Sd	Am	B, C	I, Ni	213, 228
	UtenTool	Domestic	Lf, Ns, Sd, Sl	Am	B, C, P	I, Ni	37, 47, 51, 104, 117, 151, 181, 224
		Hunting and fishing	Lf, Ns, Sl, St	Am	B, C, P	I	37, 47, 51, 117, 151, 181, 182
		Rope	Lf, Sl	Am	B, C	I, Ni	181, 213
		Other	Sl	Am	C	Ni	52

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Other	Miscellaneous	St	Am	C	I	151, 224
Astrocaryum chambira Burret	AnFood	Wildlife attractant	Fr	Am	C, E	C, I	46, 63, 66, 72, 110, 120, 155
	Constr	Houses	St	Am	C, P	I, Ni	24, 46, 102
		Thatch	Lf	Am	E, P	I, Ni	24, 160
		Other	Ns	Am	C, P	I, M	55, 79, 88, 166
	Cultur	Cloth and accessories	Lf, Ns, Pt, Sl	Am	C, E, P	I, M, Ni	24, 29, 33, 46, 54, 55, 78, 92, 120, 133, 153, 160, 165, 166, 220, 253, 254
		Personal adornment	Fr, Lf, Sd, Sl, Sp	Am	C, E, P	C, I, Ni	1, 33, 46, 54, 55, 60, 85, 102, 119, 133, 160, 212, 220, 253
		Recreational	Fr, Ph, Sl	Am	C, E	I, Ni	1, 33, 46, 133, 187
		Ritual	Lf, Lr, Sl	Am	C, E	I	119, 155, 160, 174
		Other	Ns	Am	C, P	C, I	53, 101
	Environ	Agroforestry	Ep	Am	C, E, P	C, I	54, 55, 88, 101, 120, 244
	Fuel	Fire starter	Sl	Am	E	I	160
		Firewood	Lf, St	Am	C, E	I	46, 63, 66
	HuFood	Beverages	Fr	Am	P	I, Ni	24, 26, 88, 159
		Food	Fr, Ns, Ph, Sd	Am, An	C, E, P	C, I, M, Ni	7, 9, 24, 26, 27, 44, 46, 53, 55, 60, 62, 63, 66, 71, 72, 73, 78, 80, 85, 89, 101, 119, 120, 136, 139, 145, 154, 155, 160, 165, 166, 167, 183, 187, 207, 212, 216, 234, 249, 250
	MedVet	Digestive system	Fr, Rt	Am	P	Ni	24
		Infections and infestations	Fr, Ph, Rt	Am	E, P	I, Ni	24, 60
		Musculo-skeletal system	Lf	Am	P	Ni	168
		Respiratory system	Ph	Am	P	I	82
		Skin and subcutaneous tissue	Sp	Am	E	I	160

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Not specified	Ns	Am	C	I	53, 55
	UtenTool	Domestic	Lf, Lr, Ls, Ns, Ph, Pt, Sl, Sp	Am	C, E, P	C, I, M, Ni	1, 7, 9, 19, 24, 27, 29, 33, 38, 46, 54, 55, 60, 63, 72, 78, 85, 92, 102, 110, 119, 120, 123, 133, 139, 147, 153, 154, 155, 160, 165, 166, 167, 174, 183, 187, 190, 193, 194, 207, 212, 217, 220, 234, 250, 253, 254
		Hunting and fishing	Lf, Lr, Ns, Ph, Pt, Sl	Am	C, E, P	I, Ni	1, 7, 24, 27, 33, 46, 54, 85, 92, 119, 120, 133, 139, 155, 160, 165, 174, 220, 254
		Rope	Lf, Sl	Am	C, E, P	I, Ni	26, 27, 33, 46, 54, 92, 120, 145, 155, 160, 183, 254
		Other	Lf, Ns, Sl	Am	C, E, P	I, Ni	9, 24, 53, 59, 73, 88, 116
	Other	Miscellaneous	Ns, Sl, St	Am	C, E, P	I, M, Ni	24, 46, 55, 62, 63, 66, 71, 78, 80, 123, 159, 160, 174, 244
Astrocaryum chonta Mart.	Constr	Houses	St	Am	B, P	I, Ni	75, 76
	Fuel	Fire starter	Fr	Am	P	Ni	159
	HuFood	Food	Fr, Ph, Sd	Am	P	M, Ni	153, 167
	UtenTool	Hunting and fishing	St	Am	B	Ni	50
Astrocaryum gratum F. Kahn & B. Millán	AnFood	Wildlife attractant	Fr	Am	B	I	42
	Constr	Houses	St	Am	B	I	42
	Cultur	Cloth and accessories	Lr	Am	B	I	42
		Personal adornment	Sd	Am	B	I	42
		Ritual	Ph	Am	B	I	42
	Fuel	Fire starter	Sd	Am	B	I	42
	HuFood	Beverages	Ph	Am	B	I	42
		Food	Ph	Am	B	I	42
	MedVet	Cultural diseases and disorders	Sp	Am	B	I	42

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Musculo-skeletal system	Rt	Am	B	I	42
		Skin and subcutaneous tissue	Sp	Am	B	I	42
	UtenTool	Domestic	Lr	Am	B	I	42
Astrocaryum gynacanthum Mart.	AnFood	Wildlife attractant	Fr, Ns	Am	C	I	46, 181
	Constr	Houses	St	Am	B	Ni	182
	Cultur	Recreational	Ns, Ph	Am	C	I	104, 151
	Fuel	Firewood	Lf, St	Am	C	I	46, 181
	HuFood	Food	Fr	Am	C	I, Ni	46, 51, 104, 151, 181, 226
	MedVet	Respiratory system	Lf	Am	C	I	228
	UtenTool	Domestic	Ns	Am	C	I	151
	Other	Miscellaneous	St	Am	C	I	46
Astrocaryum huaimi Mart.	Cultur	Personal adornment	Fr	Am	B	Ni	182
Astrocaryum huicungo Dammer ex Burret	Constr	Houses	St	Am	P	I, M, Ni	35, 100, 165, 192
		Other	Ns	Am	P	I	88
	Cultur	Cloth and accessories	Sl	Am	P	Ni	165
	Environ	Agroforestry	Ep	Am	P	I	88, 100
	HuFood	Beverages	Fr	Am	E	I	89
		Food	Fr, Ns, Ph, Sd	Am	B, E, P	I, M, Ni	27, 37, 77, 88, 100, 123, 136, 165, 207, 240
	UtenTool	Domestic	Sl	Am	P	I, M, Ni	35, 165, 207
		Hunting and fishing	Pt	Am	E	I	27
	Other	Miscellaneous	Sl	Am	P	I	88
Astrocaryum jauari Mart.	AnFood	Fish bait	Fr, Ns, Sd	Am	C, E, P	I, Ni	19, 24, 35, 38, 151, 224
		Wildlife attractant	Fr	Am	E, P	I, M	62, 72, 153
	Constr	Houses	St	Am	P	I, M, Ni	24, 35, 234

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Thatch	Lf	Am	P	Ni	24
		Other	Ns	Am	P	M	166
	Cultur	Cloth and accessories	Lf, Pt	Am	P	M	153, 166
		Personal adornment	Fr, Sd	Am	C, E	I	19, 102
		Recreational	Ns	Am	C	I	151
	Fuel	Firewood	St	Am	E	I	72
	HuFood	Beverages	Fr, Ph	Am	P	Ni	24
		Food	Fr, Ns, Sd	Am	C, E, P	I, M, Ni	9, 24, 38, 62, 72, 136, 151, 165, 166, 167, 249
	MedVet	Digestive system	Ph	Am	P	Ni	24
	UtenTool	Domestic	Lf, Lr, Pt	Am	C, P	I, M, Ni	24, 35, 102, 153, 165, 166
		Hunting and fishing	Ns, Sl, St	Am	C, P	I, M	151, 234
	Other	Miscellaneous	Sl, St	Am	E, P	I, Ni	9, 24, 62
Astrocaryum javarense (Trail) Drude	Cultur	Cloth and accessories	Pt	Am	P	M	153
	HuFood	Food	Sd	Am	P	Ni	167
	UtenTool	Domestic	Pt	Am	P	M	153
Astrocaryum macrocalyx Burret	Constr	Thatch	Lf	Am	P	Ni	250
		Transportation	St	Am	P	I	116
	HuFood	Food	Fr, Sd	Am	P	Ni	167, 250
	MedVet	Reproductive system and sexual health	Ns	Am	P	Ni	229
	UtenTool	Domestic	Sl	Am	P	M	234
Astrocaryum malybo H. Karst.	UtenTool	Domestic	Lf	Ch	C	Ni	92
Astrocaryum murumuru Mart.	AnFood	Fish bait	Fr, Ph	Am	B, P	I, Ni	14, 24
		Fodder	Fr	Am	B	Ni	182
		Wildlife attractant	Fr	Am	B, E	I, Ni	19, 124

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Constr	Houses	Ns, St	Am	B, C, E, P	I, Ni	9, 14, 19, 24, 102, 161, 179, 182, 197, 233, 237
		Thatch	Lf	Am	B, E, P	I, Ni	14, 24, 124, 174
		Other	Ns	Am	C	I	53
	Cultur	Cloth and accessories	Lf, Sl	Am	B, P	I	161, 220
		Cosmetics	Fr	Am	B, E	I, Ni	19, 174, 213, 237
		Personal adornment	Fr, Sd, Sl, Sp	Am	B, C, P	I, Ni	14, 102, 131, 161, 182, 197, 220
		Ritual	Ns, Sd	Am	B, P	I, Ni	131, 233
	Environ	Fences	St	Am	P	Ni	24
		Ornamental	Ep	Am	B	Ni	213
	HuFood	Beverages	Fr, Ph, Sd, St	Am	B, E	I, Ni	161, 213, 216, 237
		Food	Fr, Ns, Ph, Sd	Am	B, C, E, P	I, M, Ni	9, 14, 19, 24, 53, 161, 174, 177, 179, 182, 197, 206, 212, 213, 216, 230, 233, 237
	MedVet	Cultural diseases and disorders	Sp	Am	B	I	161
		Dental health	Ph, Sp	Am	B, P	I, Ni	24, 161
		Digestive system	Rt, St	Am	P	Ni	24
		General ailments	St	Am	P	Ni	24
		Infections and infestations	Ph, Rt, St	Am	P	Ni	24
		Musculo-skeletal system	Ph	Am	P	Ni	24
		Skin and subcutaneous tissue	Fr, Sp	Am	B	I	5, 161
		Not specified	Ns	Am	B, P	M, Ni	190, 197
	UtenTool	Domestic	Fr, Lf, Lr, Ns, Sl	Am	B, E, P	I, Ni	14, 24, 161, 174, 182, 197, 220, 233, 237

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Hunting and fishing	Lf	Am	B	I	131, 161
		Labour tools	Fr, Sp	Am	B, P	I, Ni	213, 220
		Other	Fr, Ns	Am	B	I, Ni	161, 179
	Other	Miscellaneous	Fr, Sd, St	Am	B, P	I, Ni	24, 213, 230, 233, 237
Astrocaryum sciophilum (Miq.) Pulle	Cultur	Recreational	Lf	Am	C	I	151
	Environ	Ornamental	Ns	Am	C	I	151
	HuFood	Food	Fl, Sd	Am	C	I, Ni	104, 151
	MedVet	Digestive system	Lf	Am	C	I	151
		Poisonings	St	Am	C	I	155
	UtenTool	Domestic	Fr	Am	C	I	151
		Hunting and fishing	Lf	Am	C	I	151
Astrocaryum standleyanum L.H. Bailey	Constr	Houses	St	Ch	C	A, I, Ni	106, 107, 109, 112, 199, 208
	Cultur	Cloth and accessories	Lf, Sl	Ch	C, E	I, Ni	3, 109, 112, 199
		Personal adornment	Fr, Sd	Ch	C, E	Ni	97, 199
		Ritual	Ep, Sp, St	Ch	C	I	109
	Environ	Agroforestry	Ep	Ch	C, E	I, Ni	40, 121
	Fuel	Fire starter	Lf	Ch	C	A	106
	HuFood	Beverages	Ph, Sd	Ch	E	A, C	97
		Food	Fr, Ns, Ph	Ch	C, E	A, C, I, Ni	3, 19, 25, 45, 70, 97, 107, 112, 121, 162, 199, 200
		Oils	Fr	Ch	C, E	C, Ni	97, 112
	UtenTool	Domestic	Lf, Ls, Ns, Pt, Sl	Ch	C, E	A, C, I, Ni	3, 19, 25, 29, 40, 97, 109, 112, 208
		Labour tools	St	Ch	C	I	109
		Rope	Sl	Ch	C	I	109

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Other	Sd, Sl, St	Ch	C, E	A, I	140, 162
	Other	Miscellaneous	Sl	Ch	C	Ni	112
Astrocaryum urostachys Burret	AnFood	Wildlife attractant	Fr, Sd	Am, An	E	I	23, 63, 64, 69, 71
	Constr	Bridges	Lf	Am	E	I	38
		Houses	St	Am	E	I	62, 63, 64, 71, 160
		Thatch	Lf	Am	E	I	16, 62, 63, 160
	Cultur	Cloth and accessories	Lf	Am	E	I	69
		Personal adornment	Fr, Lf, Sd	Am	E	I	38, 60, 69, 72
		Ritual	Lf	Am, An	E	I	16, 23, 38, 62
	Fuel	Firewood	St	Am	E	I	63
	HuFood	Beverages	Sd	Am	E	I	169
		Food	Fr, Ph, Sd	Am, An	E	I	16, 23, 38, 62, 63, 72, 139, 160, 225, 243
	MedVet	Cultural diseases and disorders	Lf, St	Am, An	E	I	16, 23
		Respiratory system	Sd	Am	E	I	160
	UtenTool	Other	Sd	Am	E	I	64, 71
Astrocaryum vulgare Mart.	Cultur	Cloth and accessories	Lf	Am	C	I	204
		Personal adornment	Fr	Am	C	I	204
		Ritual	Ep, Sp	Am	C	I	227
	HuFood	Food	Fr	Am	C	Ni	29
	UtenTool	Domestic	Lf, Sl	Am	C	I	204, 227
		Hunting and fishing	Sl	Am	C	I	227
Attalea allenii H.E. Moore	Cultur	Recreational	Lf	Ch	C	I	31
		Ritual	Lf	Ch	C	A, I	31, 208
	HuFood	Beverages	Sd	Ch	C	Ni	199

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Food	Fr, Sd	Ch	C	A, I, Ni	31, 107, 112, 208
	UtenTool	Other	Sd	Ch	C	A	140
	Other	Miscellaneous	Sd	Ch	C	Ni	112
Attalea amygdalina Kunth	Cultur	Ritual	Ns	An	C	Ni	221
	HuFood	Food	Fr, Sd	An, Ch	C	I, Ni	56, 92, 204, 221
		Oils	Sd	An	C	Ni	204
Attalea bassleriana (Burret) Zona	AnFood	Wildlife attractant	Fr	Am	E	I	58
	Constr	Thatch	Lf	Am	E, P	I, M, Ni	28, 35, 58, 60, 86, 153, 165, 240
	Environ	Agroforestry	Ep	Am	P	I, M	28, 86
	HuFood	Beverages	Fr	Am	E	I	216
		Food	Fr, Ph, Sd	Am	P	I, M, Ni	35, 153, 159, 165, 240
	MedVet	Poisonings	Ns	Am	C	I	151
	UtenTool	Domestic	Lf, Ns, Sl	Am	P	I	35
	Other	Miscellaneous	Lf, St	Am	P	M, Ni	153, 165
Attalea butyracea (Mutis ex L. f.) Wess. Boer	AnFood	Fodder	Fr	Am, Ch	C	Ni	32, 204
		Wildlife attractant	Fr	Am, An	B, E	I, Ni	23, 71, 124
	Constr	Bridges	Lf	Am	P	Ni	170
		Houses	Ns, Sl, St	Am	C, E, P	I, Ni	24, 102, 136, 160, 220
		Thatch	Lf	Am, An	B, C, E, P	I, M, Ni	23, 24, 32, 38, 71, 102, 124, 128, 139, 160, 177, 182, 197, 204, 213, 230, 236, 237
	Cultur	Cloth and accessories	Lf	Am	B	Ni	213
		Cosmetics	Sd	Am	B, P	I, Ni	10, 124, 213, 237
		Personal adornment	Sd	Am	C	I	102
		Recreational	Br	Am	B	Ni	124
		Ritual	Lf	An	C	Ni	29

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Environ	Agroforestry	Ep	Am	B	Ni	213
		Ornamental	Ep	Ch	C	Ni	32
		Soil improvers	St	Am	P	Ni	24
	Fuel	Firewood	Sd, St	Am	B, C, E	I, Ni	160, 204, 237
	HuFood	Beverages	Fr, Ph, St	Am, An	C, P	C, M, Ni	24, 29, 32, 204, 206
		Food	Fr, Ns, Ph, Sd	Am, An	B, C, E, P	I, M, Ni	23, 24, 32, 38, 92, 111, 160, 177, 182, 204, 213, 234, 237
		Oils	Sd	Am	B	I	237
	MedVet	Digestive system	Rt	Am	B, P	I, Ni	10, 24
		General ailments	Rt	Am	B	M	213
		Respiratory system	Sd	Am	B	Ni	124
		Not specified	Ns, St	Am	C, P	M, Ni	190, 204
	UtenTool	Domestic	Lf, Lr, Pt, Sl	Am	B, C, P	I, Ni	24, 32, 213, 220, 237
	Other	Miscellaneous	Fr, Lf, Sd, Sl, St	Am	B, C, E, P	I, Ni	24, 32, 102, 124, 160, 177, 204, 213, 237
Attalea cephalotus Poepp. ex Mart.	Constr	Houses	Ns	Am	P	I	9
		Thatch	Lf	Am	P	M	158, 166, 234
		Other	Ns	Am	P	M	207
	HuFood	Food	Ns, Sd	Am	P	I, M	9, 166, 207
	UtenTool	Other	Fr, Ns	Am	P	I, M	9, 234
	Other	Miscellaneous	Fr, Ns	Am	P	M	166, 207
Attalea colenda (O.F. Cook) Balslev & A.J. Hend.	AnFood	Fodder	Sd	Ch	E	Ni	20, 34
	Cultur	Cosmetics	Sd	Ch	E	Ni	34
	Environ	Agroforestry	Ep	Ch	E	Ni	40
	HuFood	Beverages	Fr, Sd	Ch	E	I, Ni	3, 70

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Food	Fr, Ph, Sd	Ch	C, E	Ni	2, 3, 20, 34, 40, 199
		Oils	Fr, Sd	Ch	C, E	I, Ni	20, 31, 34, 40
	MedVet	Digestive system	Fr	Ch	E	I	70
	UtenTool	Domestic	Lf	Ch	E	Ni	2
Attalea cuatrecasana (Dugand) A.J. Hend., Galeano & R. Bernal	Constr	Houses	St	Ch	C	I	200
		Thatch	Lf	Ch	C	Ni	199
	Cultur	Ritual	Lf	Ch	C	I	31
	Fuel	Firewood	Fr	Ch	C	Ni	199
	HuFood	Beverages	Sd	Ch	C	Ni	199
		Food	Fr, Ns, Sd	Ch	C	I, Ni	31, 92, 121, 199, 200
		Oils	Ns, Sd	Ch	C	I, Ni	121, 199
Attalea insignis (Mart.) Drude	AnFood	Wildlife attractant	Fl, Fr	Am	C, E	I	72, 155
	Constr	Thatch	Lf	Am	C, P	I, Ni	1, 24, 151
	Cultur	Recreational	Ph, Rt	Am	C	I	151, 154, 155
	HuFood	Food	Fr, Ns, Sd	Am	C, E, P	C, I, Ni	1, 24, 52, 54, 62, 104, 151, 154, 155
	MedVet	General ailments	Rt	Am	P	Ni	24
	UtenTool	Domestic	Lr, Ns, Pt, St	Am	C, E	I	62, 151, 160
		Hunting and fishing	Lr, Ns, Pt, St	Am	C, E, P	I, Ni	24, 62, 151, 155, 160, 220
		Other	Ns	Am	C	I	54
	Other	Miscellaneous	St	Am	P	Ni	24
Attalea luetzelburgii (Burret) Wess. Boer	Cultur	Ritual	Br	Am	C	I	227
	HuFood	Food	Sd	Am	C	Ni	92
	UtenTool	Domestic	Lf	Am	C	I	1
Attalea maripa (Aubl.) Mart.	AnFood	Fish bait	Fr	Am	C	I	181

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Wildlife attractant	Fl, Fr, Ns	Am	B, C, E	C, I, Ni	46, 63, 66, 72, 73, 110, 124, 181
	Constr	Houses	Lf, St	Am	C, P	I, Ni	26, 113
		Thatch	Lf	Am	B, C, E, P	C, I, M, Ni	1, 10, 24, 37, 46, 66, 110, 113, 124, 151, 166, 177, 181, 182
	Cultur	Cloth and accessories	Lf	Am	C	I	227
		Cosmetics	Fr, Sd	Am	B, P	I, Ni	10, 124
		Personal adornment	Ns, Sd	Am	C, E	I	72, 151
		Recreational	Br, Ep, Infr, Lf, Ph, St	Am	B, C	I, Ni	37, 104, 114, 151, 177, 181
		Ritual	Ep	Am	C	I	227
		Other	Ns	Am	C	I	151, 223
	Environ	Ornamental	Ep	Am	C	C	110
	Fuel	Fire starter	Lf	Am	E	I	160
		Firewood	Fr, Lf, Ns, St	Am	C, E, P	I, Ni	26, 46, 160, 181, 223
		Lighting	Pt	Am	E	I	160
	HuFood	Beverages	Fr, Ns, Ph	Am	C, E	C, I, Ni	1, 46, 63, 89, 110, 113, 151
		Food	Fr, Ns, Ph, Sd	Am	B, C, E, P	I, M, Ni	1, 24, 26, 37, 38, 46, 51, 63, 66, 72, 104, 113, 151, 160, 174, 177, 181, 182, 206, 223, 249
		Oils	Sd	Am	P	Ni	26
	MedVet	Digestive system	Fr, Ph	Am	P	Ni	24
		General ailments	Rt	Am	P	Ni	24
		Metabolic system and nutrition	Infr, Ph, St	Am	C	I	151
		Poisonings	Ph	Am	C	I	151
		Respiratory system	Fr	Am	E	I	38
	UtenTool	Domestic	Br, Lf, Lr, Ns, Pt, Sl	Am	B, C, E, P	I, Ni	24, 26, 46, 72, 113, 124, 151, 160, 181, 223, 227

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Hunting and fishing	Lf, Lr, Ns, Pt, Sl, St	Am	C, E, P	I, Ni	19, 24, 27, 38, 63, 66, 73, 89, 113, 151, 160, 174, 181, 223
		Other	Ns, Sd, St	Am	E	I	66, 72, 73
	Other	Miscellaneous	Fr, Ns, St	Am	C, E, P	I, Ni	24, 27, 46, 72, 151, 181, 223
Attalea microcarpa Mart.	Constr	Thatch	Lf	Am	P	M, Ni	24, 158, 166
	HuFood	Food	Fr, Sd	Am	P	Ni	24, 249
	UtenTool	Domestic	Lf	Am	P	M	166
Attalea moorei (Glassman) Zona	HuFood	Food	Sd	Am	P	Ni	249
Attalea peruviana Zona	Cultur	Recreational	St	Am	P	I	228
Attalea phalerata Mart. ex Spreng.	AnFood	Fodder	Fr, Ph	Am	B	I, Ni	182, 241
		Wildlife attractant	Fr	Am	B	I	196
	Constr	Bridges	St	Am	P	Ni	24
		Houses	Lf, Lr, Ns, Pt, St	Am, An	B, P	I, Ni	48, 124, 136, 173, 182, 241
		Thatch	Lf	Am, An	B, P	I, M, Ni	14, 24, 42, 48, 75, 124, 128, 131, 132, 161, 170, 173, 177, 179, 180, 182, 195, 196, 197, 230, 233, 237, 239, 241, 250
		Other	St	Am	B	Ni	182
	Cultur	Cloth and accessories	Br, Lf	Am	B, P	I, Ni	24, 131, 161, 177, 196, 197, 237
		Cosmetics	Br, Fr, Sd	Am, An	B	I, Ni	14, 42, 48, 124, 161, 173, 177, 180, 182, 195, 196, 197, 237, 239
		Dyes	Br	Am	B	I	42
		Personal adornment	Fr	Am	B	I	131
		Recreational	Br, Pt, Sd, Sl	Am, An	B	I, Ni	42, 131, 132, 161, 173, 180, 182, 195, 196
		Ritual	Lf, Ph, Sl	Am, An	B	I, Ni	42, 132, 161, 173, 182
	Environ	Agroforestry	Ep	Am	B, P	I, M, Ni	128, 131, 233, 239

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Fences	St	Am	B	I	131
		Ornamental	Lf	Am	B, P	Ni	24, 182
	Fuel	Firewood	Sd	Am	B	I	237
		Lighting	Sd	Am	B	I, Ni	42, 182
	HuFood	Beverages	Fr, Ns, Ph	Am	B	I, Ni	42, 48, 177, 180, 182, 237
		Food	Fr, Ns, Ph, Sd, St	Am, An	B, P	I, M, Ni	14, 24, 42, 48, 75, 81, 124, 128, 131, 132, 161, 173, 177, 179, 182, 195, 196, 197, 230, 233, 237, 239, 241, 250
		Food additives	Fr	Am, An	B	I, Ni	173, 182
		Oils	Sd	Am, An	B	I	131, 161, 173, 237
	MedVet	Blood and cardiovascular system	Rt	Am	B	I	5, 42, 238, 239
		Cultural diseases and disorders	Sd	Am	B	I	5
		Digestive system	Rt, Sd	Am	B	I, Ni	5, 14, 42, 161, 179, 195, 238, 239
		General ailments	Fl, Fr, Rt, Sd	Am	B, P	I, Ni	24, 42, 124, 161, 180, 197
		Infections and infestations	Rt, Sd	Am	B	I, Ni	195, 239
		Metabolic system and nutrition	Rt	Am	B	Ni	197
		Musculo-skeletal system	Fr, Rt, Sd	Am, An	B	I, Ni	42, 161, 173, 179, 239
		Pregnancy, birth and puerperial	Fr, Rt	Am, An	B	I	173, 238
		Reproductive system and sexual health	Ns, Rt	Am, An	B	I, Ni	173, 195, 196, 239
		Respiratory system	Fr, Rt, Sd	Am, An	B	I, Ni	42, 173, 179, 196, 197, 239
		Skin and subcutaneous tissue	Fr, Rt, Sd	Am, An	B	I, Ni	5, 42, 161, 173, 180, 238

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Not specified	Fr, Lf, Ns, Rt, Sd, St	Am	B	M, Ni	128, 177, 195
	UtenTool	Domestic	Br, Lf, Lr, Ns, Sd, Sl, St	Am, An	B, P	I, M, Ni	14, 24, 42, 48, 124, 128, 131, 132, 136, 161, 173, 177, 179, 180, 182, 195, 196, 197, 237
		Hunting and fishing	Lf, Lr	Am	B	I	14, 48, 131
		Other	Br, Fr, Lf	Am, An	B	I, Ni	173, 182, 195
	Other	Miscellaneous	Fr, Sd, St	Am, An	B, P	I, Ni	14, 24, 42, 173, 182, 195, 230, 233, 237
Attalea plowmanii (Glassman) Zona	Constr	Thatch	Lf	Am	P	M, Ni	24, 234
	HuFood	Food	Fr, Ph, Sd	Am	P	Ni	24, 249
Attalea princeps Mart.	AnFood	Wildlife attractant	Fr	Am	B	I	156
	Constr	Houses	St	Am	B	Ni	50
		Thatch	Lf	Am	B	I, Ni	37, 50, 129, 156
	Cultur	Cosmetics	Fr, Ns, Sd	Am	B	I, Ni	50, 76, 129, 156
		Recreational	Br	Am	B	I	76, 84, 129
	HuFood	Food	Fr, Ns, Sd	Am	B, P	I, Ni	37, 50, 76, 129, 136, 249
		Oils	Sd	Am	B	I	156
	MedVet	Digestive system	Lf	Am	B	I	37
		Skin and subcutaneous tissue	Sd	Am	B	I	129
	UtenTool	Domestic	Lf, Sl	Am, An	B	I, Ni	37, 129, 156, 245
		Hunting and fishing	Lf, St	Am	B	I	76
		Other	Lf, Sd	Am	B	I, Ni	76, 129, 175
Attalea racemosa Spruce	Constr	Thatch	Lf	Am	C, P	I, Ni	24, 151
	Cultur	Personal adornment	Ns	Am	C	I	47
		Recreational	Ph	Am	C	I	151

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	HuFood	Food	Fr, Ph, Sd	Am	C, P	I, Ni	24, 104, 151
		Oils	Sd	Am	C	Ni	104
	UtenTool	Domestic	Lf	Am	C	I	151
		Hunting and fishing	Ns, St	Am	C	I	47, 151
	Other	Miscellaneous	Fr	Am	P	Ni	24
Attalea salazarii (Glassman) Zona	HuFood	Food	Sd	Am	P	Ni	249
Attalea septuagenata Dugand	HuFood	Food	Sd	Am	C	Ni	92
Attalea speciosa Mart.	AnFood	Fodder	Fr	Am	B	Ni	124, 177
	Constr	Houses	St	Am	B	Ni	177
		Thatch	Lf	Am	B	I, Ni	124, 131, 177, 182, 197, 213
	Cultur	Cloth and accessories	Lf	Am	B	Ni	177
		Cosmetics	Fr, Sd	Am	B	I, Ni	177, 182, 196, 197, 213
		Recreational	Lf	Am	B	I	131
	Fuel	Firewood	Fr	Am	B	Ni	182
		Lighting	Sd	Am	B	Ni	182
	HuFood	Food	Fr, Ph, Sd	Am	B	I, Ni	131, 132, 182, 196
		Oils	Sd	Am	B	I, Ni	50, 124, 131, 182, 213
	MedVet	General ailments	Sd	Am	B	Ni	197
		Respiratory system	Sd	Am	B	Ni	197, 213
		Not specified	Fr, Ns	Am	B	I, Ni	177, 182, 196
	UtenTool	Domestic	Fr, Lf	Am	B	I, Ni	177, 182, 196, 197
	Other	Miscellaneous	Sd, St	Am	B	Ni	124, 182
Attalea tessmannii Burret	Cultur	Recreational	Fr	Am	P	I	230
	HuFood	Food	Fr, Ns, Sd	Am	P	I, M, Ni	9, 207, 230, 249
	UtenTool	Domestic	Lf	Am	P	I	35

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Other	Miscellaneous	Ns	Am	P	I	230
Attalea vitrivir Zona	AnFood	Fodder	Sd	Am	P	Ni	26
	Cultur	Cosmetics	Sd	Am	P	Ni	26
	Fuel	Firewood	Sd	Am	P	Ni	26
	HuFood	Oils	Sd	Am	P	Ni	26
	Other	Miscellaneous	Sd	Am	P	Ni	26
Bactris acanthocarpa Mart.	AnFood	Fish bait	Fr	Am	C	Ni	104
	Constr	Houses	St	Am	P	Ni	24
	Cultur	Personal adornment	Fr	Am	E	Ni	38
	HuFood	Food	Fr	Am	P	Ni	24
	MedVet	Digestive system	Fr	Am	B	I	37
		Infections and infestations	Rt	Am	P	Ni	24
	UtenTool	Domestic	Rt	Am	C	I	151
Bactris barronis L.H. Bailey	HuFood	Food	Fr	Ch	C	A	208
	UtenTool	Hunting and fishing	St	Ch	C	A	208
Bactris bidentula Spruce	AnFood	Fish bait	Fr	Am	P	Ni	24
	HuFood	Food	Fr	Am	C, P	Ni	24, 104, 233
Bactris bifida Mart.	HuFood	Beverages	Fr	Am	P	Ni	233
		Food	Fr	Am	P	Ni	24
Bactris brongniartii Mart.	AnFood	Fish bait	Fr	Am	P	Ni	24
	HuFood	Beverages	Fr	Am	P	Ni	249
		Food	Fr	Am	B, C, P	I, Ni	24, 151, 182, 233
	UtenTool	Hunting and fishing	Ns	Am	C	I	151
Bactris coloradonis L.H. Bailey	HuFood	Food	Fr	Ch	C	A, Ni	112, 208
	UtenTool	Hunting and fishing	St	Ch	C	A	208

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Other	Sd	Ch	C	Ni	112
Bactris concinna Mart.	AnFood	Fodder	Fr	Am	P	Ni	233
		Wildlife attractant	Fr	Am	E	I	62
	Constr	Houses	St	Am	E, P	I, Ni	24, 27
		Thatch	Lf	Am	P	Ni	24
		Transportation	St	Am	P	Ni	24
	Cultur	Personal adornment	Sd	Am	C	I	102
	HuFood	Beverages	Fr	Am	P	Ni	249
		Food	Fr, Ns, Ph, Sd	Am	B, E, P	I, Ni	9, 24, 27, 35, 38, 60, 72, 75, 160, 161, 167, 174, 177, 212, 216, 230, 233, 240, 252
	MedVet	Digestive system	Rt	Am	C	I	102
		Infections and infestations	Rt	Am	C	I	102
		Respiratory system	Rt	Am	E	I	160
		Urinary system	Rt	Am	C	I	102
	UtenTool	Domestic	Lf, St	Am	B, E	I	72, 161, 174
		Hunting and fishing	St	Am	B, C, E, P	I, Ni	27, 38, 102, 159, 161
		Labour tools	St	Am	C	I	102
		Other	St	Am	E	I	72
Bactris corossilla H. Karst.	AnFood	Wildlife attractant	Fr	Am	E	I	72
	Constr	Houses	St	Am	E	I	17
		Thatch	Lf	Am	P	Ni	24
	HuFood	Food	Fr, Ph, Sd	Am	E, P	I, Ni	17, 24, 63, 72, 160
	MedVet	Digestive system	Ph	Am	E	I	63
		Not specified	Ns	Am	E	I	17
	UtenTool	Domestic	Lf	Am	E	I	63

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Hunting and fishing	St	Am	E	I	17, 62, 63, 160
		Wrappers	Lf	Am	E	I	17, 160
		Other	St	Am	E	I	62
Bactris elegans Barb. Rodr. & Trail	Cultur	Recreational	Ph	Am	C	I	151
	HuFood	Food	Fr	Am	C	I	151
	UtenTool	Hunting and fishing	Ns	Am	C	I	151
Bactris fissifrons Mart.	Constr	Other	Ns	Am	C	I	47
	Cultur	Personal adornment	Ns	Am	C	I	47
	UtenTool	Domestic	Ns	Am	C	I	47
		Hunting and fishing	Ns	Am	C	I	47
Bactris gasipaes Kunth	AnFood	Fish bait	Fr	Am	C, P	I, Ni	181, 233
		Fodder	Fr, Lf	Am, An, Ch	B, C, E	A, C, Ni	13, 44, 182, 203, 208
		Wildlife attractant	Fr, Ns	Am	B, C, E	I	19, 46, 155, 156, 181, 196
	Constr	Houses	Ns, St	Am, An, Ch	B, C, E, P	I, M, Ni	3, 17, 23, 24, 25, 27, 33, 45, 72, 74, 85, 89, 94, 102, 107, 113, 136, 139, 145, 151, 160, 161, 186, 212, 234, 243
		Thatch	Lf	Am, An, Ch	B, C, E, P	I, Ni	24, 26, 44, 120, 151, 179, 186
		Other	Ns, St	Am, An	B, P	I, M, Ni	74, 177, 239
	Cultur	Cloth and accessories	Lf	Am, An	B, E	I, Ni	44, 131
		Cosmetics	Fr, Rt	Am, An	B, E, P	I, Ni	14, 23, 24, 196, 197, 237
		Dyes	Fr, Lf, Ns, Sd	Am, Ch	C, P	C, I, Ni	1, 47, 104, 110, 113, 136, 151, 209
		Personal adornment	Lf, Sp	Am	E	I	72, 174
		Recreational	Ns, St	Am, An, Ch	B, C, E	I, Ni	3, 25, 44, 45, 131, 151
		Ritual	Ep, Fr, Lf, Ph, St	Am, An, Ch	B, C, E, P	I, M, Ni	19, 33, 45, 51, 56, 60, 69, 74, 104, 114, 117, 118, 121, 131, 134, 151, 154, 155, 160, 200, 212, 227, 243

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Other	St	Am	B	I	237
	Environ	Agroforestry	Ep	Am, An, Ch	B, C, E, P	C, I, M, Ni	9, 11, 13, 28, 31, 46, 51, 56, 74, 77, 88, 92, 96, 110, 113, 114, 120, 121, 124, 128, 129, 131, 134, 136, 137, 141, 154, 155, 160, 177, 183, 203, 210, 220, 233, 239, 243, 244, 251, 252
		Fences	St	Am, An	B, E, P	I, M, Ni	24, 74, 131, 243
		Ornamental	Fr, Lf, St	Am, An	B, E, P	Ni	24, 44, 124
	Fuel	Firewood	Fr, Lf, St	Am, An	B, C, E	I, Ni	44, 46, 181, 237
	HuFood	Beverages	Fl, Fr, Ph	Am, An, Ch	B, C, E, P	C, I, M, Ni	3, 13, 14, 17, 19, 23, 24, 27, 33, 37, 44, 45, 46, 50, 51, 60, 63, 69, 88, 92, 94, 104, 114, 117, 119, 120, 126, 131, 143, 151, 154, 155, 159, 160, 161, 165, 166, 167, 183, 196, 204, 214, 216, 233, 237, 243, 247, 250, 252
		Food	Fl, Fr, Infl, Infr, Ns, Ph, Sd	Am, An, Ch	B, C, E, P	A, C, I, M, Ni	1, 3, 7, 8, 9, 13, 14, 16, 17, 19, 23, 24, 25, 26, 27, 31, 35, 37, 38, 44, 45, 46, 51, 52, 53, 54, 56, 59, 60, 63, 67, 69, 70, 71, 72, 74, 77, 79, 80, 85, 89, 91, 96, 102, 104, 107, 110, 112, 113, 114, 117, 119, 120, 121, 124, 125, 126, 128, 129, 130, 131, 134, 136, 145, 151, 155, 156, 159, 160, 161, 165, 166, 167, 174, 177, 179, 181, 182, 183, 186, 190, 192, 193, 196, 197, 200, 203, 204, 208, 210, 212, 214, 216, 225, 233, 237, 239, 242, 243, 244, 247, 249, 250, 251, 252
		Food additives	Fr	Am	C	I	247

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Oils	Fr, Sd	Am, Ch	B, C, E, P	C, I, M, Ni	3, 24, 104, 110, 112, 113, 128, 131, 151, 154, 155, 165, 237, 250
	MedVet	Cultural diseases and disorders	Ns, Ph, Sp	Am, An, Ch	C, E, P	I, M	74, 138, 139, 198
		Digestive system	Ns, Ph, Rt	Am, An	E, P	I, Ni	24, 44, 139, 163
		General ailments	Fr, Ns	Am	B, E	I	137, 161
		Infections and infestations	Ph, Rt	Am, An	E, P	Ni	24, 44
		Musculo-skeletal system	Fr	Am	B	I	161
		Nervous system and mental health	Rt	Am	E	I	222
		Pregnancy, birth and puerperial	Fr, Rt	Am, An	B, E, P	I, M, Ni	24, 118, 139, 152
		Reproductive system and sexual health	Ns, Rt	Am, Ch	C, E, P	A, I	9, 138, 208
		Respiratory system	Fr	Am	B	I	239
		Sensory system	Lf, Ph	An	E	Ni	44
		Skin and subcutaneous tissue	Ph, Sp	Am, An	E	I, Ni	44, 160
		Urinary system	Rt	Am, An	B, P	I, M	74, 214
		Veterinary	Rt	Am	P	Ni	24
		Not specified	Fr, Lf, Ns, Ph	Am, An	B, E, P	I, M, Ni	17, 67, 129, 190, 197, 225, 246
	UtenTool	Domestic	Lr, Ns, Sl, St	Am, An	B, C, E, P	I, Ni	7, 35, 44, 47, 104, 130, 131, 151, 197, 225
		Hunting and fishing	Lf, Ns, St	Am, An, Ch	B, C, E, P	I, M, Ni	7, 10, 13, 14, 17, 19, 24, 25, 26, 27, 33, 35, 37, 38, 44, 46, 47, 60, 63, 70, 85, 89, 92, 117, 120, 129, 130, 131, 134, 139, 143, 156, 159, 160, 161, 165, 166, 174, 177, 181, 182, 183, 196, 220, 225, 234, 237

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Labour tools	Ns, St	Am	B, C, E, P	C, I, Ni	14, 33, 35, 47, 60, 89, 110, 131, 160, 161, 177, 182, 220, 237
		Wrappers	St	Am	E	I	85
		Other	Ns, St	Am, Ch	B, C, E, P	I, Ni	8, 72, 88, 112, 239
	Other	Miscellaneous	Ns, St	Am, An, Ch	B, C, E, P	I, M, Ni	14, 17, 19, 24, 25, 44, 46, 63, 102, 104, 113, 126, 160, 181, 190
Bactris glaucescens Drude	HuFood	Food	Fr	Am	B	Ni	177, 182
Bactris halmoorei A.J. Hend.	AnFood	Fish bait	Fr	Am	P	Ni	24
	Constr	Houses	St	Am	P	Ni	24
	HuFood	Food	Fr	Am	P	Ni	24
Bactris hirta Mart.	HuFood	Food	Fr, Ns	Am	B, P	M, Ni	24, 190, 197
Bactris killipii Burret	UtenTool	Hunting and fishing	Ns	Am	C	I	151
Bactris macroacantha Mart.	HuFood	Food	Fr, Ns	Am	C, P	I, Ni	24, 54
Bactris major Jacq.	Constr	Houses	Ns, St	Am	B, C	Ni	92, 179
	Cultur	Other	St	Am	B	I	14
	Environ	Ornamental	Ep, Lf	Am	B	I, Ni	130, 182
	HuFood	Food	Fr, Sd	Am	B	I, Ni	14, 130, 161, 177, 179, 182, 196, 197, 237
	MedVet	Digestive system	Fr	Am	C	Ni	111
		Poisonings	Fr	Am	C	Ni	111
	UtenTool	Domestic	St	Am	B	I, Ni	177, 237
		Hunting and fishing	St	Am, Ch	B, C	I	56, 204, 237
		Labour tools	St	Am	C	I	204
Bactris maraja Mart.	AnFood	Wildlife attractant	Fr	Am	C, E	I	46, 64, 71
	Constr	Houses	St	Am	E, P	I	35, 71
		Thatch	Lf	Am	E	I	17
	Cultur	Personal adornment	Sd	Am	C	I	102

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Fuel	Firewood	St	Am	C	I	46
	HuFood	Beverages	Fr	Am	P	Ni	167
		Food	Fr, Ns, Ph	Am	B, E, P	I, Ni	9, 17, 24, 35, 37, 62, 160, 169, 177, 182, 233, 249
	MedVet	Digestive system	Rt	Am	C	I	102
		Infections and infestations	Rt	Am	C	I	102
		Musculo-skeletal system	Rt	Am	E	I	160
		Respiratory system	Rt	Am	E	I	160
		Urinary system	Rt	Am	C	I	102
	UtenTool	Hunting and fishing	Ns, Pt, St	Am	C, E	I	46, 51, 62, 64, 102, 151, 160
		Labour tools	St	Am	C	I	102
		Other	St	Am	E	I	64, 71
	Other	Miscellaneous	St	Am	C	I	46
Bactris martiana A.J. Hend.	HuFood	Food	Fr	Am	P	Ni	233
Bactris riparia Mart.	AnFood	Fish bait	Fr	Am	E, P	Ni	24, 38
		Wildlife attractant	Fr, Lf	Am	E	I	62, 72
	Constr	Houses	St	Am	P	Ni	26
	Cultur	Recreational	Ph	Am	C	I	151
	Fuel	Firewood	St	Am	E	I	62
	HuFood	Beverages	Fr	Am	P	Ni	233
		Food	Fr, Ph	Am	E, P	I, Ni	24, 160, 167
	MedVet	Reproductive system and sexual health	Rt	Am	P	Ni	24
	UtenTool	Domestic	St	Am	E, P	I, Ni	26, 160
		Hunting and fishing	Fr, St	Am	E, P	I, Ni	24, 160
Bactris schultesii (L.H. Bailey) Glassman	Constr	Thatch	Lf	Am	E, P	I, Ni	17, 24, 160

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	HuFood	Food	Fr	Am	E, P	I, Ni	17, 24
	UtenTool	Hunting and fishing	St	Am	E	I	38, 160
Bactris setiflora Burret	Constr	Transportation	St	Am	E	I	38
	HuFood	Beverages	Fr, Ph	Am	E	I	16, 33
		Food	Fr, Sd	Am	E	I, Ni	16, 38
Bactris setulosa H. Karst.	Constr	Houses	St	Am	E	Ni	38
	Environ	Agroforestry	Ep	An	E	M	235
	HuFood	Beverages	Fr	Ch	E	I	70
		Food	Fr, Ph	Am, An, Ch	E	I, M, Ni	44, 67, 70, 235, 243
	MedVet	Not specified	Fr	Am	E	I	67
Bactris simplicifrons Mart.	Constr	Thatch	Lf	Am	P	Ni	24
	Cultur	Cosmetics	Ns	Am	P	I	9
	Environ	Agroforestry	Ep	Am	P	I	88
	HuFood	Beverages	Fr	Am	P	I	88
		Food	Fr, Ns, Ph	Am	E, P	I, Ni	9, 17, 24, 167
	MedVet	General ailments	Fr	Am	P	Ni	24
		Nervous system and mental health	Ns	Am	P	I	88
		Not specified	Ns	Am	E	I	17
	UtenTool	Domestic	Rt	Am	C	I	151
		Hunting and fishing	Ns	Am	C	I	151
		Wrappers	Lf	Am	E	I	160
Ceroxylon alpinum Bonpl. ex DC.	Cultur	Ritual	Lf	An	E	M, Ni	38, 105, 235
Ceroxylon amazonicum Galeano	Cultur	Ritual	Lf	An	E	Ni	44
	HuFood	Food	Ph	Am	E	I	243
Ceroxylon echinulatum Galeano	AnFood	Fodder	Sd	An	E	Ni	38, 105

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Constr	Houses	St	An	E, P	M, Ni	105, 210
	Cultur	Ritual	Lf	An	E	Ni	38, 105
	Environ	Agroforestry	Ep	An	C, E, P	M, Ni	38, 105, 210
		Fences	St	An	E	Ni	38, 105
	Fuel	Lighting	St	An	E	Ni	38
	HuFood	Beverages	Sd	An	E	M	243
		Food	Infl	An	E	Ni	38
Ceroxylon parvifrons (Engel) H. Wendl.	Constr	Houses	Ns	An	E	Ni	157
	Cultur	Ritual	Lf	An	B, E	M, Ni	38, 61, 177, 197
	Fuel	Lighting	St	An	E	Ni	38
	HuFood	Beverages	Ph	An	E	M	61
Ceroxylon parvum Galeano	AnFood	Fodder	Lf	An	B	Ni	177
	Constr	Houses	St	An	B, E	Ni	105, 177
		Thatch	Lf	An	B, E	Ni	105, 177
	Cultur	Ritual	Lf	An	B	Ni	182
Ceroxylon peruvianum G. Galeano, M.J. Sanín, K. Mejía, J.-C. Pintaud, and B. Millán	AnFood	Fodder	Fr	An	P	Ni	108
	Constr	Houses	St	An	P	Ni	108
		Thatch	Lf	An	P	Ni	108
	Environ	Agroforestry	Ep	An	P	Ni	108
		Fences	St	An	P	Ni	108
		Ornamental	Ep	An	P	Ni	108
Ceroxylon quindiuense (H. Karst.) H. Wendl.	Cultur	Ritual	Lf	An	E	Ni	19
	Fuel	Fire starter	St	An	E	Ni	19

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
Ceroxylon sasaimae Galeano	Cultur	Ritual	Lf	An	C	Ni	105
Ceroxylon ventricosum Burret	AnFood	Fodder	Sd	An	E	Ni	38
	Constr	Houses	St	An	E	Ni	38
	Cultur	Ritual	Sl	An	E	Ni	38
	Environ	Agroforestry	Ep	An	E	Ni	38
		Fences	St	An	E	Ni	38
	Fuel	Lighting	St	An	E	Ni	38
	UtenTool	Domestic	Sl	An	E	Ni	38
Ceroxylon vogelianum (Engel) H. Wendl.	Constr	Houses	St	An	B	Ni	177, 182
		Thatch	Lf, St	An	B, E	M, Ni	177, 243
	Cultur	Ritual	Lf	An	B, C	Ni	107, 177, 182, 197
	Environ	Fences	St	An	C	Ni	107
	HuFood	Food	Fr	An	E	M	243
Chamaedorea angustisecta Burret	Cultur	Cosmetics	Fl, Infl	Am	B	I, Ni	14, 161, 213
		Personal adornment	Infl	Am	B	I, Ni	196, 197
		Ritual	Infl	Am	B	Ni	197
	Environ	Ornamental	Ep	Am	B	Ni	213
	MedVet	Digestive system	Fl, Infl	Am	B	I, Ni	42, 161, 177, 179, 213
		General ailments	Infl	Am	B	I	14
		Musculo-skeletal system	Ph	Am	B	I	239
		Poisonings	Fl, Infl, Lf, Ph, Rt, St	Am	B	I, Ni	5, 14, 42, 197, 214
		Reproductive system and sexual health	Fl, Ph	Am	B	I	14, 42, 239
		Respiratory system	Fl, Infl	Am	B	I, Ni	196, 197

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Skin and subcutaneous tissue	Lf, St	Am	B	I	214
		Not specified	Ns	Am	B	I	246
	UtenTool	Domestic	Infl, Lf	Am	B	I, Ni	161, 177, 182
Chamaedorea fragrans Mart.	Cultur	Other	Ep	Am	P	I	123
Chamaedorea linearis (Ruiz & Pav.) Mart.	Environ	Ornamental	Ep	An	E	Ni	38
Chamaedorea pauciflora Mart.	Constr	Thatch	Lf	Am	E, P	I, Ni	24, 38, 160
	Cultur	Cosmetics	Fl, Fr, Infl	Am	C, E, P	I, Ni	24, 27, 38, 67, 69, 155, 252
		Dyes	Fr	Am	P	Ni	24
		Personal adornment	Infl	Am	C, E	I	19, 63, 104, 160, 174
		Recreational	Infl	Am	C	I	151
		Ritual	Ep, Fl, Infl, Ns	Am	C, E	I	19, 38, 174, 228
	Environ	Ornamental	Ep	Am	E	I	67
	HuFood	Food	Fr	Am	P	Ni	24
	MedVet	Infections and infestations	Infl	Am	E	I	160
	UtenTool	Domestic	Rt	Am	P	Ni	24
		Wrappers	Lf	Am	E, P	I, Ni	24, 160
Chamaedorea pinnatifrons (Jacq.) Oerst.	AnFood	Fish bait	Fr	Am	P	Ni	24
		Wildlife attractant	Fr	Am	E	I	60
	Constr	Houses	St	Am	P	Ni	24
		Thatch	Lf	Am	B, P	I, Ni	14, 24
	Cultur	Personal adornment	Fr, Pt, Sd	Am	E, P	I, Ni	24, 228
	Environ	Ornamental	Ep	Am	C, E	I, Ni	29, 67
	HuFood	Food	Fr	Am	P	Ni	24

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	MedVet	Poisonings	Ph, Rt	Am	B	I	14
	UtenTool	Domestic	Lf, Rt, St	Am, An	B, E, P	I, M, Ni	14, 24, 38, 161, 235
		Hunting and fishing	St	Am	E, P	I, Ni	24, 72
		Wrappers	Lf	Am	B	I	161
Chamaerops humilis L.	Environ	Ornamental	Ep	An	E	Ni	19
Chelyocarpus chuco (Mart.) H.E. Moore	Constr	Houses	Ns	Am	B	M	128
		Thatch	Lf	Am	B	M, Ni	124, 128, 177
	Cultur	Cloth and accessories	Lf	Am	B	Ni	124, 177
		Ritual	Sd	Am	B	Ni	177
	HuFood	Food	Fr, Ns	Am	B	M, Ni	128, 177
	UtenTool	Domestic	Ns	Am	B	M	128
Chelyocarpus repens F. Kahn & K. Mejia	Constr	Thatch	Lf	Am	P	Ni	24
	HuFood	Food	Fr	Am	P	Ni	24
	UtenTool	Domestic	Lf	Am	P	Ni	24
Chelyocarpus ulei Dammer	AnFood	Wildlife attractant	Fr	Am	E	I	66
	Constr	Houses	Ns, St	Am	E, P	I	9, 66
		Thatch	Lf	Am	E	I	66, 160
	Cultur	Recreational	St	Am	C	Ni	104
		Ritual	Lr	Am	E	I	160
	Fuel	Firewood	St	Am	E	I	66
	HuFood	Food	Fr, Sd	Am	E, P	I, Ni	24, 66, 160
	UtenTool	Domestic	Lf	Am	E, P	I, Ni	24, 35, 66
		Hunting and fishing	St	Am	E	I	66
		Labour tools	St	Am	E	I	66

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Wrappers	Lf	Am	P	I	35
Cocos nucifera L.	AnFood	Fodder	Fr	Ch	E	Ni	3
	Constr	Houses	St	Am	P	Ni	24
		Thatch	Lf	Am, Ch	E, P	Ni	3, 24
		Transportation	Lf	Ch	C	I	31
	Cultur	Cloth and accessories	Fr, Lf	Am, Ch	B, E	I, Ni	3, 14
		Cosmetics	Fr, Ns, Sd	Am, Ch	B, C, E	Ni	3, 124, 204
		Personal adornment	Fr, Sd	Am, Ch	C	I, Ni	102, 204
	Environ	Agroforestry	Ep	Am, Ch	C, E, P	I, Ni	3, 40, 45, 88, 121, 136, 160, 185
		Ornamental	Ep, Fr	Am, Ch	B, E	Ni	19, 124
	Fuel	Lighting	Fr	Ch	E	Ni	3
	HuFood	Beverages	Fl, Fr, Ns, Sd	Am, Ch	B, C, E, P	I, Ni	3, 24, 40, 88, 111, 124
		Food	Fr, Ns, Sd	Am, Ch	B, C, E, P	A, I, M, Ni	3, 14, 31, 45, 52, 54, 72, 79, 88, 102, 111, 112, 119, 124, 136, 160, 204, 208
		Food additives	Fl, Fr	Am, Ch	C	Ni	45, 111, 204
		Oils	Ns, Sd	Am, Ch	B, C	Ni	45, 112, 124
	MedVet	Blood and cardiovascular system	Fr	Ch	C	Ni	204
		Dental health	Rt	Am	C	Ni	111
		Digestive system	Fl, Fr, Rt, Sd	Am, An, Ch	B, C, E, P	A, I, M, Ni	3, 14, 24, 45, 111, 118, 124, 149, 255
		General ailments	Fr, Rt, Sd	Am, Ch	B, E, P	I, Ni	3, 5, 14, 24
		Infections and infestations	Fr, Sd	Am	P	Ni	24
		Poisonings	Rt	Am	C	Ni	111
		Pregnancy, birth and puerperial	Fr, Lf, Sd	Am	C, P	I, M, Ni	24, 119, 168, 231

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Reproductive system and sexual health	Fr	Am, An	B, E, P	I, M, Ni	118, 124, 149, 229
		Respiratory system	Fr	Am, An	B, P	M, Ni	24, 118
		Skin and subcutaneous tissue	Fr, Sd	Am, Ch	E, P	I, Ni	3, 82
		Urinary system	Fr, Rt, Sd	Am, An, Ch	B, C, E	I, Ni	3, 14, 111, 149
		Not specified	Fr, Sd	Ch	C	A, Ni	204, 208
	UtenTool	Domestic	Fr, Lf	Am, Ch	B, C, E	I, Ni	3, 14, 45, 124, 204
		Other	Fr, Sd	Ch	C, E	A, Ni	3, 45, 112, 140, 208
	Other	Miscellaneous	Ns, Sd	Am, Ch	C, P	I, M	80, 121
Copernicia alba Morong	Constr	Houses	St	Am	B	Ni	177
		Other	St	Am	B	Ni	177
	Environ	Fences	St	Am	B	Ni	176, 177
	MedVet	Blood and cardiovascular system	Rt	Am	B	Ni	177
		Musculo-skeletal system	Rt	Am	B	Ni	177
	UtenTool	Domestic	Infl	Am	B	Ni	176, 177
Desmoncus cirrhiferus A.H. Gentry & Zardini	HuFood	Food	Fr	Ch	E	Ni	38
	UtenTool	Domestic	Ns, St	Ch	C, E	I, Ni	29, 31, 38, 65, 115, 121
		Hunting and fishing	Ns, St	Ch	C, E	I, Ni	31, 38, 70, 115
		Other	St	Ch	C	A, Ni	112, 140, 208
Desmoncus giganteus A.J. Hend.	AnFood	Fish bait	Fr	Am	P	Ni	24
		Wildlife attractant	Fr	Am	E	I	63
	Cultur	Recreational	St	Am	E	I	38
		Ritual	Ns	Am	E	I	38

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	HuFood	Food	Fr	Am	E	I	160
	MedVet	Blood and cardiovascular system	Fr	Am	P	Ni	24
		General ailments	St	Am	P	Ni	24
		Other	Ph	Am	E	Ni	38
	UtenTool	Domestic	St	Am	E, P	I, Ni	24, 38, 63
		Hunting and fishing	St	Am	E	I	63, 160
		Rope	St	Am	P	Ni	24
	Other	Miscellaneous	Sp	Am	E	I	160
Desmoncus mitis Mart.	AnFood	Fish bait	Fr	Am	P	Ni	24
		Wildlife attractant	Fr	Am	E	I	62
	Cultur	Cosmetics	Sp	Am	B	I	14
		Recreational	St	Am	B	I	14
		Ritual	Ep, St	Am	B, E	I	14, 38
	HuFood	Food	Fr	Am	B	I	14
	MedVet	Cultural diseases and disorders	Rt	Am	E	I	19
		General ailments	Lf, St	Am	E	I	160
		Respiratory system	Lf, St	Am	E	I	160
		Skin and subcutaneous tissue	Ns	Am	E	I	163
		Other	Ns	Am	E	I	163
	UtenTool	Domestic	Ns, St	Am	C, P	I, Ni	24, 151, 250
		Rope	St	Am	C, P	Ni	24, 104
		Other	St	Am	E	I	72
Desmoncus orthacanthos Mart.	AnFood	Fish bait	Fr	Am	P	Ni	24

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Wildlife attractant	Fr	Am	E	I	63, 66
	Constr	Houses	St	Am	C	I	154
	Cultur	Cloth and accessories	Ls, St	An	E	I	23
		Personal adornment	Sd	Am	E	I	72
	Fuel	Firewood	St	Am	E	I	66
	MedVet	Cultural diseases and disorders	St	Ch	C	I	45
		Digestive system	Fr, Rt	Am	E, P	I, Ni	19, 24
	UtenTool	Domestic	St	Am, An, Ch	C, E, P	I, Ni	23, 24, 45, 63, 66, 107, 154, 160
		Hunting and fishing	St	Am, Ch	C, E	I, Ni	45, 63, 160, 174
		Rope	St	Ch	C	Ni	45, 107
	Other	Miscellaneous	St	Am	E	I	72
Desmoncus polyacanthos Mart.	AnFood	Fish bait	Fr	Am	P	Ni	24
	Cultur	Cloth and accessories	Pt	Am	P	M	153
		Personal adornment	Sd	Am	E	I	69
		Ritual	Sd	Am	E	I	69
	HuFood	Beverages	Sd	Am	P	Ni	159
	UtenTool	Domestic	Ns, Pt, St	Am	B, C, P	I, M, Ni	24, 47, 52, 104, 127, 135, 153, 177
		Rope	St	Am	C, P	Ni	24, 104
		Other	Ns	Am	C, P	I	9, 54
	Other	Miscellaneous	Ns	Am	P	I	9
Dictyocaryum lamarckianum (Mart.) H. Wendl.	AnFood	Wildlife attractant	Fr, Ph	An	E	I	23
	Cultur	Recreational	Sd	An	E	Ni	38
		Ritual	Sd, St	An, Ch	C	I, Ni	29, 107
	Environ	Fences	St	An	E	Ni	38

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	HuFood	Food	Infl, Ph	An	B, E	I, M, Ni	23, 177, 197, 243
	UtenTool	Other	Sd	An	C	Ni	29
Dictyocaryum ptarianum (Steyerm.) H.E. Moore & Steyerm.	Constr	Houses	Ns, St	Am	C	I, Ni	104, 151
		Thatch	Lf	Am	C	I, Ni	104, 151
	UtenTool	Domestic	Ls, Rt	Am	C	I	151
	Other	Miscellaneous	St	Am	C	I	151
Dypsis lutescens (H. Wendl.) Beentje & J. Dransf.	Environ	Ornamental	Ep	Am, Ch	E	Ni	19
Elaeis guineensis Jacq.	AnFood	Fodder	Sd	Am	B, P	Ni	26, 124
	Constr	Thatch	Lf	Am	P	Ni	24
		Other	Ns	Am	B	Ni	124
	Cultur	Cosmetics	Sd	Am	P	Ni	26
	Environ	Agroforestry	Ep	Am	B	Ni	124
		Soil improvers	Infr	Am	B	Ni	124
	Fuel	Firewood	Fr	Am	B	Ni	124
	HuFood	Beverages	Fr	Am	B	Ni	124
		Food	Fr, Ns	Am	C, P	I, Ni	24, 53, 54
		Food additives	Fr	Am	P	Ni	26
		Oils	Fr, Sd	Am, Ch	B, C, E, P	Ni	19, 24, 26, 124, 204, 249
	MedVet	Digestive system	Fr	Am	C	Ni	111
		Skin and subcutaneous tissue	Ns	Am	C	Ni	111
Elaeis oleifera (Kunth) Cortés	AnFood	Fodder	Fr	Am	C	Ni	204
		Wildlife attractant	Fr	Am	P	Ni	24

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Constr	Houses	St	Am	P	Ni	24
		Thatch	Lf	Am, Ch	C, P	Ni	24, 112
	Cultur	Cosmetics	Fr	Am	C	Ni	92
		Personal adornment	Sd	Am	P	Ni	24
	Fuel	Fire starter	Lf	An	C	Ni	204
	HuFood	Food	Fr, Sd	Am, Ch	C, P	Ni	111, 112, 204, 249
		Oils	Fr, Sd	Am, Ch	C, P	Ni	24, 112, 249
	MedVet	General ailments	Lf	Am	P	Ni	24
		Respiratory system	Sd	Ch	C	Ni	112
	UtenTool	Domestic	Infl, Lf	Am	C, P	Ni	24, 204
		Hunting and fishing	Ns	Ch	C	A	208
Euterpe catinga Wallace	Constr	Houses	St	Am	C	Ni	104
		Thatch	Lf	Am	C	Ni	104
	HuFood	Beverages	Fl	Am	C	Ni	104
		Food	Fr, Ns	Am	C	I	54, 242
	MedVet	Digestive system	Rt	Am	P	Ni	24
		Infections and infestations	Fr, Rt	Am	P	Ni	24
		Respiratory system	Rt	Am	P	Ni	24
	UtenTool	Domestic	Infl	Am	P	Ni	24
Euterpe luminosa A.J. Hend., Galeano & Meza	HuFood	Food	Ph	An	B	Ni	197
Euterpe oleracea Mart.	AnFood	Wildlife attractant	Fr	Ch	C, E	I, Ni	45, 162
	Constr	Houses	St	Ch	C	A, Ni	45, 112, 199, 208, 215
		Thatch	Lf	Ch	C, E	A, I, Ni	162, 199, 215
		Other	St	Ch	C	Ni	215

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Environ	Agroforestry	Ep	Am, Ch	B, C	Ni	124, 215
		Ornamental	Ep	Am	P	Ni	250
	HuFood	Beverages	Fr, Ph	Am, Ch	B, C, E, P	A, I, Ni	3, 29, 31, 38, 45, 124, 215, 247, 250
		Food	Fr, Ns, Ph	Am, Ch	B, C, E	A, I, Ni	29, 31, 45, 107, 112, 124, 162, 208, 215, 242, 247
		Food additives	Fl, Fr	Am, Ch	B, C, E	A, I, Ni	38, 124, 199, 215, 247
	MedVet	Blood and cardiovascular system	Fr	Ch	C	A	215
		Digestive system	Rt	Am	P	M	231
		Endocrine system	Rt	Am	P	M	231
		Infections and infestations	Rt	Am	P	M	231
		Reproductive system and sexual health	Fr	Ch	C	A	215
		Other	Rt	Am	P	M	231
	UtenTool	Domestic	Lf, St	Ch	C	A, Ni	45, 208
		Labour tools	St	Ch	E	I	162
		Rope	St	Ch	C, E	I, Ni	3, 45
		Other	Sd, St	Ch	C	A	140
Euterpe precatoria Mart.	AnFood	Fodder	Lf, Ph	Am	P	Ni	26
		Wildlife attractant	Fr, Ns	Am	B, C, E, P	C, I	27, 60, 62, 63, 68, 69, 72, 110, 196, 223
	Constr	Houses	Lf, Ns, St	Am, An, Ch	B, C, E, P	C, I, M, Ni	1, 9, 10, 14, 24, 26, 27, 35, 38, 42, 44, 45, 63, 75, 88, 102, 104, 110, 114, 124, 128, 136, 151, 153, 154, 156, 158, 160, 161, 166, 177, 179, 182, 192, 196, 197, 199, 200, 201, 213, 223, 234, 237, 250

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Thatch	Lf, St	Am, An, Ch	B, C, E, P	I, M, Ni	14, 17, 24, 26, 27, 37, 38, 42, 44, 59, 62, 63, 102, 128, 131, 156, 160, 161, 177, 179, 182, 196, 197, 199, 201, 213, 237
		Other	Ns, St	Am, Ch	C, P	I, M, Ni	47, 53, 55, 121, 190, 224
	Cultur	Cloth and accessories	Lf, Ns, St	Am, An	B, C, E, P	I, Ni	44, 55, 88, 237, 250
		Cosmetics	Fr, Lf, Rt	Am	B, E, P	I, Ni	35, 38, 75, 160, 238
		Dyes	Fr, Ns	Am	B	I, Ni	196, 197
		Personal adornment	Fr, Ns, Sd	Am	C, P	I, Ni	47, 55, 102, 250
		Recreational	Ns	Am	C	I	114
		Ritual	Ep, Lr, Ns, Sd, St	Am	B, C, E, P	I, Ni	9, 26, 35, 102, 160, 182, 227
		Other	Ns	Am	E, P	I	223
	Environ	Agroforestry	Ep	Am	B, C, P	C, I, M, Ni	55, 88, 96, 101, 124, 128, 131, 190, 194, 244
		Fences	St	Am	B, P	I, Ni	24, 42, 123, 131
		Ornamental	Ep, Infl, Lf, Ns	Am	B, C, P	I, M, Ni	24, 29, 52, 53, 145, 161, 190
		Soil improvers	Ph, Sd	Am	P	Ni	26
	Fuel	Firewood	Lf, Ns, St	Am	C, E, P	I, Ni	26, 51, 160, 223
	HuFood	Beverages	Fl, Fr, Ns, Ph	Am, Ch	B, C, P	I, M, Ni	1, 14, 24, 37, 42, 45, 55, 75, 81, 102, 104, 114, 119, 124, 145, 154, 156, 161, 165, 166, 177, 179, 182, 196, 197, 199, 201, 213, 224, 227, 233, 249, 250
		Food	Fl, Fr, Ns, Ph	Am, An, Ch	B, C, E, P	C, I, M, Ni	1, 9, 14, 17, 24, 26, 27, 35, 37, 38, 42, 44, 45, 48, 52, 53, 54, 55, 59, 63, 68, 71, 75, 88, 96, 98, 101, 104, 110, 119, 121, 123, 124, 128, 131, 136, 151, 153, 160, 161, 165, 166, 167, 177, 179, 182, 187, 190, 193, 194, 196, 197, 200, 201, 206, 212, 213, 223, 230, 233, 234, 243, 250

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Food additives	Fr	Am	B	Ni	182
		Oils	Fr	Am	P	Ni	24
	MedVet	Blood and cardio-vascular system	Fr, Rt	Am	B, P	I, Ni	5, 42, 43, 124, 182, 213, 214
		Digestive system	Fr, Ns, Ph, Rt	Am	B, C, E, P	I, Ni	5, 14, 24, 42, 43, 102, 151, 156, 161, 167, 196, 222, 248
		Endocrine system	Fr	Am	B	I	42
		General ailments	Fr, Lf, Rt	Am	B, E	I, Ni	5, 42, 63, 213
		Infections and infestations	Fr, Rt	Am	C, P	I, M, Ni	24, 43, 102, 119, 153, 202
		Metabolic system and nutrition	Rt	Am	B	Ni	124, 197
		Musculo-skeletal system	Fr, Rt	Am	B, E, P	I, Ni	42, 43, 160, 161, 182, 196, 238
		Poisonings	Rt	Am	B	Ni	182
		Pregnancy, birth and puerperial	Rt	Am	E	I	212
		Reproductive system and sexual health	Rt	Am	B, P	I	43, 196
		Respiratory system	Lf, Rt	Am	B, E	I, Ni	5, 37, 160, 174, 177, 179, 182, 197, 214
		Urinary system	Ns, Rt	Am	B, C, P	I, Ni	10, 43, 102, 161, 167, 238, 248
		Not specified	Ns, Rt, St	Am	B, C, E, P	I, M	9, 53, 55, 72, 128, 136, 187, 223, 246
	UtenTool	Domestic	Br, Infl, Infr, Lf, Lr, Ns, St	Am	B, C, E, P	I, Ni	14, 24, 27, 37, 51, 55, 63, 102, 161, 179, 182, 197, 201, 213, 223
		Hunting and fishing	Ns, Sl, St	Am, An	E, P	I, Ni	44, 63, 69, 75, 123, 160, 223
		Labour tools	Ns	Am	C, P	I	55, 220
		Other	Lf	Am	P	Ni	26

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Other	Miscellaneous	Ns, St	Am	C, P	I, M, Ni	9, 24, 51, 55, 190, 207, 223, 244
Geonoma arundinacea Mart.	Constr	Thatch	Lf	Am	E	I	69
	UtenTool	Domestic	St	Am	P	Ni	24
		Hunting and fishing	St	Am	P	Ni	24
Geonoma atrovirens Borchs. & Balslev	Constr	Thatch	Lf	Am	P	Ni	24
	UtenTool	Wrappers	Lf	Am	P	Ni	24
Geonoma brevispatha Barb. Rodr.	Constr	Thatch	Lf	Am	B	Ni	177
Geonoma brongniartii Mart.	Constr	Thatch	Lf	Am	B, E, P	I, Ni	17, 24, 38, 69, 72, 160, 179, 197, 230
	Cultur	Cosmetics	Infl	Am	P	Ni	24
	UtenTool	Domestic	Rt	Am	E	I	69
Geonoma camana Trail	AnFood	Wildlife attractant	Ph	Am	E	I	58
	Constr	Thatch	Lf	Am	E, P	I, Ni	24, 66, 71
	Cultur	Recreational	Ep	Am	C	Ni	104
	UtenTool	Hunting and fishing	St	Am	E	I	66
Geonoma chococola Wess. Boer	Constr	Thatch	Lf	Ch	C	I	121
Geonoma congesta H. Wendl. ex Spruce	Constr	Thatch	Lf	Ch	C, E	I, Ni	31, 38, 107, 121
Geonoma cuneata H. Wendl. ex Spruce	AnFood	Wildlife attractant	Fr, St	Ch	E	I	65
	Constr	Thatch	Lf	Ch	C, E	I	65, 121
	Cultur	Dyes	Lf	Ch	E	I	38
		Ritual	Ep	Ch	E	I	70
	HuFood	Food	Fr	Ch	E	I	25, 38
	MedVet	Not specified	Lf, St	Ch	E	I	65
Geonoma deversa (Poit.) Kunth	Constr	Houses	Ns	Am	P	I	9

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Thatch	Lf	Am	B, C, E, P	I, M, Ni	10, 14, 24, 42, 59, 75, 76, 98, 99, 104, 124, 128, 130, 134, 156, 160, 161, 170, 177, 178, 179, 182, 189, 197, 230, 237, 239
	Cultur	Recreational	Ep, Lf, St	Am	C	I, Ni	51, 104, 228
	Environ	Agroforestry	Ep	Am	B	I	134
	MedVet	Cultural diseases and disorders	Lf	Am	B	I	5
		Respiratory system	Fr	Am	E	I	160
	UtenTool	Domestic	Lf, Rt, St	Am	E, P	I, Ni	24, 35, 38, 160
		Hunting and fishing	St	Am	E	I	160
		Other	Ns	Am	B	Ni	179
Geonoma interrupta (Ruiz & Pav.) Mart.	AnFood	Wildlife attractant	Fr	Am	E	I	63
	Constr	Thatch	Lf	Am, An, Ch	B, C, E	I, Ni	16, 23, 33, 38, 63, 107, 160, 161, 177
	HuFood	Beverages	Sd	Am	E	I	216
		Food	Ns	An	E	I	23
	UtenTool	Domestic	Lf	Am	E	I	160
		Hunting and fishing	St	Am	E	I	38
		Labour tools	St	Am	E	I	33
		Wrappers	Lf	Am	E	I	160
Geonoma irena Brochs.	Constr	Thatch	Lf	Ch	E	I	
Geonoma jussieuana Mart.	Constr	Thatch	Lf	Am	E	I	66
	UtenTool	Hunting and fishing	St	Am	E	I	66
Geonoma leptospadix Trail	Constr	Thatch	Lf	Am, Ch	E, P	I, Ni	24, 65
	UtenTool	Domestic	Rt	Am	P	Ni	24
Geonoma linearis Burret	Cultur	Ritual	Ep	Ch	E	I	25

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	MedVet	Digestive system	Ns	Ch	E	I	38
Geonoma longipedunculata Burret	Constr	Thatch	Lf	Am	E	I	17, 38
Geonoma macrostachys Mart.	AnFood	Wildlife attractant	Fr	Am	E	I	103
	Constr	Houses	Ns	Am	P	I	9
		Thatch	Lf	Am, An	B, C, E, P	I, Ni	16, 17, 23, 24, 27, 58, 60, 63, 66, 69, 71, 72, 94, 103, 104, 160, 174, 177, 236
		Other	Ns	Am	C	I	47
	Cultur	Cosmetics	Rt	Am	P	Ni	24
		Personal adornment	Sl	Am	E	I	69
		Recreational	Ns	Am	C	I	151
		Ritual	Lf, Ph	Am	E	I	38, 160
	HuFood	Food	Fr, Ns	Am	E, P	I	9, 16, 103
	MedVet	Digestive system	Fl	Am	P	Ni	24
		General ailments	Fl	Am	P	Ni	24
		Reproductive system and sexual health	Pt	Am	P	Ni	24
	UtenTool	Domestic	Lf, Ns	Am	E, P	I	63, 69, 160, 174, 220
		Hunting and fishing	Ns, St	Am	C, E	I	27, 103, 151
		Labour tools	Ns	Am	P	I	220
		Wrappers	Lf, Ns	Am	E, P	I, Ni	24, 38, 60, 63, 66, 69, 71, 160, 174
Geonoma maxima (Poit.) Kunth	AnFood	Wildlife attractant	Fr	Am	E	I	63
	Constr	Houses	Ns	Am	P	I	9
		Thatch	Lf	Am	B, C, E, P	I, Ni	24, 37, 63, 104, 151, 160, 161, 182, 230
		Transportation	St	Am	E	I	63

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Cultur	Personal adornment	Lf	Am	E	I	60
		Recreational	Fr, Lf, Ph, St	Am	C, P	I, Ni	24, 88, 104, 220
		Ritual	St	Am	E	I	160
	Environ	Agroforestry	Ep	Am	P	I	88
		Fences	St	Am	P	Ni	24
	HuFood	Food	Fr, Ns	Am	E, P	I, Ni	9, 24, 160
	UtenTool	Domestic	Lf, Ns, St	Am	C, E, P	I	151, 160, 220
		Hunting and fishing	Ns, St	Am	B, C, E	I, Ni	37, 38, 60, 63, 72, 151, 160, 177, 182
		Labour tools	Ns	Am	P	I	220
Geonoma orbignyana Mart.	Cultur	Ritual	Lf	An	C	Ni	29
	HuFood	Food	Fr	An	E	Ni	6
	UtenTool	Domestic	St	An	E	Ni	38
Geonoma poeppigiana Mart.	Constr	Thatch	Lf	Am	C, P	I, Ni	24, 104, 151, 170
		Other	Ns	Am	C	Ni	53
	Cultur	Recreational	Ns	Am	C	I	151
	HuFood	Beverages	Fr	Am	C	I	151
		Food	Fr, Ph	Am	C	I	151
	MedVet	General ailments	Ns	Am	C	I	151
	UtenTool	Domestic	Lf	Am	C	I	151
		Hunting and fishing	Ns	Am	C	I	151
		Wrappers	Lf	Am	C	I	151
Geonoma polyandra Skov	Constr	Thatch	Lf	Am	E	I	16, 38
Geonoma stricta (Poit.) Kunth	AnFood	Wildlife attractant	Fr	An	E	I	23
	Constr	Thatch	Lf	Am	B, C, E, P	I, Ni	17, 24, 27, 38, 66, 151, 177
	Cultur	Recreational	Fr, Ns	Am	C, P	I, Ni	24, 151
	MedVet	Dental health	Ph	Am	E	I	38

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	UtenTool	Domestic	Ns, St	Am	C, E	I	38, 151
		Hunting and fishing	Fr, Lf, Sd, St	Am	C, E, P	C, I, Ni	17, 24, 38, 66, 228
	Other	Miscellaneous	Fr	Am	E	I	66
Geonoma triglochin Burret	Constr	Thatch	Lf	Am, An	E	I	23, 160
	UtenTool	Domestic	Lf	An	E	I	23
Geonoma undata Klotzsch	Constr	Houses	St	An	E	I	38
		Thatch	Lf	An	E	Ni	38
	Cultur	Cloth and accessories	Ns	An	E	I	91
		Dyes	Fr	An	E	Ni	38
	UtenTool	Domestic	Ns	An	E	I	91
		Wrappers	Lf	An	E	Ni	38
Hyospathe elegans Mart.	AnFood	Wildlife attractant	Fr	Am	E	I	66
	Constr	Houses	St	Am	E, P	I, Ni	24, 66
		Thatch	Lf	Am, An	E, P	I, Ni	17, 24, 27, 38, 44, 66, 69, 89, 160, 232
		Transportation	St	Am	E	I	69
	Cultur	Cosmetics	Lf, Ph	Am	C, E	I	232
		Dyes	Sl	Am	E	I	69
		Personal adornment	Sl	Am	E	I	69
		Recreational	Lf	Am	C, P	I, Ni	24, 228
	Fuel	Firewood	St	Am	E	I	66
	HuFood	Food	Fr	Am	P	Ni	24
	MedVet	Dental health	Ns, Ph	Am	C, E	I	19, 104, 228
		Digestive system	Fl, Rt	Am	P	Ni	24
		General ailments	Rt	Am	P	Ni	24
		Respiratory system	Ph	Am	C	I	104
	UtenTool	Domestic	Lf, St	Am	E, P	I, Ni	24, 27

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Hunting and fishing	Infr, St	Am	E, P	I, Ni	17, 38, 66, 69, 160, 232
		Labour tools	St	Am	E	I	66
Iriartea deltoidea Ruiz & Pav.	AnFood	Fish bait	Fr	Ch	E	I	65
		Wildlife attractant	Fr, Ns, St	Am, An	B, C, E, P	C, I, Ni	12, 23, 46, 63, 67, 69, 103, 110, 124, 155, 196, 223
	Constr	Bridges	St	Am	B	Ni	177
		Houses	Lf, Ns, St	Am, An, Ch	B, C, E, P	A, C, I, M, Ni	2, 9, 10, 12, 14, 16, 17, 19, 23, 24, 25, 26, 27, 31, 33, 35, 38, 42, 44, 52, 59, 63, 64, 65, 67, 68, 69, 70, 71, 72, 73, 75, 89, 104, 106, 107, 110, 112, 120, 123, 124, 136, 145, 151, 153, 155, 158, 160, 161, 162, 165, 166, 174, 177, 179, 182, 196, 197, 200, 207, 208, 212, 213, 219, 220, 223, 224, 234, 237, 243
		Thatch	Lf, St	Am, An, Ch	B, C, E, P	I, Ni	2, 14, 19, 23, 24, 27, 33, 35, 38, 42, 44, 59, 60, 63, 64, 65, 66, 67, 68, 71, 72, 102, 120, 124, 160, 161, 177, 179, 182, 196, 197, 212, 224, 237
		Transportation	Ns, St	Am, Ch	B, C, P	I, Ni	26, 31, 35, 116, 144, 151, 161
		Other	Ns, St	Am, Ch	B, C, E	I	47, 53, 66, 68, 121, 161
	Cultur	Cosmetics	Fr	Am	E	I	174
		Personal adornment	Lr, Ns, Sd	Am	B, C, P	I	14, 47, 102, 220
		Recreational	Br, Fr, Ns, Rt, St	Am, Ch	B, C, E, P	I	19, 25, 31, 123, 129, 161, 204, 220, 237
		Ritual	Lf, Ls, St	Am, Ch	B, C, E	I	38, 107, 160, 237
		Other	Ep, Ns, Rt	Am	B, E, P	I	160, 161, 223, 238
	Environ	Agroforestry	Ep, St	Am, An	C, E	I	12, 23, 102, 141

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Fences	Ns, St	Am, An, Ch	B, C, E, P	C, I, Ni	2, 12, 24, 42, 44, 75, 102, 110, 131, 161, 162, 196, 243
		Ornamental	Lf, St	Am, An	E, P	Ni	24, 44
	Fuel	Firewood	Ns, St	Am, An	B, C, E	I, Ni	12, 16, 44, 46, 63, 69, 72, 161, 174, 196, 197, 223, 225
	HuFood	Beverages	Fr, Ph	Am	E, P	I, Ni	24, 216
		Food	Fr, Ns, Ph, Sd	Am, An, Ch	B, C, E, P	I, M, Ni	12, 14, 16, 17, 19, 23, 24, 25, 27, 38, 42, 44, 53, 63, 64, 66, 67, 71, 73, 77, 103, 120, 139, 151, 160, 161, 162, 166, 177, 179, 196, 197, 207, 212, 216, 223, 225, 230, 243
		Food additives	Ns	Am	E	I	12
	MedVet	Digestive system	Ph, Rt	Am, An	E, P	Ni	24, 44
		Infections and infestations	Ph	An	E	Ni	44
		Poisonings	Ph, Rt	Am	B	I	238
		Not specified	Ns, Ph	Am, An	E, P	I	223, 225
	UtenTool	Domestic	Br, Lf, Lr, Ls, Ns, Pt, Rt, St	Am, An, Ch	B, C, E, P	I, Ni	12, 14, 16, 24, 35, 44, 47, 102, 120, 123, 129, 131, 151, 161, 162, 174, 177, 230, 237
		Hunting and fishing	Br, Fr, Lr, Ns, St	Am, An, Ch	B, C, E, P	I, Ni	12, 17, 19, 24, 25, 27, 33, 35, 38, 44, 47, 60, 63, 66, 103, 120, 123, 151, 160, 161, 162, 174, 217, 220, 223, 225
		Labour tools	St	Am, Ch	E	I	60, 162
		Rope	St	Am	B, E	I	42, 60, 161
		Wrappers	Lf, Ns	Am	B, E, P	I, Ni	12, 17, 24, 161
		Other	Ns, Sd, St	Am, Ch	B, C, E	A, I, Ni	8, 16, 53, 68, 140, 179

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Other	Miscellaneous	Lf, Ns, Pt, Rt, Sd, St	Am, An, Ch	B, C, E, P	I, M, Ni	24, 25, 44, 46, 51, 60, 63, 67, 68, 69, 72, 102, 120, 160, 207, 213, 223, 230
Iriartella setigera (Mart.) H. Wendl.	Constr	Thatch	Lf	Am	C	I	151
	MedVet	Skin and subcutaneous tissue	Lf	Am	C	Ni	104
	UtenTool	Domestic	Ns	Am	C	I	151
		Hunting and fishing	Ns, St	Am	C, P	I, M, Ni	18, 51, 92, 104, 151, 166
	Other	Miscellaneous	Ns	Am	C	I	54
Iriartella stenocarpa Burret	Constr	Houses	St	Am	P	Ni	24
		Thatch	Lf	Am	P	Ni	24
	MedVet	Digestive system	Rt	Am	P	Ni	24
		Infections and infestations	Rt	Am	P	Ni	24
	UtenTool	Domestic	Rt	Am	P	Ni	24
Itaya amicorum H.E. Moore	Constr	Thatch	Lf	Am	C, P	I, Ni	24, 102, 104
	Cultur	Cloth and accessories	Lf	Am	P	Ni	24
		Recreational	Ep	Am	C	Ni	104
	HuFood	Food	Fr	Am	P	Ni	24
Jubaea chilensis (Molina) Baill.	Environ	Ornamental	Ep	An	E	Ni	19
Leopoldinia piassaba Wallace	Constr	Thatch	Lf	Am	C	I, Ni	1, 83
	Cultur	Cloth and accessories	Pt, St	Am	C	Ni	1, 92
		Ritual	Ep	Am	C	I	227
	Environ	Agroforestry	Ep	Am	C	I	83
	HuFood	Food	Fr, Ns	Am	C	I, Ni	1, 83, 242
	UtenTool	Domestic	Ls, Pt, St	Am	C	I, Ni	1, 83, 92, 204, 227

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Rope	Ls, Pt	Am	C	I, Ni	92, 204, 227
Lepidocaryum tenue Mart.	Constr	Houses	Lf, Ns	Am	P	I, Ni	9, 136, 250
		Thatch	Lf	Am	C, P	I, M, Ni	1, 11, 24, 26, 102, 104, 146, 151, 153, 154, 158, 165, 166, 167, 170, 187, 220, 234
		Other	Ns	Am	C	I	47
	Cultur	Personal adornment	Sd	Am	P	Ni	24
		Recreational	Ph	Am	C	I	151
		Ritual	Ep	Am	C	I	227
	HuFood	Beverages	Fr	Am	C	I	151
		Food	Fr	Am	C, P	I, Ni	24, 151, 159
	MedVet	General ailments	Fr, Rt	Am	P	Ni	24
		Infections and infestations	Rt	Am	P	Ni	24
		Poisonings	Ph	Am	C	I	151
		Respiratory system	Rt	Am	P	Ni	24
		Skin and subcutaneous tissue	Fr	Am	P	Ni	24
		Not specified	Ns	Am	C	I	187
	UtenTool	Hunting and fishing	Ph	Am	C	I	151
		Wrappers	Lf	Am	C, P	I	90, 220
Manicaria saccifera Gaertn.	Constr	Thatch	Lf	Am, Ch	C	I, Ni	11, 93, 104, 107, 112, 119, 199
		Transportation	Lf	Ch	C	I	31
		Other	Ns	Am	C	I	54, 224
	Cultur	Cloth and accessories	Br	Am, Ch	C	I, Ni	29, 93, 107, 199, 204
		Recreational	St	Am	P	I	122
	HuFood	Food	Ns, Sd	Am, Ch	C, P	I, Ni	93, 122, 199, 224

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	MedVet	Musculo-skeletal system	Fr	Ch	C	A	255
		Respiratory system	Fr	Ch	C	Ni	112
	UtenTool	Domestic	Br	Am, Ch	C	Ni	29, 199, 204
		Other	Br, Ns, Sd	Ch	C	A, Ni	107, 112, 140, 208
Mauritia carana Wallace ex Archer	Constr	Houses	St	Am	P	Ni	24
		Thatch	Lf	Am	C, P	I, Ni	11, 24, 83, 151
		Other	Ns	Am	C	I	54
	Cultur	Recreational	Ns	Am	C	I	151
	HuFood	Beverages	Fr	Am	C	I	151
		Food	Fr	Am	C, P	I, Ni	24, 104, 151
	UtenTool	Domestic	Ls, Ns	Am	C	I, Ni	104, 151
		Hunting and fishing	Ns	Am	C	I	151
	Other	Miscellaneous	St	Am	C, P	I, Ni	24, 151
Mauritia flexuosa L. f.	AnFood	Fish bait	Fr	Am	C, E	I	62, 187
		Fodder	Fr, Sd	Am	C, E	I, Ni	27, 120, 204
		Wildlife attractant	Fr, Ns	Am, An	B, C, E, P	C, I, Ni	23, 27, 46, 62, 69, 71, 110, 124, 155, 156, 181, 196, 230
	Constr	Bridges	St	Am	P	Ni	24, 26
		Houses	Lf, Ns, Pt, St	Am	C, P	I, M, Ni	1, 9, 24, 26, 55, 136, 158, 166, 191
		Thatch	Lf, Pt	Am, An	B, C, E, P	I, Ni	1, 72, 88, 102, 124, 179, 182, 184, 191, 196, 197, 204, 211, 250
		Transportation	St	Am	P	Ni	24, 26
		Other	Ns, St	Am	B, C	I	47, 131
	Cultur	Cloth and accessories	Lf, Ns, Sd, Sl, St	Am	B, C, E, P	I, Ni	2, 24, 92, 117, 120, 124, 161, 184, 196, 197

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Cosmetics	Fr, Lf, Ph, Rt	Am	C, E	I	151, 184
		Personal adornment	Ns, Sd, Sl	Am	B, C, E	I	47, 55, 102, 161, 184
		Recreational	Lf, Lr, Ns, Ph, Sd, Sl, St	Am	B, C, E	I	46, 114, 131, 151, 181, 184, 224
		Ritual	Ep, Fr, Lf, Lr, Ns, Sl	Am	C, E, P	I, Ni	102, 104, 114, 117, 151, 160, 184, 187, 204, 227
		Other	Ns	Am	C, E	I	53, 223
	Environ	Agroforestry	Ep	Am	B, C, E, P	C, I, M, Ni	9, 55, 86, 88, 101, 114, 120, 131, 151, 184, 185, 194, 244
		Fences	St	Am	B	I	161
	Fuel	Firewood	Lf, Ns, St	Am	C, E	I	46, 120, 160, 181, 223
		Other	Lf	Am	E, P	I, M	63, 116, 166, 184
	HuFood	Beverages	Fr, St	Am, An	B, C, E, P	C, I, M, Ni	1, 7, 14, 19, 23, 24, 26, 33, 60, 63, 69, 75, 88, 92, 104, 114, 117, 120, 124, 131, 151, 154, 155, 160, 161, 165, 166, 167, 177, 182, 184, 187, 191, 196, 197, 212, 213, 216, 233, 244, 249, 250, 252
		Food	Fl, Fr, Ns, Ph, Rt, St	Am, An	B, C, E, P	C, I, M, Ni	1, 7, 9, 14, 16, 17, 19, 23, 24, 26, 27, 29, 35, 38, 44, 46, 51, 53, 54, 55, 59, 60, 62, 63, 69, 71, 72, 75, 79, 80, 86, 88, 89, 96, 98, 101, 102, 104, 110, 114, 120, 124, 136, 139, 143, 145, 151, 153, 154, 160, 161, 165, 166, 167, 169, 174, 179, 181, 183, 184, 185, 191, 193, 194, 196, 197, 205, 206, 211, 212, 213, 218, 220, 223, 224, 225, 230, 233, 234, 240, 243, 247, 249, 250, 252
		Food additives	Fr, Lf, Sd	Am	B, C, P	I, Ni	1, 24, 26, 55, 124, 143, 145, 167, 182, 233, 247, 249, 250

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Oils	Fr	Am	B, C, E, P	C, I, Ni	26, 98, 104, 110, 120, 124, 151, 165
	MedVet	Digestive system	Ns, Rt	Am	C, P	I, Ni	24, 151
		General ailments	Fl, Rt, St	Am	C, E, P	I, Ni	24, 114, 120
		Infections and infestations	Fr	Am	P	Ni	24
		Musculo-skeletal system	Rt	Am	C	I	114
		Pregnancy, birth and puerperial	Ph, Rt, Sd	Am	E, P	I, Ni	24, 184, 229
		Reproductive system and sexual health	Sd	Am	P	Ni	229
		Other	Rt	Am	P	M	231
		Not specified	Ns	Am	C, E	I	55, 223
	UtenTool	Domestic	Lf, Ns, Ph, Pt, Sd, Sl	Am	B, C, E, P	I, M, Ni	2, 24, 26, 35, 46, 47, 51, 55, 75, 92, 104, 117, 120, 124, 131, 151, 160, 161, 165, 166, 181, 184, 191, 196, 204, 223, 250
		Hunting and fishing	Lf, Ns, Ph, Pt, Sl	Am	C, E, P	I	46, 92, 117, 160, 181, 184, 223
		Labour tools	Lf, Pt, St	Am	B, P	I	35, 161, 220
		Rope	Lf, Ns, Sl	Am	C, E, P	I, Ni	2, 26, 92, 104, 165, 181, 184, 204
		Wrappers	Ns	Am	C	I	151
		Other	Lf, Ns	Am	B, C, P	C, I, Ni	24, 53, 110, 182
	Other	Miscellaneous	Ns, Sd, St	Am, An	B, C, E, P	C, I, M, Ni	16, 23, 24, 26, 44, 46, 51, 55, 62, 63, 69, 75, 102, 104, 110, 114, 117, 120, 124, 134, 153, 160, 161, 165, 181, 184, 187, 191, 223, 224, 231, 233, 234, 250
Mauritiella aculeata (Kunth) Burret	AnFood	Fish bait	Fr	Am	C	I	151

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Wildlife attractant	Fr	Am	E	I	69
	Constr	Houses	Ns, St	Am	C, P	I, Ni	151, 250
		Thatch	Lf	Am	C	I	151
		Other	Ns	Am	C	I	224
	Cultur	Recreational	Ph	Am	C	I	151
		Ritual	Ep	Am	C	I	227
	HuFood	Beverages	Fr	Am	C	I	151
		Food	Fr, Ns	Am	C, E, P	I, Ni	9, 60, 104, 136, 151, 250
	MedVet	Musculo-skeletal system	Fr	Am	C	I	228
		Not specified	Ns	Am	P	I	9
	UtenTool	Hunting and fishing	Lf	Am	C	I	151
	Other	Miscellaneous	St	Am	C	I	151
Mauritiella armata (Mart.) Burret	AnFood	Wildlife attractant	Fr	Am	E	I	62, 71
	Constr	Houses	St	Am	E, P	I, Ni	24, 62, 71
		Thatch	Lf	Am	B, P	Ni	24, 182
		Other	Ns	Am	C	I	53
	Environ	Agroforestry	Ep	Am	P	I	77
		Fences	St	Am	P	Ni	24
	Fuel	Other	Lf	Am	P	I	123
	HuFood	Beverages	Fr	Am	B, P	I, M, Ni	24, 123, 166, 182, 249
		Food	Fr, Lf, Ns, Ph, Sd	Am	B, C, E, P	I, M, Ni	24, 38, 53, 71, 77, 123, 166, 167, 182, 233, 249
	Other	Miscellaneous	St	Am	P	I	123
Mauritiella macroclada (Burret) Burret	Constr	Houses	Ns, St	Ch	C	A, Ni	112, 208
	Thatch	Lf	Ch	C	Ni	45, 107, 112	

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Environ	Fences	St	Ch	C	Ni	107
		Ornamental	Ns	Ch	C	A	208
	HuFood	Oils	Fr	Ch	C	Ni	112
	UtenTool	Other	Lf, St	Ch	C	A	140
Maximiliana venatorum H. Wendl.**	UtenTool	Domestic	Br, Pt	Am	P	I	35
		Hunting and fishing	Lr, Pt	Am	P	Ni	26, 159
Oenocarpus bacaba Mart.	AnFood	Wildlife attractant	Fr	Am	C	I	46
	Constr	Thatch	Lf	Am	C	I	102, 151
	Cultur	Cloth and accessories	Ns	Am	C	I	151
		Personal adornment	Fr, Ns	Am	C	I	47, 102
		Recreational	Ns	Am	C	I	151
	Environ	Agroforestry	Ep	Am	C	I	46
	Fuel	Firewood	Lf, St	Am	C	I	46
	HuFood	Beverages	Fr	Am	C	I, Ni	46, 51, 92, 104, 151, 154
		Food	Fr, Ns, Ph, Sd	Am	B, C	I, M	46, 51, 54, 81, 102, 151, 154, 227
		Oils	Fr	Am	C	I	151
	MedVet	Poisonings	Ph	Am	C, P	I	82, 102
	UtenTool	Domestic	Lr, Ns, St	Am	C	I	47, 151, 154
		Hunting and fishing	Lf	Am	C	I	151
	Other	Miscellaneous	St	Am	C	I	46, 151
Oenocarpus balickii F. Kahn	HuFood	Beverages	Fr	Am	B	Ni	177
		Food	Ns	Am	P	I	136
		Oils	Fr	Am	B	Ni	177
Oenocarpus bataua Mart.	AnFood	Fodder	Fr, Lf	Am, An	E	I, Ni	4, 44
		Wildlife attractant	Fr, Ns	Am	B, C, E, P	C, I	4, 46, 63, 66, 67, 110, 123, 155, 181, 196

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Constr	Houses	Lf, Ns, Pt, St	Am, Ch	B, C, E, P	A, I, M, Ni	3, 4, 9, 18, 24, 37, 67, 102, 113, 124, 128, 142, 151, 160, 161, 165, 166, 177, 179, 196, 197, 208, 224, 237, 250
		Thatch	Lf, Lr, Pt	Am, An, Ch	B, C, E, P	C, I, M, Ni	4, 14, 17, 24, 27, 38, 42, 46, 51, 65, 66, 67, 68, 69, 72, 85, 102, 110, 112, 120, 124, 128, 142, 151, 155, 156, 160, 161, 165, 166, 171, 172, 174, 177, 179, 181, 182, 196, 197, 211, 213, 224, 226, 236, 250
		Other	Ns	Am	C	I	18, 55
	Cultur	Cloth and accessories	Sd	Am	E	I	142
		Cosmetics	Fr, Ns, Rt, Sd	Am, An	B, C, E, P	I, M, Ni	4, 7, 8, 9, 14, 16, 18, 19, 23, 24, 38, 42, 44, 60, 69, 75, 124, 142, 151, 161, 172, 182, 196, 197, 212, 213, 238, 239, 250
		Dyes	Fr	Am	E	I	4, 174
		Personal adornment	Sd, Sp	Am	E, P	I	4, 220
		Recreational	Infl, Lf, Ns, Sd	Am	C, E, P	I, Ni	18, 63, 114, 151, 171
		Ritual	Ep, Fr, Lf, Sd	Am, Ch	B, C, E	I, Ni	4, 19, 46, 114, 142, 177, 227
	Environ	Agroforestry	Ep	Am, An	B, C, E, P	C, I, M, Ni	8, 44, 46, 55, 57, 88, 101, 114, 141, 142, 194, 233, 239, 242, 244
		Fences	St	Am	B	I	196
		Ornamental	Ep, Fl, Lf, Ns	Am, An	C, E, P	I, Ni	18, 24, 44, 151, 225
	Fuel	Fire starter	Lf, Ls, St	Am	E, P	I	85, 142, 174, 230
		Firewood	Fr, Lf, Ns, Sd, St	Am, An	C, E	I, Ni	4, 44, 46, 66, 90, 142, 160, 181
		Lighting	Fr	Ch	E	I	3
		Other	Lf	Am	E	I	69, 142

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	HuFood	Beverages	Fr, Ph, St	Am, An, Ch	B, C, E, P	A, I, M, Ni	1, 3, 4, 14, 18, 19, 23, 24, 37, 42, 45, 46, 51, 55, 57, 63, 69, 75, 89, 92, 104, 112, 113, 120, 124, 129, 142, 145, 151, 154, 155, 156, 159, 160, 161, 165, 166, 171, 172, 174, 177, 179, 182, 196, 197, 199, 204, 208, 212, 213, 216, 220, 233, 237, 240, 247, 249, 250, 252
		Food	Fr, Infl, Ns, Ph, Sd	Am, An, Ch	B, C, E, P	A, C, I, M, Ni	3, 4, 7, 8, 9, 14, 16, 17, 18, 19, 24, 25, 27, 31, 35, 37, 38, 44, 45, 46, 51, 52, 53, 54, 55, 59, 60, 62, 63, 65, 66, 67, 68, 69, 72, 75, 77, 81, 85, 88, 89, 96, 98, 101, 102, 104, 106, 110, 114, 120, 121, 123, 128, 131, 136, 139, 142, 145, 151, 153, 154, 155, 160, 161, 166, 167, 169, 171, 172, 174, 179, 181, 182, 183, 188, 193, 194, 196, 197, 200, 205, 206, 207, 211, 212, 213, 216, 224, 225, 227, 230, 234, 239, 242, 243, 250
		Food additives	Fr, Infl	Am	B, C, P	I, Ni	124, 131, 182, 233, 247, 249, 250
		Oils	Fr, Ns, Sd	Am, An, Ch	B, C, E, P	A, C, I, M, Ni	1, 3, 8, 14, 19, 24, 26, 27, 31, 42, 45, 55, 57, 98, 104, 110, 111, 112, 113, 124, 131, 142, 154, 161, 165, 171, 177, 182, 199, 204, 208, 234, 237, 244, 249, 252
	MedVet	Blood and cardiovascular system	Fr	Am	P	M	18
		Digestive system	Fl, Fr, Ph, Rt, Sd, St	Am, An	B, E, P	I, M, Ni	4, 18, 24, 26, 38, 42, 44, 85, 120, 124, 137, 139, 142, 161, 174, 213, 250

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Endocrine system	Fr	Am	B	Ni	124
		General ailments	Fr, Ph, Rt, Sd	Am	B, E, P	I, Ni	4, 24, 38, 42, 85, 197, 213, 238
		Infections and infestations	Fr, Ph, Rt, Sd	Am	B, C, E, P	I, Ni	24, 113, 196, 202, 212, 226, 239
		Musculo-skeletal system	Fr, Sd	Am	B, E, P	I, M, Ni	18, 75, 120, 142, 161, 239, 250
		Nervous system and mental health	Rt	Am	E	I	120, 160
		Poisonings	Sd	Am	P	I	18
		Pregnancy, birth and puerperial	Fr, Ph	Am	E, P	I, Ni	18, 142
		Respiratory system	Fr, Ns, Rt, Sd, St	Am	B, C, E, P	I, M, Ni	4, 10, 18, 24, 26, 42, 92, 111, 120, 124, 142, 160, 171, 196, 197, 204, 213, 239
		Skin and subcutaneous tissue	Fr, Ns, Sd	Am	B, E	I	42, 142, 222, 238, 239
		Not specified	Fr, Ns, Rt	Am, An, Ch	B, C, E	I, M, Ni	53, 55, 62, 68, 72, 121, 128, 172, 188, 225
	UtenTool	Domestic	Fr, Infl, Lf, Lr, Ls, Ns, Sd, St	Am, An, Ch	B, C, E, P	I, M, Ni	4, 14, 18, 24, 26, 35, 38, 42, 44, 46, 51, 55, 60, 63, 68, 72, 73, 85, 104, 120, 121, 123, 131, 142, 151, 155, 160, 161, 165, 166, 171, 172, 174, 181, 211, 213, 220, 225, 233, 237
		Hunting and fishing	Lf, Lr, Ls, Ns, Pt, Sp, St	Am, An, Ch	C, E, P	I, Ni	17, 18, 19, 25, 26, 27, 38, 44, 46, 47, 51, 92, 104, 120, 123, 139, 142, 151, 155, 171, 181, 243
		Wrappers	Lf	Am	C, P	I, Ni	90, 220
		Other	Fr, Ns, Sd, St	Am, Ch	C, E, P	A, I, Ni	9, 53, 67, 140

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Other	Miscellaneous	Fr, Ls, Ns, Sd, St	Am, An	B, C, E, P	I, M, Ni	9, 14, 18, 23, 24, 42, 44, 46, 55, 68, 72, 73, 89, 114, 120, 123, 124, 142, 151, 154, 155, 156, 160, 161, 167, 171, 172, 179, 181, 197, 207, 211, 213, 233, 244
Oenocarpus distichus Mart.	Constr	Houses	St	Am	B	Ni	182
		Thatch	Lf	Am	B	Ni	177, 182
	HuFood	Beverages	Fr	Am	B	Ni	177, 182
		Oils	Fr	Am	B	Ni	177
	UtenTool	Domestic	Lf	Am	B	Ni	177
Oenocarpus mapora H. Karst.	AnFood	Wildlife attractant	Fr, Ns	Am, Ch	C	I, Ni	45, 46, 181
	Constr	Bridges	St	Am	B	I, Ni	161, 213
		Houses	Ns, St	Am, An, Ch	B, C, E, P	A, I, M, Ni	9, 18, 19, 23, 24, 35, 38, 44, 45, 62, 123, 145, 151, 153, 165, 166, 177, 179, 182, 196, 197, 208, 213, 234, 243
		Thatch	Lf	Am, An, Ch	B, C, E, P	I, Ni	23, 24, 37, 38, 44, 45, 62, 112, 124, 151, 160, 161, 179, 182, 196, 197, 243, 250
	Cultur	Cosmetics	Fr, Rt	Am, An	B, E, P	I, Ni	19, 23, 24, 213
		Dyes	Ns, St	Am	C, P	I	9, 88, 151
		Recreational	Lf	Am	B	I	161
		Ritual	Lf, Ns	Am, Ch	C, E, P	I	9, 19, 31
	Environ	Agroforestry	Ep	Am	C, P	I, M, Ni	46, 86, 88, 233
		Fences	St	Am	B, E	I, Ni	196, 213, 243
		Ornamental	Ep, Lf, Ns	Am, An	E, P	M, Ni	24, 44, 190
	Fuel	Firewood	Lf, St	Am, An	C, E	I, Ni	44, 46, 181

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	HuFood	Beverages	Fr, Ph	Am, Ch	B, C, E, P	I, M, Ni	24, 37, 45, 46, 51, 75, 104, 124, 151, 161, 165, 166, 177, 179, 182, 196, 197, 199, 213, 216, 233, 249, 250
		Food	Fr, Ns, Ph, Sd	Am, An, Ch	B, C, E, P	A, I, M, Ni	9, 24, 27, 35, 38, 44, 45, 46, 59, 60, 62, 69, 77, 86, 88, 104, 123, 145, 151, 153, 159, 160, 161, 166, 167, 177, 179, 181, 187, 190, 196, 197, 205, 206, 208, 212, 213, 216, 243, 250
		Food additives	Ph	Am	E	I	23
		Oils	Fr, Ns	Am, Ch	B, C, E, P	A, I, Ni	19, 24, 104, 112, 177, 208, 213, 249
	MedVet	Cultural diseases and disorders	Lf	Ch	C	I	45
		Digestive system	Fr, Rt	Am	P	I, Ni	18, 24
		Endocrine system	Rt	Am	P	M	231
		General ailments	Fr	Am	B	I	37, 161
		Infections and infestations	Fr, Rt	Am	P	Ni	24
		Musculo-skeletal system	Ls	Am	P	Ni	24
		Respiratory system	Fr, Rt	Am	P	Ni	24
		Skin and subcutaneous tissue	Fr	Am	B	Ni	213
	UtenTool	Domestic	Lf, Lr, Ns, Pt, Sl, St	Am, An, Ch	B, C, E, P	I, M, Ni	19, 24, 25, 38, 44, 46, 60, 69, 104, 124, 151, 160, 161, 165, 166, 181, 234
		Hunting and fishing	Lf, Lr, Ns, Pt, St	Am, An	C, E, P	I, Ni	27, 35, 38, 44, 60, 69, 151, 220, 243
		Other	Sd, St	Ch	C	A	140
	Other	Miscellaneous	Fr, Ns, St	Am	B, C	I, Ni	46, 151, 179, 181, 197

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
Oenocarpus minor Mart.	HuFood	Beverages	Fr	Am	C, P	Ni	92, 249
Parajubaea cocoides Burret	Cultur	Cloth and accessories	Fr	An	E	Ni	38
	Environ	Ornamental	Ep	An	E	Ni	19
	HuFood	Food	Sd	An	E	Ni	38
Parajubaea sunkha M. Moraes	AnFood	Fodder	Lf	An	B	Ni	182
	Cultur	Cloth and accessories	Ls	An	B	Ni	182
	Environ	Agroforestry	Ep	An	B	Ni	95
		Ornamental	Ep	An	B	Ni	177
	HuFood	Food	Fr, Ph, Sd	An	B	Ni	182
	UtenTool	Domestic	Lf, Lr, Ls, Pt	An	B	Ni	95, 182
		Rope	Lf, Lr, Ls, Pt	An	B	Ni	95, 182
		Other	Ls	An	B	Ni	182
Parajubaea torallyi (Mart.) Burret	AnFood	Fodder	Lf	An	B	Ni	245
	Cultur	Ritual	Lf	An	B	Ni	245
	Environ	Agroforestry	Ep	An	B	Ni	245
	HuFood	Food	Fr, Ph, Sd	An	B	I, Ni	49, 182, 245
	UtenTool	Domestic	Lf, Ls, Pt	An	B	Ni	182, 245
		Rope	Lf, Ls, Pt	An	B	Ni	182, 245
Phoenix canariensis Chabaud	Environ	Ornamental	Ep	An	E	Ni	19
Phoenix reclinata Jacq.	Environ	Ornamental	Ep	An	E	Ni	19
Pholidostachys dactyloides H.E. Moore	Constr	Houses	St	Ch	E	I	162
		Thatch	Lf	Ch	C, E	A, I, Ni	45, 106, 107, 162
	HuFood	Food	Fr	Ch	E	I	162
	UtenTool	Labour tools	St	Ch	E	I	162
Pholidostachys synanthera (Mart.) H.E. Moore	AnFood	Wildlife attractant	Fr	Am	E	I	27

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Constr	Houses	St	An	E	Ni	44
		Thatch	Lf	Am, An	C, E, P	I, M, Ni	17, 24, 27, 33, 38, 44, 59, 104, 151, 153, 183, 234
	Cultur	Recreational	Ep, Ph	Am	C	I, Ni	104, 151
	HuFood	Food	Fr, Ph	Am	E, P	I, M, Ni	24, 27, 243
	MedVet	Skin and subcutaneous tissue	Lr	An	E	Ni	38
	UtenTool	Wrappers	Lf	Am	E	I	27
Phytelephas aequatorialis Spruce	AnFood	Fish bait	Fr	Ch	E	Ni	150
		Fodder	Fr, Infl	Ch	E	Ni	150
		Wildlife attractant	Fr	Ch	E	Ni	150
	Constr	Thatch	Lf	An, Ch	E	I, M, Ni	25, 40, 70, 243
	Cultur	Personal adornment	Sd	An	E	M	235
	Environ	Agroforestry	Ep	An, Ch	E	M, Ni	40, 235
	HuFood	Food	Fr, Ph, Sd	An, Ch	E	I, M, Ni	19, 25, 70, 150, 243
		Oils	Fr	Ch	E	Ni	150
	MedVet	Digestive system	Fr	Ch	E	I	70
		Reproductive system and sexual health	Fr	Ch	E	I	70
		Sensory system	Fr	Ch	E	I	70
		Urinary system	Fr	An	E	M	243
	UtenTool	Domestic	Fr, Lf	An	E	M	243
		Other	Fr, Sd	Ch	E	Ni	19, 40, 150
Phytelephas macrocarpa Ruiz & Pav.	AnFood	Wildlife attractant	Fr	Am	B	I	156

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Constr	Houses	Ns, St	Am	B, P	I, Ni	9, 136, 182, 197
		Thatch	Lf	Am	B, C, E, P	I, M, Ni	7, 14, 19, 26, 27, 35, 60, 80, 94, 117, 119, 131, 153, 156, 161, 165, 166, 170, 177, 179, 182, 196, 197, 207, 212, 213, 219, 234, 250
	Cultur	Cloth and accessories	Sd	Am	C, P	Ni	26, 92, 145
		Personal adornment	Fr, Sd, St	Am	B, E	I, Ni	14, 85, 131, 161, 196, 197, 213
		Recreational	Sd	Am	B	I, Ni	161, 213
		Ritual	Ns	Am	B	Ni	179
	Environ	Agroforestry	Ep	Am	P	I, Ni	9, 233, 244
		Ornamental	Sd	Am	C, P	Ni	26, 92, 165
	Fuel	Fire starter	Ls	Am	E	I	85
	HuFood	Beverages	Fr, Ph, Sd	Am	P	Ni	159, 250
		Food	Fr, Ns, Sd	Am	B, C, E, P	I, M, Ni	7, 9, 14, 19, 26, 27, 35, 60, 75, 80, 85, 119, 131, 136, 143, 145, 161, 165, 166, 169, 177, 179, 207, 212, 213, 219, 230, 233, 234, 240, 249, 250
	MedVet	Dental health	Sd	Am	B	I, Ni	124, 161
		Endocrine system	Fr, Sd	Am	P	M, Ni	165, 166, 231
		Not specified	Ns	Am	P	I	9
	UtenTool	Domestic	Lf, Ls, Pt, Sd, St	Am	B, E, P	I, M, Ni	35, 85, 145, 161, 166, 177, 182, 196, 213
		Hunting and fishing	Lf	Am	B, E	I	14, 27
		Other	Fr, Ns, Sd	Am	C, E, P	I, Ni	9, 27, 92
	Other	Miscellaneous	Ns, Sd, St	Am	P	I, M	28, 80, 192, 207, 244
Phytelephas schottii H. Wendl.	Cultur	Ritual	Sd	An	C	Ni	29
	UtenTool	Other	Sd	An	C	Ni	29

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
Phytelephas seemannii O.F. Cook	Cultur	Cloth and accessories	Sd	Ch	C	I, Ni	30, 31, 92, 204
	Environ	Ornamental	Sd	Ch	C	Ni	30, 92
	HuFood	Food	Fr, Sd	Ch	C	I, Ni	31, 107
	UtenTool	Hunting and fishing	Sd	Ch	C	I	31
		Other	Sd	Ch	C	A, Ni	92, 107, 140
	Other	Miscellaneous	Sd	Ch	C	Ni	199
Phytelephas tenuicaulis (Barfod) A.J. Hend.	AnFood	Fodder	Sd	Am	E	I	120
		Wildlife attractant	Fr	Am	E	I	62, 63, 64, 66, 71
	Constr	Bridges	St	Am	E	I	160
		Houses	Lf, St	Am	E, P	I, Ni	24, 62, 63, 160, 174
		Thatch	Lf	Am, An	E, P	I, Ni	23, 24, 33, 62, 63, 66, 71, 69, 72, 120, 139, 160, 183, 236
		Other	Ns	Am	C	I	53
	Cultur	Cloth and accessories	Sd	Am	P	Ni	24
		Personal adornment	Sd	Am	E	I	120
	Environ	Fences	St	Am	P	Ni	24
	Fuel	Firewood	Lf, St	Am	E	I	120, 160
	HuFood	Beverages	Ph	Am	P	Ni	24
		Food	Fr, Infl, Ns, Ph, Sd	Am, An	C, E, P	I, Ni	23, 24, 44, 53, 62, 63, 64, 66, 69, 71, 72, 120, 160, 167, 174, 183, 216
	MedVet	Digestive system	Fr, Ph	Am	P	Ni	24
		General ailments	Fr	Am	P	Ni	24
		Infections and infestations	Ph	Am	P	Ni	24
		Skin and subcutaneous tissue	Fr	Am	P	Ni	24

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Not specified	Rt	Am	E	I	62, 72
	UtenTool	Domestic	Lf, Sd, St	Am	E, P	I, Ni	24, 63, 120, 160, 174
		Hunting and fishing	Lf	Am	E	I	120
		Labour tools	Sl	Am	E	I	72
		Other	Ns	Am	C	I	53
Phytelephas tumacana O.F. Cook	Cultur	Cloth and accessories	Sd	Ch	C	I	92
	Environ	Ornamental	Sd	Ch	C	Ni	92
	UtenTool	Other	Sd	Ch	C	I	92
	Other	Miscellaneous	Sd	Ch	C	Ni	199
Prestoea acuminata (Willd.) H.E. Moore	AnFood	Wildlife attractant	Fr	Am	E	I	103
	Constr	Thatch	Lf	Am, An	E	I, M	61, 67, 103
	Environ	Ornamental	Ep	Ch	E	I	65
	HuFood	Beverages	Fr, Ph	An	B, E	Ni	21, 50
		Food	Fr, Ph	Am, An, Ch	E	I, M, Ni	25, 38, 65, 67, 103, 148, 225, 235, 243
	UtenTool	Hunting and fishing	St	Am	E	I	103
Prestoea decurrens (H. Wendl. ex Burret) H.E. Moore	Constr	Houses	St	Ch	C	A	106
Prestoea ensiformis (Ruiz & Pav.) H.E. Moore	Constr	Houses	St	An	E	Ni	44
		Thatch	Lf	An, Ch	E	I, Ni	19, 25, 44
	Cultur	Cloth and accessories	Lf	An	E	Ni	44
	Environ	Ornamental	Lf	An	E	Ni	44
	Fuel	Firewood	St	An	E	Ni	44
	HuFood	Food	Fr, Ph	An, Ch	E	I, Ni	25, 44
	UtenTool	Domestic	Lf, St	An	E	Ni	44

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
Prestoea schultzeana (Burret) H.E. Moore	AnFood	Wildlife attractant	Fr	Am	E	I	66, 72
	Constr	Houses	St	Am, An	E	I	66, 225
		Thatch	Lf	Am, An	E, P	I, Ni	16, 24, 27, 38, 58, 66, 69, 72, 160, 225, 243
	Cultur	Recreational	Fr	Am	E	I	38
		Ritual	Lf, Ph	Am	E	I	67, 212
	Fuel	Firewood	St	Am	E	I	66
	HuFood	Beverages	Fr	Am	E	I	160
		Food	Fr, Ph	Am, An	E, P	I, Ni	24, 27, 60, 66, 67, 72, 160, 212, 216, 225, 243
	MedVet	Respiratory system	Rt	Am	E	I	160
		Not specified	Ph, Rt	Am	E	I	67, 72
	UtenTool	Domestic	Lf, Ns	Am	E	I	27, 72, 160
		Hunting and fishing	Fr, Ns	Am	E	I	38, 160
		Labour tools	St	Am	E	I	160
Prestoea simplicifolia Galeano	Constr	Thatch	Lf	An	C	Ni	107
Raphia taedigera (Mart.) Mart.	UtenTool	Other	Lr	Ch	C	Ni	112
Roystonea oleracea (Jacq.) O.F. Cook	Environ	Ornamental	Ep	Am	B	Ni	124
	UtenTool	Domestic	St	Am	P	I	28
		Hunting and fishing	St	Am	P	I	28
Roystonea regia (Kunth) O.F. Cook	MedVet	Digestive system	Lf	An	P	Ni	87
		Nervous system and mental health	Lf	An	P	Ni	87
Socratea exorrhiza (Mart.) H. Wendl.	AnFood	Wildlife attractant	Fr, Ns	Am	B, C, E, P	I, Ni	19, 46, 63, 66, 69, 73, 124, 155, 196, 223

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Constr	Houses	Lf, Ns, St	Am, An, Ch	B, C, E, P	A, C, I, M, Ni	1, 9, 10, 14, 19, 24, 25, 28, 31, 33, 35, 37, 38, 42, 44, 45, 53, 60, 62, 63, 69, 71, 72, 75, 89, 104, 106, 110, 112, 117, 124, 128, 129, 131, 136, 145, 151, 153, 154, 155, 156, 158, 160, 161, 162, 166, 177, 179, 187, 196, 197, 200, 207, 208, 211, 212, 213, 220, 223, 224, 225, 227, 234, 237, 243, 250
		Thatch	Lf, St	Am, An, Ch	B, C, E, P	I, M, Ni	14, 19, 24, 44, 62, 129, 151, 153, 154, 160, 161, 162, 212, 224, 225, 237, 250
		Other	Ns, St	Am, Ch	B, C, E	I, Ni	47, 52, 54, 66, 73, 121, 161, 213
	Cultur	Cloth and accessories	Lf	Am	B	I	196
		Cosmetics	Lf, Sd	Am	B, E	I	63, 66, 160, 174, 238
		Personal adornment	Ns, Sd	Am, An	B, C, E, P	I, Ni	14, 24, 47, 161, 196, 197, 225
		Recreational	Ep, Fr, Ns, Rt	Am	B, C, P	I	10, 14, 42, 151, 161, 237
		Ritual	Ep, Fr, Ns, Rt, St	Am	B, C, E, P	I	42, 117, 160, 161, 187, 227
		Other	Ns	Am	E, P	I	223
	Environ	Fences	St	Am, Ch	B, C, E, P	C, I, Ni	24, 62, 110, 131, 162, 243
		Ornamental	Lf	An	E	Ni	44
	Fuel	Firewood	Ns, St	Am, An	B, C, E	I, Ni	44, 46, 63, 69, 160, 161, 223
	HuFood	Beverages	Fr, Ph	Am	E, P	I, Ni	24, 67
		Food	Fr, Ns, Ph, Sd	Am, An, Ch	B, C, E, P	I, M, Ni	19, 24, 25, 38, 44, 85, 89, 121, 131, 154, 160, 161, 169, 196, 207, 213, 223, 225, 227, 243
	MedVet	Digestive system	Ph, Rt	Am	P	I, Ni	15, 24
		General ailments	Fr, St	Am	B	I, Ni	37, 177

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
		Musculo-skeletal system	Rt	Am	E	I	160
		Poisonings	Ph, Rt	Am, An	B, E, P	I, M, Ni	42, 44, 153, 156, 238
		Skin and subcutaneous tissue	Fr, Rt, St	Am	B, P	I	10, 42, 161, 196
		Veterinary	Rt	Am	B	I	42, 161
		Not specified	Ns, Ph, Rt	Am, An	C, E, P	C, I, Ni	9, 52, 110, 223, 225
	UtenTool	Domestic	Br, Lf, Ls, Ns, Rt, Sd, St	Am, An, Ch	B, C, E, P	I, Ni	14, 24, 35, 37, 38, 42, 44, 46, 47, 60, 62, 63, 69, 75, 104, 121, 124, 131, 151, 160, 161, 162, 174, 177, 187, 196, 211, 223, 224, 230, 237
		Hunting and fishing	Lf, Ns, Rt, St	Am, Ch	B, C, E, P	A, I, M	33, 35, 46, 47, 60, 63, 66, 69, 73, 85, 117, 151, 160, 161, 174, 196, 208, 223, 234, 237
		Labour tools	St	Ch	E	I	162
		Wrappers	Lf	Am	B, C	I	151, 161
		Other	Ns, Ph, Sd, St	Am, Ch	C, E, P	A, I, M, Ni	38, 52, 53, 54, 62, 66, 72, 140, 190
	Other	Miscellaneous	Ns, St	Am, Ch	C, E, P	I, M, Ni	9, 24, 25, 46, 62, 72, 166, 223
Socratea rostrata Burret	Constr	Houses	St	An	E	C, I	16, 23, 38
		Thatch	Lf	An	E	I	23
	HuFood	Food	Ph, Sd	An	E	I, Ni	16, 38
	UtenTool	Domestic	Rt	An	E	I	16, 38
Socratea salazarii H.E. Moore	Constr	Houses	St	Am	P	M, Ni	75, 166
		Thatch	Lf	Am	P	I	230
	Environ	Fences	St	Am	P	Ni	75
	UtenTool	Domestic	Rt	Am	P	I	230
		Hunting and fishing	St	Am	P	M	153
Syagrus inajai (Spruce) Becc.	Constr	Thatch	Lf	Am	C	Ni	104

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	HuFood	Food	Sd	Am	C	Ni	104
Syagrus oleracea (Mart.) Becc.	AnFood	Fodder	Fr	Am	B	Ni	182
Syagrus sancona (Kunth) H. Karst.	AnFood	Fodder	Fr	Am	P	Ni	159
	Constr	Houses	St	Am	B, P	I, Ni	14, 159, 182, 213
		Thatch	Lf	Am	B	Ni	124
	Cultur	Personal adornment	Fr, Sd	Am	B, E	I	14, 38, 131
	Environ	Fences	St	Am	B	Ni	177
		Ornamental	Ep	Am	B	Ni	177, 182
	HuFood	Food	Fr, Sd	Am	B, E, P	I, Ni	14, 48, 123, 124, 131, 132, 183, 241
	UtenTool	Domestic	Lf, Sd, St	Am	B, E	I, Ni	14, 89, 177
		Hunting and fishing	Ns, St	Am	B, E, P	I, Ni	33, 131, 139, 159
		Labour tools	St	Am	P	I	35
	Other	Miscellaneous	St	Am	P	Ni	159
Syagrus smithii (H.E. Moore) Glassman	Constr	Thatch	Lf	Am	C	Ni	104
	HuFood	Food	Sd	Am	C	Ni	104
Synechanthus warscewiczianus H. Wendl.	Constr	Houses	St	Ch	E	I	162
	Cultur	Dyes	Lf	Ch	E	I	19, 70
		Recreational	Ep	Ch	E	I	25
		Ritual	Ep	Ch	E	I	19
	HuFood	Food	Fr	Ch	E	Ni	38
	UtenTool	Domestic	St	Ch	E	I	162
		Labour tools	St	Ch	E	I	162
Trachycarpus fortunei (Hook.) H. Wendl.	Environ	Ornamental	Ep	Am	E	Ni	19
Washingtonia robusta H. Wendl.	Environ	Ornamental	Ep	An	E	Ni	19

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
Welfia regia H. Wendl.	Constr	Houses	St	Ch	C	Ni	112
		Thatch	Lf	Ch	C, E	A, I, Ni	19, 31, 107, 112, 208
	HuFood	Food	Fr	Ch	C	Ni	112
	UtenTool	Domestic	Lf, Sl	Ch	C	A, I, Ni	31, 112, 208
		Other	Sd, Sl, St	Ch	C	A	140
Wettinia aequalis (O.F. Cook & Doyle) R. Bernal	Constr	Houses	Ns, St	Ch	C, E	A, I, Ni	19, 25, 38, 70, 106
		Thatch	Lf	Ch	E	I	19, 70
	HuFood	Food	Ph	Ch	E	I	70
Wettinia augusta Poepp. & Endl.	Constr	Houses	Ns, St	Am	P	I, M, Ni	9, 24, 166
		Thatch	Lf, St	Am	C, P	I, M, Ni	24, 104, 151, 158, 230
	Cultur	Recreational	Ns	Am	C	I	151
	HuFood	Food	Fr	Am	P	I	230
	MedVet	Infections and infestations	Lf	Am	C	I	104
	UtenTool	Domestic	Ns	Am	C	I	151
		Hunting and fishing	Ns, St	Am	C, P	I, M	151, 153
Wettinia drudei (O.F. Cook & Doyle) A.J. Hend.	Constr	Bridges	St	Am	P	Ni	24
		Thatch	Lf, St	Am	C, P	M, Ni	104, 158, 166
	UtenTool	Hunting and fishing	St	Am	C	Ni	104
Wettinia maynensis Spruce	AnFood	Wildlife attractant	Fr, Ns	Am	E	I	63, 66, 67, 69, 72, 73, 174
	Constr	Houses	St	Am, An	E, P	I, Ni	16, 17, 23, 33, 38, 44, 63, 67, 68, 69, 91, 123, 160, 211, 212
		Thatch	Lf	Am, An	E	I, Ni	17, 23, 33, 38, 44, 60, 63, 66, 67, 68, 69, 160, 183, 211, 212, 243
		Transportation	St	An	E	I	91
		Other	Ns, St	Am	C, E	I, Ni	53, 66, 73

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Cultur	Personal adornment	Sd	Am	E	I	17
	Environ	Fences	St	An	E	Ni	44
		Ornamental	Lf, St	An	E	Ni	44
	Fuel	Firewood	St	Am, An	E	I, Ni	44, 66, 67, 69, 72, 225
		Other	Lf	Am	E	I	33
	HuFood	Food	Fr, Ns, Ph	Am, An	E, P	I, M, Ni	16, 17, 23, 38, 44, 58, 59, 63, 66, 67, 68, 77, 91, 123, 160, 183, 225, 243
	MedVet	Digestive system	Ph	An	E	I	23
		Not specified	Ph	Am	E	I	67
	UtenTool	Domestic	Br, Fr, Lf, Ns, Rt, St	Am, An	E	I, Ni	16, 33, 44, 211, 225
		Hunting and fishing	Ns, St	Am, An	E, P	I, Ni	17, 33, 44, 60, 63, 68, 69, 123, 160, 183
		Labour tools	Ns, St	Am, An	E	I	63, 66, 225
		Other	Ns, Sd	Am	E	I	67, 73
	Other	Miscellaneous	St	Am, An	E, P	I, Ni	17, 44, 63, 68, 123
Wettinia oxycarpa Galeano & R. Bernal	Constr	Bridges	St	Ch	E	I	38
		Thatch	St	An	E	Ni	38
Wettinia quinaria (O.F. Cook & Doyle) Burret	AnFood	Wildlife attractant	Fr	Ch	C, E	I	70, 121, 162
	Constr	Bridges	St	An	C	Ni	107
		Houses	St	An, Ch	C, E	A, I, Ni	3, 25, 31, 106, 107, 112, 162, 200
		Thatch	Lf, St	Ch	E	I	25, 65, 70, 162
		Transportation	St	Ch	E	I	162
		Other	Ns	Ch	C	I	121
	Cultur	Personal adornment	Sd	Ch	E	I	162
		Recreational	St	Ch	C	I	121

Appendix (continued)

Scientific name	Use categories	Use subcategories	Plant parts	Ecoregions	Countries	Human groups	References*
	Environ	Fences	St	An, Ch	C, E	I, Ni	107, 162
	Fuel	Firewood	St	Ch	E	I	162
	HuFood	Food	Fr, Ph, Sd	An, Ch	E	I	3, 25, 38, 162
	UtenTool	Domestic	St	Ch	E	I	162
		Hunting and fishing	Ns, St	Ch	C, E	A, I	107, 162, 208
		Rope	Lf	Ch	E	I	162
		Other	Fr, St	Am, Ch	C, E	A, I	8, 140
	Other	Miscellaneous	St	Ch	E	I	25
Wettinia radiata (O.F. Cook & Doyle) R. Bernal	Constr	Houses	St	Ch	C	A	106
	UtenTool	Hunting and fishing	St	Ch	C	A	106

*1: Acero-Duarte1979; 2: Acosta-Solis 1952; 3: Acosta-Solis 1971; 4: Aguilar 2006; 5: Aguirre 2006; 6: Aguirre et al. 2003; 7: Alarcón 1988; 8: Alarcón 1994; 9: Albán 1994; 10: Alexiades 1999; 11: Allen 1947; 12: Anderson 2004; 13: Antezana 1976; 14: Armesilla 2006; 15: Ayala 1984; 16: Báez 1998; 17: Báez & Backevall 1998; 18: Balick 1986; 19: Balslev and Barfod 1987; 20: Balslev and Blicher-Mathiesen 1994; 21: Balslev and Henderson 1987a; 22: Balslev and Henderson 1987b; 23: Balslev et al. 1997; 24: Balslev et al. 2008; 25: Barfod and Balslev 1988; 26: Barriga 1994; 27: Bennett et al. 2002; 28: Bergman 1990; 29: Bernal 1992; 30: Bernal 1998; 31: Bernal and G. Galeano 1993; 32: Bernal et al. 2010; 33: Bianchi 1982; 34: Blicher-Mathiesen and Balslev 1990; 35: Bodley and Benson 1979; 36: Boll et al. 2005; 37: Boom 1986; 38: Borchsenius et al. 1998; 39: Borgtoft 1992; 40: Borgtoft 1994; 41: Borgtoft 1996; 42: Bourdy 1999; 43: Bourdy et al. 2008; 44: Byg and Balslev 2004; 45: Caballero 1995; 46: Cabrera et al. 1999; 47: Cadena-Vargas et al. 2007; 48: Califano 1999; 49: Cárdenas 1970; 50: Cárdenas 1989; 51: Cárdenas and Politis 2000; 52: Cárdenas and Ramírez 2004; 53: Cárdenas et al. 2002; 54: Cárdenas et al. 2007; 55: Castaño-Arboleda et al. 2007; 56: Cayón and Aristizábal 1980; 57: CEATA et al. 2007; 58: Cerón 1993a; 59: Cerón 1993b; 60: Cerón 1995; 61: Cerón 2002; 62: Cerón 2003; 63: Cerón and Montalvo 1998; 64: Cerón and Montalvo 2000; 65: Cerón and Montalvo 2002a; 66: Cerón and Montalvo 2002b; 67: Cerón and Reyes 2007a; 68: Cerón and Reyes 2007b; 69: Cerón et al. 1994; 70: Cerón et al. 2004; 71: Cerón et al. 2005a; 72: Cerón et al. 2005b; 73: Cerón et al. 2006; 74: Cerro et al. 2003; 75: Chávez 1996; 76: Chicchon 1992; 77: Chirif 1978; 78: Coomes 2004; 79: Coomes and Ban 2004; 80: Coomes and Burt 1997; 81: Copeticona 2002; 82: Cornejo 1998; 83: Crizón 2001; 84: Davis 1983; 85: Davis and Yost 1983; 86: De Jong 2001; 87: DeFeo 1992; 88: Denevan and Treacy 1987; 89: Descola 1989; 90: Díaz Piedrahita 1981; 91: Duchelle 2007; 92: Dugand 1961; 93: Duke 1970; 94: Einzmann 1988; 95: Enssle et al. 2006; 96: Etter 2001; 97: Fadiman 2008; 98: Feisal 2009; 99: Flores and Ashton 2000; 100: Flores Paitán 1987; 101: Flores Paitán 1998; 102: Forero 2005; 103: Freire 2006; 104: Galeano 1992; 105: Galeano 1995a; 106: Galeano 1995b; 107: Galeano and Bernal 1987; 108: Galeano et al. 2008; 109: Gallego 1995; 110: García et al. 1996; 111: García Barriga 1974; 112: García Cossio et al. 2002; 113: Garzón 1985; 114: Garzón and Macuritofe 1992; 115: Gentry 1988; 116: Gilmore et al. 2002; 117: Girard 1958; 118: Girault 1987; 119: Glenboski 1983; 120: Gomez et al. 1996; 121: González 1994; 122: Grández and Henderson 1993; 123: Guallart 1968; 124: Gutiérrez-Vásquez and Peralta 2001; 125: Hamlin and Salick 2003; 126: Harner 1984; 127: Henderson and Chávez

1993; **128**: Henkemans 2001; **129**: Hinojosa 1991; **130**: Hinojosa et al. 2001; **131**: Hissink and Hahn 2000; **132**: Holmberg 1978; **133**: Holm-Jensen and Balslev 1995; **134**: Huanca 1999; **135**: Hübschmann et al. 2007; **136**: Huertas 2007; **137**: Iglesias 1987; **138**: Iglesias 1989a; **139**: Iglesias 1989b; **140**: IIAP 2008; **141**: Irvine 1989; **142**: Játiva and Alarcón 1994; **143**: Johnson 1975; **144**: Johnson and Mejía 1998; **145**: Jordan 1970; **146**: Kahn and Mejía 1987; **147**: Karsten 1988; **148**: Knudsen 1995; **149**: Kothari 1993; **150**: Koziol and Borgtoft 1993; **151**: Kronik 1999; **152**: Kvist et al. 1998; **153**: Kvist et al. 2001; **154**: La Rotta 1983; **155**: La Rotta et al. 1986; **156**: Langevin 2002; **157**: León et al. 2006; **158**: López-Parodi 1988; **159**: Macbride 1960; **160**: Macía 2004; **161**: M.J. Macía, unpubl.; **162**: Marchán 2001; **163**: Marles et al. 1988; **164**: Mayer 2006; **165**: Mejía 1983; **166**: Mejía 1988; **167**: Mejía 1992; **168**: Mejía and Rengifo 1995; **169**: Mendoza 1994; **170**: Mendoza and Panduro 2005; **171**: Miller 2002; **172**: Miranda et al. 2009; **173**: Mollinedo 2000; **174**: Mondragón and Smith 1997; **175**: Moore et al. 2007; **176**: Moraes 1991; **177**: Moraes 2004; **178**: Moraes and Sarmiento 1999; **179**: Moraes et al. 1995; **180**: Moraes et al. 1996; **181**: Morcote-Ríos et al. 1998; **182**: Moreno Suárez and Moreno Suárez 2006; **183**: Mundo Shuar 1977; **184**: Ojeda 1994; **185**: Oré and Llapapasca 1996; **186**: Orejuela 1992; **187**: Ortiz 1994; **188**: Ortiz Gómez 1989; **189**: Otterburg and Mamani 2008; **190**: Pacheco et al. 1998; **191**: Padoch 1988; **192**: Padoch and De Jong 1989; **193**: Padoch et al. 1985; **194**: Padoch et al. 1987; **195**: Paniagua-Zambrana 1998; **196**: Paniagua-Zambrana 2001; **197**: Paniagua-Zambrana 2005; **198**: Parra and Virsano 1994; **199**: Patiño 1977; **200**: Patiño 2006; **201**: Peña-Claros 1996; **202**: Pérez 2002; **203**: Pérez et al. 2006; **204**: Pérez-Arbeláez 1956; **205**: Peters et al. 1989; **206**: Phillips 1993; **207**: Pinedo-Vasquez et al. 1990; **208**: Pino and Valois 2004; **209**: Pino et al. 2003; **210**: Pintaud and Anthelme 2008; **211**: Pohle and Reinhardt 2004; **212**: Ponce 1992; **213**: Proctor et al. 1992; **214**: Quintana and Vargas 1995; **215**: Restrepo 1996; **216**: Rios and Caballero 1997; **217**: Rodriguez 1996; **218**: Rojas et al. 2001; **219**: Román 2002; **220**: Romanoff et al. 2004; **221**: Ruiz Echeverry 1984; **222**: San Sebastián 1995; **223**: Sánchez 2005; **224**: Sánchez and Miraña 1991; **225**: Santín Luna 2004; **226**: Schultes 1951; **227**: Schultes 1974; **228**: Schultes and Raffauf 1990; **229**: Seoane and Soplín 1999; **230**: Shepard et al. 2001; **231**: Silva and García 1997; **232**: Skov and Balslev 1989; **233**: Smith et al. 2007; **234**: Stagegaard et al. 2002; **235**: Svenning and Balslev 1998; **236**: Svenning and Macía 2002; **237**: Thomas 2008; **238**: Thomas and Vandebroek 2006; **239**: Ticona 2001; **240**: Tournon 2006; **241**: Townsend 1996; **242**: Triana 1985; **243**: Van den Eynden et al. 2004; **244**: Van der Linden and López 1990; **245**: Vargas 1994; **246**: Vargas 1997; **247**: Vargas 2006; **248**: Vásquez 1992; **249**: Vásquez and Gentry 1989; **250**: Vásquez and Vásquez 1998; **251**: Vélez and Vélez 1999; **252**: Vickers and Plowman 1984; **253**: Vormisto 2002a; **254**: Wheeler 1970; **255:** Zuluaga 2003.

** The nomenclatural status of this species needs clarification.

Use categories

AnFood Animal Food, *Constr* Construction, *Cultur* Cultural, *Environ* Environmental, *HuFood* Human Food, *MedVet* Medicinal and Veterinary, *UtenTool* Utensils and Tools, *Other* Other Uses

Plant parts

Br Bract, *Ep* Entire plant, *Fl* Flower, *Fr* Fruit, *Infl* Inflorescence, *Infr* Infructescence, *Lf* Entire leaf, *Ls* Leaf sheath, *Lr* Leaf rachis, *Ph* Palm heart, *Pt* Petiole, *Rt* Root, *Sd* Seed, *Sl* Spear leaf, *Sp* Spine, *St* Stem, *Ns* Not specified

Ecoregions

Am Amazon, *An* Andes, *Ch* Chocó

Countries

B Bolivia, *C* Colombia, *E* Ecuador, *P* Peru

Human groups

A Afroamerican, *C* Colono, *I* Indigenous, *M* Mestizo, *Ni* Not identified