Ixcatec ethnoecology: plant management and biocultural heritage in Oaxaca, Mexico

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Abstract

**Background:** Studying motives of plant management allows understanding processes that originated agriculture and current forms of traditional technology innovation. Our work analyses the role of native plants in the Ixcatec subsistence, management practices, native plants biocultural importance, and motivations influencing management decisions. Cultural and ecological importance and management complexity may differ among species according with their use value and availability. We hypothesized that decreasing risk in availability of resources underlies the main motives of management, but curiosity, aesthetic, and ethical values may also be determinant.

**Methods:** Role of plants in subsistence strategies, forms of use and management was documented through 130 semi-structured interviews and participant observation. Free listing interviews to 38 people were used to estimate the cognitive importance of species used as food, medicine, fuel, fodder, ornament and ceremonial. Species ecological importance was evaluated through sampling vegetation in 22 points. Principal Components Analysis were performed to explore the relation between management, cultural and ecological importance and estimating the biocultural importance of native species.

**Results:** We recorded 627 useful plant species, 589 of them native. Livelihood strategies of households rely on agriculture, livestock and multiple use of forest resources. At least 400 species are managed, some of them involving artificial selection. Management complexity is the main factor reflecting the biocultural importance of plant species, and the weight of ecological importance and cultural value varied among use types. Management strategies aim to ensure resources availability, to have them closer, to embellish human spaces or satisfying ethical principles.

**Conclusion:** Decisions about plants management are influenced by perception of risk to satisfy material needs, but immaterial principles are also important. Studying such relation is crucial for understanding past and present technological innovation processes and understand the complex process of developing biocultural legacy.

**Keywords:** Biocultural heritage, Domestication, Ethnoecology, Tehuacán-Cuicatlán Valley, Ixcatec, Cultural value, Plant management

Background

In most rural areas of Mexico, especially in those inhabited by indigenous peoples, human subsistence patterns generally involve multiple strategies. Agriculture for direct consumption of products is commonly the main activity, complemented by small scale livestock and the use of numerous forest resources destined to direct consumption and commercialization [1]. These activities occur in territories that are settings of multidimensional and complex interrelationships between humans and nature in socio-ecological systems, integrated as totalities with elements and processes mutually influencing their features and changes [2]. Expressions of these interrelationships are management of wild plant and animal species, domesticated organisms and territories of indigenous and local peoples, which constitute part of the biocultural heritage that are created and maintained through long term by the continuous use and management [3–5]. Management or
transformations and decisions made by humans on ecosystems, and on their elements and functions [6], based on TEK are fundamental in the biocultural heritage development process, and constitute a traditional form of facing the uncertainty inherent to complex systems [3, 7–9].

Management may include a broad spectrum of strategies and interactions for appropriation and maintaining natural resources [6, 10, 11]; collective actions to protect them [12], as well as those directed to recover or restore them [6]. These practices (praxis) are based on TEK about species and ecosystems (corpus) that are in turn strongly linked to belief systems (kosmos) [7, 13], which have direct influence on resources and ecosystem management.

Plant management is influenced by ecological and social factors [14–17], including the cultural importance of plant species in human life. Some investigations have found positive correlation between cultural and ecological importance, suggesting that most conspicuous plants have more important use values, but numerous examples have been reported contradicting this hypothesis [18, 19]. More informative for constructing ethnobiological theory has been analyzing the complex of the relationships between cultural significance, ecological importance and management complexity. In edible plants, it has been found that species with high cultural value and limited availability are more intensely managed, as a response to the risk in their availability [14–17]. However, humans are not only respondents of critical situations. Curiosity, attraction for beauty, experimentation, innovation, among other intentions are part of human nature and should also be taken into account as factors influencing people’s decision to manage organisms [20–22].

Understanding the role of plant resources with different use types in human subsistence patterns, how management interactions are, and how are these influenced by social and ecological factors, may help to understand the principles of the construction of management techniques, management systems, how processes of domestication are originated, and how processes of current technical innovations are developed, in order to understand the process of construction of the biocultural heritage [6].

The Tehuacán–Cuicatlán Valley in central Mexico, is an important region of the Mexican biocultural heritage [3], harbouring more than 3,000 species of vascular plant species and human cultures with ancestors nearly 10,000 years old [23, 24]. Currently, the Popoloca, Mazatec, Mixtec, Chinantec, Cuicatec, Ixcatec, Chocho, Náhuatl and Mestizo communities make use of nearly 1,750 plant species, at least 610 of them receiving management practices [11, 25]. These figures make the Tehuacán Valley an ideal setting for studying processes influencing decision, innovation and diffusion of experiences on plant management.

This study was performed in Santa María Ixcatlán, the only town where the Ixcatec currently live in the world. It was directed to document subsistence strategies, plants use and management locally practiced, and the main motives to manage them. Also, we examined how cultural, ecological and management factors interact and determine the importance of native plants with different use type on Ixcatec biocultural heritage.

We analyzed the hypothesis that the main motive of managing plants is decreasing the risk that represent their low availability and in some cases to enhance their abundance and quality. Therefore, subsistence is based on multiple activities, diversified management strategies to prevent risks in staple resources availability; and the high cultural importance and management intensity may be associated with low ecological importance. But, attraction for beauty, curiosity and ethical concerns, beyond the satisfaction of primary needs, should also be important aspects in decisions to manage plant resources.

Methods
Study area
At present, the Ixcatec live only in the community of Santa María Ixcatlán, a town governed by the regime of traditional practices and customs. Land tenure is communal with 41,530 ha [26, 27] belonging to the Tehuacán-Cuicatlán Biosphere Reserve, Mexico (Fig. 1). The whole territory is mountainous, with elevations ranging from 800 to 2600 m. Soils in most of the territory derived from calcareous rocks, with thin layers of black organic soils. The town has temperate climate, with annual mean temperature of 17.2 °C, and annual rainfall averaging 721 mm [28, 29]. The rest of the territory has semiarid climate [29]. Vegetation types are oak forests, tropical dry forest, induced grassland and secondary vegetation [30].

In Santa María Ixcatlán live 175 households and 516 people [31]. There is a high migration of young people to the cities of Tehuacán, México, Orizaba, and more recently to the US [32]. Local households’ economy is based on direct consumption of agricultural products, livestock raising and use of forest products [32, 33]. The Communitarian Assembly, conforming by all adult men, is the maximum authority [32], and people obtain rights to have access to resources and lands of the territory through a system of charges and cooperation to communitarian activities [32]. Practically all families are Catholic [32], and have a complex calendar of ceremonies [27, 32, 33]. Nearly a dozen of persons are fluently speakers of Ixcatec, an almost extinct language [34, 35].

Flora inventory
We conducted ethnoecological studies in Ixcatlán in the period 1999–2001 and in the period 2011–2015 with 16 campaigns of field work. Trial walks accompanied with local informants were carried out to identify vegetation types [36] and collecting botanical voucher specimens.
throughout the territory of the community. Voucher specimens were deposited at MEXU, EBUM, IE-BAJÍÓ and IBUG herbaria with Selene Rangel, Erandi Rivera, and Ricardo collection numbers. Nomenclature and classification of species are presented following the APG III classification system consulted in the site www.theplantlist.org [37].

Interviews
A total of 130 semi-structured interviews to 62 people were conducted to document common names of plants, their use, management practices and motivations to conduct them. Alive plants in their own homegardens, agricultural fields or seen in trial walks, fresh specimens collected a day before, dried specimens and pictures were used as stimulus in these interviews; 22 of the 62 interviewees (9 women and 13 men, with average age of 58.9 years, SD = 22.5) were considered key informants because of their deep knowledge of the territory and plants or because they were Ixcatec speakers. Key informants were selected by the snowball sampling technique, by asking for people with these skills; 15 of them were interviewed from 2 to 11 times in a total of 77 audio or video-recorded sessions, in which on average 17.2 (SD = 23.4) species were reviewed per work session. The other 40 interviewees were considered occasional participants (21 female and 17 male, whose age averaged 53.2 years, SD = 20.8), and they were selected randomly.

More detailed information about informants and activities are included in the Table 6 of Appendix. All interviews used for the analysis showed in this paper were performed in Spanish. All interviews and participant observation data about plant resources use and management were transcribed and systematized into the format of the ethnobotanical data base of Mexico (BADEPLAM) of the
Botanical Garden, UNAM. Audio-visual material was stored in the Ixcatec Culture Archive and The Endangered Languages Archive.

**Surveys**

Semi-structured surveys with questions on agricultural production and consumption of plant resources were conducted in Spanish between 2000 and 2012 to 21 and 20 households representing the 12% of the households of Ixcatlán in each year (householders averaging 61.2 years old, SD = 17.2). In 2000 households were selected at random, while in 2012, 24% of the households surveyed in 2000 were selected, and the rest were selected at random.

**Free listing**

In order to identify the plant species with the higher cognitive importance, in 2013 we used the free listing method [38]. We requested in Spanish to 38 people (22 men and 16 women, aging on average 50.6 years, SD = 18.8) to spontaneously listing the names of plants that grow in the territory of Santa María Ixcatlán that are used: 1) as food, 2) to attend illnesses and take care of health, 3) as firewood, 4) to feed livestock, 5) to offer them to Saints, dead people or used in ceremonies, and 6) to embellish the houses and crop land. Once informants stopped listing plants for one use, we asked them to listing plants for other use, and we continued this procedure until finishing the lists of plants for the six uses. Of the 38 people interviewed, 19 were previous informants (13 considered key informants and 6 occasional informants), the other 19 people interviewed were selected at random. Details on the number of lists per use type, the number of items named, the levels of saturation of the datasets, and information about interviewees can be consulted in the Appendix.

**Vegetation sampling**

We conducted vegetation samplings in 22 points of nine natural and transformed vegetation types in order to estimate the ecological importance value of species [36]: Quercus liebmannii and Quercus laeta forest (3 points), Quercus urbanni forest (1 point), riparian forest of Taxodium huegelii (1 point), Juniperus flaccida forest (2 points), izotal of Beaucarnea stricta (2 points), mxical (2 points), palm scrubland of Brahea dulcis (2 points), grassland (2 points), and agricultural fields (7 points). At each point we established a 500 m² quadrat, where all shrubs and trees were counted and their height and two canopy diameters were measured. Herbs were sampled in five subplots (1 m² each) randomly placed within the area of each 500 m² quadrat. Density and frequency was calculated for each species. Shrubs and trees biomass was calculated through volume formulas of geometric figures [39]. In addition, the floristic composition was sampled in 17 homegardens.

**Data analyses**

Livelihood analysis was conducted to assess the subsistence strategies [38], and descriptive data of use and management of plants species were estimated.

Series of Principal Component Analyses (PCA) with native plants species (species with wild populations or Mesoamerican species with naturalized populations in Ixcatlán territory), were performed. Species were considered as operational taxonomic units according to its number of uses, cognitive importance, consumption, ecological importance, complexity of management practices, and management place, all of them aspects involved in the definition of their importance to the biocultural heritage of plant species. The scores of the first principal component obtained in each PCA were considered as biocultural importance index by type of use, since these values are linear combinations that integrating information of the variables, species with positive and highest values were considered more important [15, 40]. The most important variables and how they interact was identified by the correlation values between variables and the first two components [41]. We also identified how species are grouped according with all the variables studied by representing the cloud of species in terms of the two first components [41]. These PCAs were made in JMP 8. statistical software [42].

The cognitive importance was estimated through free listing data with the index of Sutrop (S) with the formula $S = F/(N \times mP)$, where F represents the frequency of the species, N the total number of interviewed people per use category, and mP is the medium position in which the term or species was named [43]. We calculated this index with the software FLAME v1.0 [44]. A zero value was assigned to all species that were not listed by consultants [43]. When an informant said that he/she does not know any plant for a given use or when he/she said that all plants could be used for the requested use, we excluded the list of the analysis.

The consumption of products was estimated as the percentage of households that consumed each plant species throughout the year, based on data documented with surveys conducted in 2012.

The ecological importance of species was estimated through the ecological importance value index $EIVI = (\text{Relative frequency} + \text{Relative abundance} + \text{Relative biomass})/3$, calculated by each plant species per sampled site [45]. The floristic composition of homegardens was similarly used to calculate ecological importance.

The complexity of management practices was calculated by the sum of numerical values of management practices. Values were assigned based on the typology proposed by Blancas et al. [11] as follows: a) gathering, simple or planned extraction strategies = 1; b) tolerance or let standing of plants = 2; c) enhancement by promoting abundance of useful plant species or phenotypes = 3; d)
protection of desirable plants = 4; e) transplanting entire individuals = 5; f) propagation as seed sowing and vegetative propagation = 6. In addition, we assigned values of 0.5 to simple foraging by domestic animals, and uproot or deliberate removal individuals of the species in question. Values of each practices was summarized per plant species. The places of management were categorized in natural populations plants distribution sites (in situ = 1) and sites out of their natural distribution (ex situ = 2) [15, 16].

Results

Subsistence strategies

Households are basic units making decisions on economic activities and forest resource management (Fig. 2). Agriculture is the main activity of all households, but maize and beans produced are insufficient to satisfy their annual requirements (Table 1). Multiple-cropping agriculture in the rainy season is carried out in terrains of 1 to 2 ha located around the town (95 % of households), and in homegardens (0.25 to 0.5 ha, managed by 30 % of households) (Figs. 1, 3 and 4). Prayers and rituals drawing or putting crosses made with plants, offering alcoholic beverages to the earth, among other practices, are common during agricultural labours, seed selection and storage, sowing and harvest, as individual farmer or collective petitions for a good rainy season.

All people interviewed referred to difficulties in agriculture, mainly due to a low soil fertility and water scarcity. However, people deal with these problems in homegardens and agricultural fields by adding domestic animals manure, oak forest humus, ash, firewood debris and organic waste; agrochemicals are not used at all. In homegardens, recycling water and spatial arrangement of plants according with their water requirements are common. In agricultural fields, terraces and live fences are common for preventing soil erosion, as well as some dams for the accumulation of soil and moisture (Fig. 4).

Animal husbandry is practiced by almost all households as a saving for emergencies, animal power for agricultural and for gathering activities, only 5 % of households commercialize animals in regional markets (Fig. 2). Nearly 55 % of households raise animals in backyards (1–7 chickens, 1–9 turkeys or 1–4 pigs), 75 % nurture draft animals (1–5 donkeys-mules or 1–4 horses), and 25 % raise livestock (5–80 cows, 10–16 sheep or 5–70 goats) (Fig. 2). Animals feeding bases on domestic sub-products, maize straw, herbs managed in homegardens and agricultural fields, and foraging in communal lands (Figs. 3 and 4).

Gathering and management of native and introduced plants for direct consumption is practiced by all households (Figs. 2 and 3). Plants provide all the firewood and fodder needed and great part of food, medicines, materials for construction, tools, and other goods. Other important plants are ceremonial and ornamental, which are gathered and managed for direct use or as gifts to relatives (Fig. 2).

Few plant resources or their products are destined to economic interchange, the most important are Brahea dulcis and Agave potatorum (Fig. 2). The weaving of hats with Brahea dulcis leaves is carried out by nearly 84 % of the households, while 10 % are specialized in handcrafting baskets, covers for bottles and other products. Hats are interchanged almost every day for maize, food.
or money in local stores. From 2011 to 2015 the price of each hat was 0.16 US dollars (based on an interchange rate of $20.00 Mexican pesos by one American dollar), while in 2000 it was $0.12. A household weave on average 28.9 ± 3.65 hats per week, and each hat requires 4.1 young leaves, which means approximately one million of leaves used in the whole community per year. Leaves extraction is carried out mainly in palm scrublands, where *Brahea dulcis* is promoted, protected and tolerated in areas of agricultural fields, but it is widely distributed throughout the whole territory (Figs. 3 and 4). For extracting palm leaves, people cut the young leaves without damaging the apical meristem and avoid gathering leaves during the new moon, otherwise they consider the growth of new leaves can be delayed. Harvesting palm leaves for direct use and local interchange is allowed but sale to regional sellers is forbidden. Palm is considered staple plant as people said "palms are our life because with palm leaves we make hats and we can get all we need to live".

Approximately 20 % of households prepare mescal with *Agave potatorum* once to 10 times per year (4.8 ± 1.49) (Fig. 2). For 2012 we estimated that the whole community produced 192 mescal batches, using 91.14 ± 9.78 agaves per batch, in total nearly 17,500 agaves per year, whereas for the year 2000 we estimated the use of 4,900 individuals. The price of one litre of mescal was $2.5 US dollars in 2000 and from $6 to $9 in 2011 to 2015. Although *Agave potatorum* is widely distributed in temperate and warm parts of the territory of the community (Figs. 3 and 4), the mescal producers said that they have to go progressively farther to extract agaves and they even complement their needs buying agaves to neighbouring communities; sometimes they complement their batches with the wild *Agave vivipara* extracted in the warm land of the territory. Agave extraction is

| Maize                  | 1999–2000 | 2011–2012 | Bean                  | 1999–2000 | 2011–2012 |
|------------------------|-----------|-----------|-----------------------|-----------|-----------|
| Consumption per year (kg) | 766.38 ± 94.34 | 701.7 ± 73.6 | 155.6 ± 19.4 | 112.2 ± 23 |
| Production by household (kg) | 285.5 ± 79.9   | 129.7 ± 62.6 | 76.2 ± 26.9  | 48 ± 18.6 |
| Productivity (kg/ha)    | 289 ± 70.5   | 82.1 ± 46.7 | 43.9 ± 10    | 28.6 ± 9.4 |
| Community deficit (T)   | 82.7   | 100 | 13.7 | 11.2 |

Table 1 Average and standard deviation of the amounts of maize and beans consumed, produced and productivity (kg/ha) achieved by people of Santa María Ixcatlán, Oaxaca for the periods of the years 1999-2000 and 2011-2012

Data according to surveys realized to 21 households in 2000 and 20 households in 2012. Values are means and standard errors

![Fig. 3](#) Characteristics of landscapes, general environmental units recognized by people in the territory of Santa María Ixcatlán and plant resources use
allowed for all community members; however, the relation between mescal producers and communal authorities has become tense in the last years, since federal environmental authorities are trying to regulate this activity in the region. Since 2011 some mescal producers started to enhance the availability of agaves near their houses or agricultural fields by spreading seeds or cultivating them in homegardens and green houses. Some mescal producers have participated in exchanges of experiences for agave management with other communities, and governmental programs have promoted some actions as reforestations and the construction of a communitarian greenhouse that started to produce agave plants in 2015.

The activities described are supported by using different environments and sites of the territory (Figs. 3 and 4). The whole territory is of common use, but knowledge about distribution, abundance and quality of plant resources are recognized as basic issues to access to any locality and its resources. The subsistence strategy is complemented by economic subsidies from governmental programs for elderly, child scholarships, creole seeds conservation, and agriculture and stockbreeding development (Fig. 2). In 2000 assistance program started to support the 45 % of households, by 2012 nearly 95 % of the households received monetary incomes from those programs. In almost a half of the households at least one member has temporal or
occasional employments at town that allow them to get additional monetary incomes (Fig. 2). Although irregularly, some migrants support their families to pay communal fees for celebrations, maintaining religious monuments and building public infrastructure (Fig. 2).

Plants use
We inventoried 780 vascular plants species belonging to 119 botanical families; 589 of them are native to Ixcatlán, and the other 191 have been introduced from other parts of Mexico and the world (Appendix). In order to satisfy their broad spectrum of needs people make use of 627 plants species with one to 27 use categories (Table 2), 267 species have one use and 360 have between 2 and 11 different use types.

Table 2 Use categories of Santa María Ixcatlán plant species. Data according to 62 people interviewed in 130 work sessions

| Use                                   | Native | Introduced | Total |
|---------------------------------------|--------|------------|-------|
| Fodder                                | 238    | 30         | 268   |
| Ornamental                            | 160    | 110        | 270a  |
| Medicinal                             | 166    | 53         | 219   |
| Edible                                | 72     | 66         | 138   |
| Ceremonial                            | 73     | 55         | 128   |
| Firewood                              | 44     | 2          | 46    |
| Utensils                              | 29     | 4          | 33    |
| Living fences                         | 24     | 6          | 30    |
| Timber products and construction      | 27     | 2          | 29    |
| Shade                                 | 12     | 11         | 23    |
| Food additive (flavor)                | 9      | 6          | 15    |
| Handcrafts                            | 11     | 1          | 12    |
| Insects repellent                     | 8      | 0          | 8     |
| Soil control                          | 6      | 2          | 8     |
| Animals medicine                      | 1      | 1          | 2     |
| Facilitatorb                          | 3      | 2          | 5     |
| Toys                                  | 5      | 5          | 10    |
| Alcoholic beverages                   | 2      | 1          | 3     |
| Cosmetic                              | 2      | 1          | 3     |
| Soap                                  | 2      | 1          | 3     |
| Paint                                 | 3      | 0          | 3     |
| Weather predictors                    | 2      | 0          | 2     |
| Aromatizing                           | 1      | 0          | 1     |
| Tannin source                         | 1      | 0          | 1     |
| Water attracter                       | 1      | 0          | 1     |
| Glues                                 | 1      | 0          | 1     |
| Poisons                               | 1      | 0          | 1     |
| Unknown                               | 150    | 3          | 153   |
| TOTAL                                 | 589    | 191        | 780   |

a = 132 species are considered “luxury of houses”, 80 as “luxury of the mountain”, and 59 as “luxury of houses and mountain”; b = Plants used as stake, hosts and nurse plant

Fodder
A total of 268 plant species are consumed by domestic animals (Table 2, Appendix). 238 species being native to Ixcatlán and 165 of them have other uses mainly as edible, medicinal or as ornamental plants. Of the 30 introduced species 15 are propagated, and some of them are highly valued (Appendix). Zea mays is the most valuable species as fodder, its stubble is used by the 80% of households and during periods of scarcity, 87% of the households have to buy it to regional sellers (Fig. 2, Appendix). Other important introduced plants are Avena fatua and Hordeum vulgare which are cultivated specifically for this use.

Ornamental
Ixcatlán people name as “luxury” (‘lujo’ in Spanish) the plant species that embellish or adornment houses, homegardens, agricultural fields and landscapes, in the two last cases these plants are called “mountain luxury”. High variation was documented about which plants are considered as luxury, as most consultants said “it is something that depends on the appreciation of beauty of things by each person”. People consider that luxury plants embellish the house, calls friendship, invites people to come into the house, allows to strength the heart or spirit and it is motive of proud for the owner. The importance of maintaining these plants varies among people, but generally are appreciated because in addition to the quality of embellish, these plants provide shade, good sites for resting and well-being or are used as fodder, edible and medicine. Nearly 270 species were recognized for its quality of embellish, 160 of them are native to Ixcatlán, 37 of them are not used in other form. 19 luxury plant species are transplanted from forest to houses or are propagated through sexual or asexual propagules. Introduced plants are highly valued (Table 2, Appendix), and are common gift of outsiders that visit the town, or these are obtained through governmental programs or by interchanging palm leaves with outside sellers.

Medicinal
We documented 219 species used as medicine (Table 2), 61 of them exclusively used with this purpose, the rest have other uses mainly fodder, edible or are considered as “luxury plants”. The medicinal plants commonly are used to treat stomach-ache, cold, fever, ear pain, sprains, and cultural illnesses like “sustos” (shocks caused by impressions), “aires” (malaise caused by uncomfortable situations) and “alferecia” (weakness, loss of appetite and irritability in children). Although knowledge about plants used in childbirth is extensive, few young women recognize to use them. In 2000, all people said to use medicinal plants, but in 2012, 15% of people interviewed said they only use allopathic therapies and the rest said to combine traditional and institutional medicine. Of the 53 introduced species some are highly valued for their
medicinal use (Table 2, Appendix) and are cultivated to have them available as it is the cases of Matricaria chamomilla, Tanacetum parthenium and Artemisia ludoviciana.

Edible
We documented 138 plant species used as food, 99 of them have other uses, mainly as fodder, medicinal and ornamental (Appendix, Table 2). Nearly 50 species complement the diet of people which is based on maize tortillas, beans and chili sauces; 66 introduced edible species are cultivated, as it is the cases of maize, beans, vegetables, condiments and fruits (Appendix). These plants are available in the local stores but people say “the little that we harvest is a saving, these plants are things that we do not have to buy”. Other reasons for cultivating are quality; people argued that vegetables locally produced are of better quality than others from outside particularly Coriandrum sativum and Solanum lycopersicum, they consider that local products have better taste, smell and texture.

Ceremonial
A total of 128 plant species are used to offer them to Catholic Saints in altars at homes, hermitages, thumbs, and the church. Some are used in ceremonies and processions (Table 2, Appendix); 117 of them have other uses, 95 are used as ornamental or luxury (Table 2). The introduced plants are highly appreciated (Appendix), and particularly cultivated for their flowers, like Tagetes erecta by 95 % of households during the great feast of the Day of the Dead (Appendix). People recognize several varieties according to the size, colour and form of plants, and it is common to store seeds of their favourite variants to be propagated in the next cycle. Local interchange of ceremonial plants flowers is common among households as gifts or trade, especially of introduced species as Tagetes erecta, Zantedeschia aethiopica, Leucanthemum maximum, between others.

Firewood
We recorded 48 species used as firewood (Table 2), 44 of them are native species, and 46 have other uses. These are the main source of cooking energy (only 35 % of households have gas stoves, but all use firewood for cook “maize tortillas”), and is the unique fuel to mescal production and for baking bread. In the year 2000, consumption of firewood per household was of 143.4 ± 11.3 kg/week, and in 2012 it was 108.8 ± 12 kg/week, a decrease apparently due to a governmental program for installing efficient stoves. For mescal production the consumption increased from 16.2 ton in 2000 to 63.36 ton in 2012; nearly 52 % of these quantities is from alive oaks, which is considered the appropriate wood for baking the agave stems in the process of mescal production.

Plant management
Nearly 82 % of all plants species recorded (636 spp.) are recognized to be under interventions by humans or foraged by domestic animals (Appendix); 424 of them are managed through at least two different practice types and 401 species are under practices directed to maintain or increase their availability.

Gathering is the most common practice for obtaining products of native plants and it is the only practice for 83 species (Table 3). This practice was documented among wild and introduced species, some of which have become naturalized (Appendix). We recorded 251 native and introduced species having special protection (Table 3). In homegardens and agricultural fields protection comprises actions like irrigation, exclusion from herbivorous and competitors, nursing, adding of livestock manure, protection against frost, weeding, pruning, and providing or removing shade. In communal lands, protection of native plants is conducted by avoiding pastoral routes in sites where people know valuable plants occur. Also, the Communitarian Assembly construct regulations for protecting some species, based on principles of favoring direct consumption by local people, forbidding extraction for commercialization and cutting of alive trees. However these regulations as practices directed to prevent unnecessary damage not always are followed.

In total, 206 species are tolerated during clearing vegetation in homegardens and agricultural fields. The main reason is its utility, but 23 species that are not used are tolerated since people said that “plants could be useful in the future”, and “do not interfere with the development of other plants” or because “plants have the right to live” and “are part of nature”. Propagation of 155 species is carried out by seeds, bulbs, corms, rhizomes, tubers, pseudo-bulbs, bulbils, plantlets, shoots, cladoles and sticks; 33 of them are native wild species used mainly as ornamental. Complete individuals of 139 species are transplanted, 71 of them

| Management practice | Native | Introduced | Total |
|---------------------|--------|------------|-------|
| Gathering           | 281    | 18         | 299   |
| Foraging            | 223    | 20         | 243   |
| Tolerance           | 152    | 54         | 206   |
| Protection          | 91     | 160        | 251   |
| Trasplanting        | 71     | 68         | 139   |
| Uproot              | 63     | 13         | 76    |
| Propagation         | 33     | 122        | 155   |
| Enhancement         | 9      | 25         | 34    |
| Unknown             | 143    | 1          | 144   |

Data according to 62 people interviewed in 130 work sessions
from wild populations in forests to homegardens and agricultural fields. Occasionally, some epiphytic bromeliads and orchid species are relocated from one branch or tree to other, when their host’s branches are cutting to allow their survival.

The abundance of 26 species or some variants is promoted by tolerating them until seed production, and in some cases seeds are collected, stored and then sown or dispersed; 76 species (63 of them native) are constantly uprooted in agricultural fields and homegardens (Table 3), some of them are also under practices to maintain them and ensure their availability.

**Biocultural importance**

**Fodder**

Variation in biocultural importance of 238 fodder native species is mainly explained by management type and number of uses (38 % of variation in the first principal component), and cognitive prominence and consumption (22 % of variation in the second principal component; Table 4). Species with the highest biocultural importance (blue circle in Fig. 5a) are subject to several management practices, but its use as fodder is low with the exception of *Quercus liebmannii* whose acorns are gathered and stored for feeding pigs, and inflorescences of *Agave* spp. that are occasionally consumed by cattle. *Simsia lagascaeformis* and *Tithonia tubaeformis* (pink circle in Fig. 5a) are the species with highest cognitive value, and are tolerated in homegardens or agricultural fields, where these are also uprooted to control their abundance. Similar situation occurs with *Amaranthus hybridus, Mirabilis xalapa, Sicyos laciniatus* and grass species (green circle in Fig. 5a).

Legumes, oak acorns, herb species and grasses are the main fodder for cattle, goats and sheep. Management practices to ensure their availability are poor or absent (orange and brown circles in Fig. 5a). *Tillandsia gymno-botrya* and *Hechtia oaxacana* are highly valued as fodder, substituting maize stubble (green circle in Fig. 5a). Shepherds drop the epiphytic plants for cattle and goats, and nearly 30 % of households gather and carry them to town for feeding donkeys and horses, extracting 800 to 1920 individuals per year.

**Ornamental plants**

Biocultural importance of 160 native ornamental plants is explained mainly by their management complexity and number of uses (40 % of the variation explained by the first principal component), and ecological importance and management (25 % of variation explained by the second principal component) (Table 4). The most important plant species (*Brahea dulcis, Juniperus flaccida, Quercus liebmannii, Morus celtidifolia* and *Agave potatorum*), with exception of *Morus celtidifolia* are considered “luxury of the mountain”, all of them are highly valued because of their multiple uses, and have high ecological importance (blue circle in Fig. 5b).

Oaks, grasses and numerous plant species producing beautiful flowers are appreciated to embellish the wilderness and some of them are maintained for this appraisal on agricultural fields or protected against livestock, as it is the case of the terrestrial orchids (*Crytopodium macrobulbon* and *Govenia lagenophora*), among others (brown circle in Fig. 5b).

Some valuable “luxury of the mountain” plants, are carried to homegardens; for instance, *Euchile karwinskii*, several spherical and barrel cacti species (*Mammillaria* spp., *Corysthantha retusa*, and *Ferocactus* spp.), Crassulaceae species, *Tillandsia* spp., among others. These plants are propagated and maintained for embellishing the house and 42 species are used for ceremonial purposes too (green circle in Fig. 5b).

**Medicinal plants**

The biocultural importance of the 166 native medicinal plant species is explained mainly by their complexity and site of management, and their cognitive prominence in the first principal component (43 % of variation). Number of uses, ecological importance, consumption and cognitive importance are important in the second principal component (29 % of variation) (Table 4). In general, native plants with the highest biocultural importance like

| Table 4 Contribution of socio- ecological factors to explain the variation of native plant species biocultural importance |
|---------------------------------|-----------------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Use type                        | Fodder          | Ornamental    | Medicinal      | Edible          | Ceremonial      | Firewood        |
| Factor                          | PC1  | PC2  | PC1  | PC2  | PC1  | PC2  | PC1  | PC2  | PC1  | PC2  | PC1  | PC2  |
| Cognitive importance            | -0.09 | 0.78 | 0.55 | 0.31 | 0.72 | -0.58 | 0.44 | -0.18 | 0.54 | 0.24 | 0.69 | -0.17 |
| Consumption                     | 0.04 | 0.77 | 0.55 | 0.12 | 0.63 | -0.64 | 0.39 | -0.32 | 0.35 | -0.63 | 0.33 | 0.67 |
| Number of uses                  | 0.76 | 0.16 | 0.74 | 0.47 | 0.52 | 0.69 | 0.47 | 0.73 | 0.65 | 0.61 | 0.75 | 0.29 |
| Ecological importance           | 0.48 | 0.21 | 0.53 | 0.52 | 0.31 | 0.65 | 0.32 | 0.82 | 0.51 | 0.68 | 0.61 | 0.57 |
| Management complexity           | 0.93 | -0.01 | 0.81 | -0.52 | 0.82 | 0.33 | 0.93 | -0.13 | 0.89 | -0.29 | 0.9 | -0.24 |
| Management site                 | 0.76 | -0.22 | 0.59 | -0.76 | 0.8 | -0.01 | 0.78 | -0.36 | 0.69 | -0.58 | 0.69 | -0.66 |

Data are correlation values between variables and the first two components of Principal Components Analysis PCAs. Values in bold have high influence in principal components, therefore in the classification of biocultural importance too.
**Lippia oaxacana**, **Ageratina mairetiana**, **Grindelia inuloides** and **Clinopodium mexicanum** have few uses, high cognitive prominence and low ecological importance (orange circle in Fig. 5c). These plants are mainly gathered and stored to ensure their availability when it could be necessary. Some people have propagated these plants but said that “they are experimenting” but “quality of plants growing in nature is better than the cultivated ones”.

There is another group of plants like **Agave spp.**, **Juniperus flaccida** and **Brahea dulcis**, which have high ecological importance, are subject to complex management and used with numerous purposes, and occasionally used as medicine (blue circle in Fig. 5c). The rest of the species (green circle in Fig. 5c) are occasionally consumed, collected when they are needed, and some of them are also valued for other types of use.

**Edible**

Principal components analysis shows that biocultural importance of the 72 native plants is explained mainly...
by management practices complexity and management site (ex situ or in situ) in the first principal component (36 % of variation), and ecological importance and number of uses in the second principal component (25 % of variation) (Table 4). Native plants with higher biocultural importance are those with greater management complexity, consumed by more families and have few uses, regardless of their ecological importance (brown circle in Fig. 5d).

One of the most important plant species is Capsicum annuum, consumed by all households, mainly getting it by interchange, but it is also cultivated in homegardens but the wild variety is rarely gathered. Species like Porophyllum ruderae, Porophyllum linaria, Amaranthus hybridus, Opuntia lasianantha, and Dysphania ambrosiodes are consumed by nearly all households and their contribution to diet is greatly important. For instance, the green Amaranthus hybridus is consumed on average 14.4 ± 2.4 times per year from June to September, almost always together with Porophyllum linaria; Dysphania ambrosiodes is cooked with beans and consumed every day by all households. These species are subject to management in agricultural fields and cultivated in homegardens to ensure their availability and to have them close and in case of scarcity are getting in the stores. Physalis philadelphica is consumed in sauces almost always raw to allow its seeds to germinate after dispersed when washing dishes in homegardens, where plants of this species are tolerated, transplanted and protected.

Other species are obtained by gathering (blue circle in Fig. 5d). Some of the most valuable (e.g. Dasylirion serratifolium and Peperomia quadrifolia) are consumed by nearly all households and commonly are shared with relatives, especially elders who are unable to get them by themselves. Some people have tried to propagate them in homegardens but they said that their experiments were unsuccessful because they obtain low production, it was difficult to maintain them, and require long time to harvest their products. Agave species are grouped (green circle in Fig. 5d), have high biocultural values, are intensely managed, abundant and highly valued for multiple purposes, although the consumption of its flowers as food is currently uncommon.

**Ceremonial plants**
Variation in biocultural importance of the 73 native species is mainly explained by management complexity and number of uses in the first principal component (40 % of variation), ecological importance, consumption and number of uses (28 % of variation explained by the second principal component; Table 4). The species with the highest biocultural value were those more intensely managed and valued for other uses (orange circles in Fig. 5e), for instance oaks that are part of the game of “El palo” played in the celebration of the Day of the Dead, when teams of young men go to the forest to cut whole dead trees and carry them on to the town to be fired in front of the church. Other examples are Brahea dulcis leaves, which are used to weave shoes for deceased people and Juniperus flaccida whose resin is used when Bursera resin is scarce or unavailable.

The most cognitively salient species are appreciated for their flowers smell and beauty (green circle in Fig. 5e), which receive management practices and are extensively used regardless of their low ecological importance. In the extraction of orchid flowers people take care of leaving some bulbs, and after their ceremonial use, their bulbs are transplanted in homegardens as it occurs in the case of Euchile karwinskii. Laelia albida is cultivated in 65 % of homegardens and Laelia anceps in 35 % of them, this management is motivated by the appreciation of their beauty and scarcity in forests. Resin of Bursera biflora is particularly appreciated and used in a high number of rituals, this tree species is protected in situ, cannot be tamed or even damaged for extracting its resin and most people use only the resin of those trees naturally injured by insects located in warm lands to assure the resin quality (Fig. 3). Other species like Chiococca alba, Rhynchochete maculata and Epidendrum radiofrensen are highly valued and frequently used species but rarely transplanted into homegardens, in part because people consider they are abundant, but in part because of the difficulties for their propagation. Some species are used to embellish the “Nativity scenes” (Mammillaria spp., Cactopsis compacta, Tillandsia spp.) are transplanted in homegardens after their use (brown circle in Fig. 5e). Most of ceremonial species are only gathered as it is the case of Lamonrouxia dasyantha (blue circle in Fig. 5e) and in many cases are shared with relatives, especially old people.

**Firewood**
Principal components analysis shows that biocultural importance of plants used as firewood is mainly explained by the complexity of their management in the first principal component (47 % of variation), and consumption and ecological importance in the second component (23 % of variation) (Table 4). Species used as firewood with the highest biocultural importance are oaks Quercus spp. (orange circle in Fig. 5f), which are consumed by all households, and have the highest cognitive prominence. Oaks are tolerated and protected in agricultural fields, and sometimes people transplanted and take care of them in their houses as ornamental plants. In this group, Agave salmiana subsp. tehuacanensis is valued as good firewood, but its use is uncommon since people prefer to use its dry stalk for house construction. Two important species used as firewood are Brahea dulcis and Juniperus flaccida, which are intensely managed in agricultural fields and homegardens, have high ecological importance, are
frequently used, and are highly culturally valued because of their multiple uses (brown circle in Fig. 5f).

The remaining species receive poor management (green and blue circles in Fig. 5f) and differ in their consumption, cognitive prominence and ecological importance. Some of these species have high biocultural value (Quercus urbanii, Quercus castanea, Quercus conspersa, Rhus chondroloma, Rhus standleyi, and Morus celtidifolia; green circle in Fig. 5f).

Although of the most valuable species for all interviewees are Quercus spp., Arbutus xalapensis and Juniperus flaccida, the “charges” (measurement unit which is the amount of material that a donkey is able to carry) composition highly varied among households, oaks being on average ($X = 79 \%$), the rest are at least 30 species of shrubs managed in agricultural fields and homegardens being Dodonaea viscosa, Acacia spp., Comarostaphylis polyfolia, Eysenhardtia polystachya, and Garrya ovata, among the most common species.

**Discussion and conclusions**

**Subsistence strategy**

The multiple use of resources that including a great variety of ecosystems and resources and characterizing the Ixcatec subsistence are expressions of common patterns of interactions between humans and plants found among indigenous peoples of Mesoamerica [1, 3, 39, 46–49]. Such pattern is particularly important in a region like the Tehuacan Valley where the scarcity and uncertainty of rainfall and agricultural yield are also characteristic [17, 33, 39, 50]. Interchange of natural resources in the regional markets for obtaining staple food and other goods is clearly a strategy to face problems of availability of resources since pre-Columbian times [51]. For instance, commercialization and barter of local products like palm leaves, hats, mescal, and domestic animals, is a common strategy in numerous Mesoamerican communities [52–54] and many rural regions in the world to deal with the uncertainty [55].

Other activities like commerce and income subsidized by governmental programs, are part of the process of adaptation that may contribute to face eventual environmental and social adversities, similarly as recently documented among Mayan communities in southern Mexico [53]. The assistance support programmes from Government are progressively more important in the local subsistence strategies, but also, these programmes represent risks for the systems of management of natural resources, as it has been documented for programmes supporting agriculture, which promote the removal of trees and shrubs in agricultural land, thus affecting the maintenance of agroforestry systems [8, 21]. Seasonal employments allow solving some problems [17], but also these may cause the regardless or abandonment of traditional activities, the loss of TEK and, in some cases, the abandonment of the community.

**Management diversity**

The widely management practices set and other cultural and social strategies documented have allowed to maintain plant species that sustain the multiuse subsistence strategies as it has been reported at regional level [11, 56, 57].

At regional level, gathering and foraging of plant resources by humans and their domestic animals are the most common and simple form of interaction between social and ecological systems [56], but for most useful species recorded people carry out practices directed to maintain and ensure their future availability [11], and a broad variety of strategies are being carried out for such a purpose [17]. These general trends were observed in Santa María Ixcatlán, is practiced in an even higher percentage of plant species (nearly 65 %), which is an expression of the particularly deep of TEK developed by the Ixcatec.

Management practices such as tolerance, enhancing, protection and cultivation (by sowing, planting or transplanting) look for ensuring availability of plant resources and controlling its uncertainty, are primary mechanism in the domestication process for some species [10, 58]. It has allowed through selection of particular individual (phenotypes) and germplasm to start cultivation, maintaining and continuing processes of domestication. These processes were evident in the staple crops, as well as in wild and semi-domesticated Physalis philadelphica, Tagetes erecta and Cosmos bipinnatus in which selection to satisfy particular flavours, colours, and size, among others characteristics is carried out by people.

The socio-cultural strategies documented in all types of use as it is the mobility in resource gathering of valuable species, the diversification of resources to satisfy a need, and the substitution of one species with another or with other materials, have been recognized as buffer mechanisms to uncertainty [17, 59]. Other important strategies based on social interactions as was the interchange of plants as gifts and interchange of information about management techniques, allow important diffusion of experiences among households and communities and are important mechanisms of social cohesion, an important issue to maintain traditional institutions [17, 60]. Strategies associated to governance as it is the case of regulations are being effective for conserving some species. This is for instance the case of Litsea glaucescens and several oak species Quercus spp., whose populations are conserved in Ixcatlán through local regulations that only allow the extraction for direct consumption by households, but in other villages of the region have been severely affected and became extinct [15, 16]. However, in other species regulations have been ineffective for controlling new intensities of extraction required because of socio-economic needs. This is clearly the case of Agave potatorum in which the increasing demand of mescal has been for the moment higher than the capacity for collective regulations and technical responses.
Other interactions like removal (uprooting), opposed to maintenance, shows the complexity of interactions between humans and plants and the importance of detailed knowledge that people may have to take into account to make a decision based on the balance of the negative effects and utility that these species could provide [15]. For instance, in some cases like *Thitonia tubaeiformis, Amaranthus hybridus* and other weeds, which are valuable plants, people control its abundance inside of the agricultural field at begging the cycle in order to prevent competition with maize, but at the same time protect them in the borders to prevent fodder scarcity just in case that maize straw become scarce or to ensure the availability of greens.

The management practices have involved the transformation of ecosystems through intentional or incidental changes in the composition and structure of vegetation, the modification of relief, hydrological systems and biogeochemical processes in soils [61]. Concrete examples of this process are the creation and maintaining of secondary vegetation as induced grasslands and palm scrubland, changes in vegetation structure in forest zones where grazing routes are, erosive process in current and abandoned agricultural fields, and engineering works to retain soil and water for agriculture and livestock (Figs. 1, 2 and 3). Homegardens, crop fields and pasturelands distributed in the three types of environments recognized by the Ixcatec within their territory (Fig. 3), have originated a great variety of landscape units where management of wild and domesticated plant species take place, conforming forest, agroforestry, agro-silvo pastoral, and silvo-pastoral systems [62, 63]. In these systems people maintain a high level of biodiversity; for instance, on average people of Ixcatlán maintain 29 woody native species in their agricultural plots [22]. These systems are biocultural expressions and areas continually generating new biocultural diversity through also continual observation and experimenting management techniques [8, 64]. In the palm scrublands, for instance, which are highly important for the Ixcatec, people have shaped their conformation managing *Brahea dulcis* in order to increase its availability in agricultural and fallow plots, as well as in homegardens. This practice has happened most probably since pre-Columbian times, since this species is important for Ixcatec people [51, 52].

The role of plant species in the Ixcatec subsistence and in the interactions of humans to conserve plant resources may define particularities of their own culture [3, 65]. Management of some plant species is closely related with the form of preparation of food stoves, as it was described for *Physalis philadelphica*. Relation of the Ixcatec with the palm *Brahea dulcis* is particularly significant, this species is part of almost all activities in their daily life, and it has been considered as an indissoluble element of Ixcatec culture [32, 33, 51, 52, 66, 67].

The high levels of diversity and interactions documented in Ixcatlán compared with the regional flora (30 % of the total regional flora, 36 % of all useful plants recorded in the region, and 66 % of managed species identified in the Tehuacán Valley) [11, 24, 25], confirm the importance of the Ixcatec biocultural heritage and the character of the Tehuacan Valley as a priority biocultural region of Mexico [3].

Our research and sampling effort is one of the highest carried out by ethnobotanical studies in the Tehuacán Valley [11, 15–17, 56, 68–71]. This fact confirms that it is still needed continuing efforts to documenting TEK, biocultural processes of diversification and their connection with management innovation and domestication. In this region, archaeological records in caves has been source of information about biocultural construction since prehistory, whereas local studies should continue documenting one of the areas with highest richness of ethnobotanical knowledge of Mexico and a place where ongoing processes for sustainable resource management and local processes of domestication are taking place.

**Biocultural importance**

The integration of socio-cultural and ecological variables for understanding the importance of plant species, follows the proposal by Castaneda and Stepp [72] for estimating ethnobotanical importance. Our evaluation found that variables associated to management complexity are in general those more contributing to explain the variation in the first principal component of the six use categories analysed. This fact suggests that management is representative of the socio-ecological factors interacting and mutually influencing their properties [73]. In other words, studying management of natural resources is a good methodological basis for understanding socio-ecological systems and construction of biocultural heritage.

*Brahea dulcis, Juniperus flaccida*, and *Agave salmiana* subsp. *tehuacanensis* have particularly high biocultural importance values in almost all use types analysed. This fact is because of their multipurpose use, their cultural and ecological importance and their intensive management. The positive relation between cultural and ecological importance might be explained through the hypothesis of ecological appearance [18, 74, 75], but we rather propose that the ecological importance currently observed is in part a result of ancient ecosystem management directed to increase their availability. The high resistance to disturbance, reproductive capacity of these species, among other ecological factors have favoured the enhancing of their abundance.

The relation between ecological and cultural importance varied in the different use types analysed. Among plants used as ceremonial and medicinal, the species with higher cognitive prominence and consumption have low availability, and their management is mainly through
socio-cultural strategies, directed to ensure their availability, as the harvest technics to ensure their survival after the harvest, but not necessarily are directed to increase their abundance.

The number of uses was an important factor in edible, medicinal, fodder, ceremonial and ornamental plants; however, among medicinal plants, the species with higher cognitive prominence were those with few uses, in other words their properties determining them specialized medicinal plants, which is apparently related with their quality as resource [76].

Highly cognitive valued species not always are the most consumed or managed. For instance, species highly valued as ceremonial, like orchids have a low consumption because the difficulty to obtain them or be manipulated to increase their availability. These results and those found by several authors studying factors influencing management of edible plants [15, 77, 78], indicate that management motives may be variable not only related with cultural importance and scarcity, which suggests the importance of continuing research in this line.

Conclusion
Management factors and motives
A case that allows observing how people dynamically construct processes of decision making about management is Agave potatorum, in which the perception of risk of disappearing of the resource is the main factor detonating management actions, as documented for other plant resources of the Tehuacán Valley [15]. The strategies developed depend on TEK of both species and ecosystems [17], but there are external factors influencing experimenting innovation in management actions, as illustrated in the cases of several species of Agave [40, 79], in which markets have influenced increasing of extraction and pressures on agave populations and new management techniques [16, 17, 40]. This case illustrates that crises detonate innovation, activating processes of experimenting, monitoring, adapting, testing and interchanging local and external experiences, as well as enhancing processes of social organization, collaboration with governmental and academic sectors, learning and adaptation, in which the communitarian platforms of dialogue are crucial for facing risks and uncertainty [80, 81].

In other cases, the uncertainty in the availability of highly valued resources are motives for managing other species with redundant use and are able to substitute particular desirable resources, as are the cases of Tithonia tubaeformis and Simsia lagascaeformis whose abundance is promoted in controlled ways before the uncertainty of the main fodder of the study area (maize stubble). Such a complex decision making has important consequences in households’ economy [82] and biodiversity conservation in agroforestry systems [21, 22, 83].

Uncertainty operates associated to several factors, and ensuring the products quality is another management motive. People prefer consuming their own crops, which are considered of better quality over those commercialized in stores. Practices to assure the quality not are exclusively on crop plants, others like Bursera biflora have specialized resin extraction techniques that take advantage of natural processes assuring the resin quality avoiding injure the trees, instead of cutting trunks, a common practice in other localities [84]. Moreover, the perception of quality loss discourages ex situ management, in addition to energy investment and difficulties involved in maintaining these species outside their environments, as was noted in Bursera biflora and medicinal plants.

The aesthetical sense, expressed by people that consider that plants embellish the spaces where they occur, as Cook noted [33] in mid 20th century, appears to be an important motive that determining the permanence of numerous native species in homegardens and crop fields as forests conservation. This motive has been reported by other authors in agroforestry systems of the region [21, 22], and our study suggests its high importance because of the high number of species considered as house or “mountain luxury”, which receive some type of management practices.

Ethical principles like the fact that people recognize that plants are living beings with a right to exist, that plants should not be damaged because of whim, are ethical principles that motive management practices as tolerance. Also the including of several species in belief systems and matching cycles of plant management with the rituals calendar, suggest that although the Ixcatec kosmos is permeated by Catholic thinking, it maintains features with other Mesoamerican views of the world reported by other authors [20, 85].

Curiosity was mentioned to be involved in all management practices in response to motives such as uncertainty in plant resources’ availability or aesthetical needs. It enhances testing new techniques or new species or be persistent when reproductive requirements make difficult the plants propagation.

Deepen the study of motivations and socio-economic and cultural factors that influence plant management allow understanding the processes of decision making construction and biocultural legacy. Such studies could provide unique opportunities for strengthening conservation strategies of sustainable forms of management of resources and ecosystems.

Appendix
Plant species of Santa María Ixcatlán. Species, number of uses, management, socio-cultural and ecological aspects; rarefaction curves of S Index, Ixcatec participants details, and botanical experts.
**Table 5** Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = $ Sutrop relative prominence index$^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations

| ID | Family       | Specie                                           | Voucher number | Common name            | Number of uses | Consumption by use (Households %) | Fodder Sutrop Index value | PC value | Ornamental Sutrop Index value | PC value | Medicinal Sutrop Index value | PC value |
|----|--------------|--------------------------------------------------|----------------|------------------------|----------------|----------------------------------|---------------------------|----------|-------------------------------|----------|-------------------------------|----------|
| 1  | Acanthaceae  | Carlowrightia neesiana (Schauer ex Nees) T.F.Daniel | SRL-1385       | 0                      | 0              | 0                                | 0                         | 0        | 0                             | 0        | 0                             | 0        |
| 2  | Acanthaceae  | Justicia candidans (Nees) L.D.Benson              | SRL-1395       | 0                      | 0              | 0                                | 0                         | 0        | 0                             | 0        | 0                             | 0        |
| 3  | Acanthaceae  | Justicia gonzalezii (Greenm.) Henr. & Hiriart      | SRL-1333, SRL-1362 | 0              | 0              | 0                                | 0                         | 0        | 0                             | 0        | 0                             | 0        |
| 4  | Acanthaceae  | Justicia spicigera Schltdl                        | SRL-92, SRL-188, ERL-41, ERL-58, ERL-216, ERL-224 | Tintonil        | 1              | 0                                | 0                         | 0        | 0                             | 0.0101   | 0                             | 0        |
| 5  | Acanthaceae  | Ruellia lactea Cav.                               | Photo record   | 0                      | 0              | 0                                | 0                         | 0        | 0                             | 0        | 0                             | 0        |
| 20 | Aizoaceae    | Aptenia cordifolia (L.f.) Schwantes               | ERL-46         | 1                      | 0.0207         | 1.4999                          | 0                         | 0        | 0                             | 0        | 0                             | 0        |
| 21 | Aizoaceae    | Carpobrotus sp.                                   | Photo record   | 1                      | 0              | 0                                | 0                         | 0        | 0                             | 0        | 0                             | 0        |
| 22 | Aizoaceae    | Mesembryanthemum sp.                              | ERL-213        | 1                      | 0              | 0                                | 0                         | 0        | 0                             | 0        | 0                             | 0        |
| 28 | Alstromeriaceae | Bomarea hirtella (Kunth) Herb.                          | RLF-290       | 0                      | 0              | 0                                | 0                         | 0        | 0                             | 0        | 0                             | 0        |
| 29 | Amaranthaceae | Alternanthera caracasana Kunth                      | ERL-21, SRL-93 | Maravilla              | 2              | 0                                | 0                         | 0        | 0                             | 0        | 0                             | 0        |
| 30 | Amaranthaceae | Amaranthus hybridus L.                            | SRL-79, SRL-80, SRL-1122, SRL-1141, ERL-74, ERL-102 | Quelite tintonil | 3              | 0.0207                          | 1.4999                    | 0        | 0                             | 0        | 0                             | 0.6125   |
| 31 | Amaranthaceae | Beta vulgaris L.                                   | Photo record   | Betabel, acelga        | 1              | 0                                | 0                         | 0        | 0                             | 0        | 0                             | 0        |
| 33 | Amaranthaceae | Celosia argentea L.                                | Photo record   | Moco de pavo           | 2              | 0                                | 0                         | 0        | 0                             | 0        | 0                             | 0        |
| 34 | Amaranthaceae | Gomphrena serrata L.                               | RLF-60, RLF-242, SRL-90, SRL-378, SRL-1175 | Gallitos       | 2              | 0                                | 0                         | 0        | 0                             | 0        | 0                             | 0.6606   |
| 35 | Amaranthaceae | Iresine schaffneri S.Watson                       | RLF-320        | 1                      | 0              | 0                                | 0                         | 0        | 0                             | 0        | 0                             | 0        |
| 36 | Amaranthaceae | Iresine sp.                                       | SRL-1488       | 0                      | 0              | 0                                | 0                         | 0        | 0                             | 0        | 0                             | 0        |
| 26 | Amaryllidaceae | Agapanthus africanus (L.) Hoffmanns.               | Photo record   | Pando morado           | 2              | 0.0016                          | 0                         | 0        | 0                             | 0        | 0                             | 0        |
| 23 | Amaryllidaceae | Allium cepa L.                                     | ERL-177        | Cebolla                | 1              | 0                                | 0                         | 0        | 0                             | 0        | 0                             | 0        |
| 24 | Amaryllidaceae | Allium sativum L.                                  | Photo record   | Ajo                     | 2              | 0                                | 0                         | 0        | 0                             | 0        | 0.0016                         | 0        |
| 37 | Amaryllidaceae | Crinum x powelli Hort.                             | ERL-237        | Azucena blanca         | 2              | 0                                | 0                         | 0        | 0                             | 0        | 0                             | 0        |
Table 5  | Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as S = Sutrop relative prominence index² and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental); distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

|   | Family          | Species                                      | Common Name      | Photo Record | Uses              | Percentage of Families | Sutrop Relative Prominence Index | Biocultural Importance Value | Distribution on Vegetal Types | Importance Ecological Index Value | Specie Origin Region | Ecological Status | Management Practices | Management Site | Wild Populations |
|---|-----------------|----------------------------------------------|-------------------|--------------|-------------------|-------------------------|---------------------------------|---------------------------------|-----------------------------|-------------------------------|-------------------|----------------|-------------------|----------------|----------------|
Table 5 Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = Sutrop$ relative prominence index$^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental); distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| No. | Family          | Species                  | Spanish common names   | Number of uses | Percentage of families consuming it | Cognitive prominence values | Biocultural importance values | Distribution on vegetal types | Importance ecological index value (EIVI) | Specie origin region | Ecological status | Management practices and management site with respect to species wild populations |
|-----|-----------------|--------------------------|------------------------|----------------|-------------------------------------|-----------------------------|-------------------------------|-----------------------------------|------------------------------------------|----------------------|------------------|---------------------------------------------------------------|
| 75  | Apocynaceae     | Asclepias curassavica L. | ERL-242                | 1              | Ornamental = 6                      | 0                           | 0                             | 0.0738                            | 0                         |                      |                                                               |
| 76  | Apocynaceae     | Asclepias linaria Cav.   | RLF-35, SRL-131        | 1              | Romero cimarrón                     | 0                           | 0                             | -2.1063                           | 0                         |                      |                                                               |
| 64  | Apocynaceae     | Cascabela thevetia (L.)  | SRL-1336               | 1              |                                     | 0                           | 0                             | -1.0487                           | 0                         |                      |                                                               |
| 78  | Apocynaceae     | Funastrum elegans (Decne.) Schltr. | SRL-443, SRL-1153, SRL-1544 | 1              | Ornamental = 6                      | 0                           | 0                             | 0                                 | 0                         |                      |                                                               |
| 79  | Apocynaceae     | Huernia macrocarpa Schwesin. ex K.Schum. | Photo record | Ornamental = 6                      | 0                           | 0                             | 0                                 | 0                         |                      |                                                               |
| 77  | Apocynaceae     | Matelea purpululis Woodson | SRL-1123               | 2              | Ornamental = 35                       | 0                           | 0                             | 0.0148                            | 0.087                      |                      |                                                               |
| 80  | Apocynaceae     | Metastelma sp.           | RLF-321                | 2              | Ornamental = 12                       | 0                           | 0                             | 0.0156                            | 1.0147                     |                      |                                                               |
| 62  | Apocynaceae     | Nerium oleander L.       | ERL-103, ERL-123, SRL-178 | 2              | Ornamental = 35, ceremonial = 14     | 0                           | 0                             | 0                                 | 0                         |                      |                                                               |
| 81  | Apocynaceae     | Plumeria rubra L.        | Photo record           | Ornamental = 12                       | 0                           | 0                             | 0.0252                            | 0                         |                      |                                                               |
| 65  | Araceae         | Zantedeschia aethiopica (L.) Spreng. | SRL-220, ERL-203       | 1              | Ornamental = 53                       | 0                           | 0                             | 0                                 | 0                         |                      |                                                               |
| 66  | Araliaceae      | Aralia humilis Cav.      | SRL-1482, SRL-1507     | 3              | Ornamental = 6                       | 0                           | 0                             | -0.3989                           | 0                         |                      |                                                               |
| 67  | Araliaceae      | Schefflera sp.           | Photo record           | Ornamental = 6                       | 0                           | 0                             | 0                                 | 0                         |                      |                                                               |
| 68  | Arecaceae       | Brahea dulcis (Kunth) Mart.  | RLF-155, RLF-191,SRL-462, SRL-463, SRL-1192, SRL-1193 | 11             | Ornamental = 35, ceremonial = 1, firewood = 100, Ornamental = 95 | 0.0092                       | 7.1968                         | 0.0241                            | 6.7574                     | 0.0035                            | 4.3551                  |
| 69  | Arecaceae       | Brahea dulcis x B. calcarea Mart. x Liebm. | SRL-1229               | Palma media sierra                   | 6                           | Ornamental = 95                   | 0                           | 0.0049                            | 0.1754                     | 0                     |                                                               |
| 70  | Arecaceae       | Brahea calcarea Liebm.   | SRL-219, SRL-461, SRL-1194 | Palma blanca             | 4                           | Ornamental = 18, ceremonial = 1   | 0                           | 0.0042                            | 0.8205                     | 0                     |                                                               |
| 71  | Arecaceae       | Phoenix canariensis Chabaud | Photo record           | Ornamental = 18, ceremonial = 1   | 0                           | 0                             | 0                                 | 0                         |                      |                                                               |
| 72  | Arecaceae       | Washingtonia filifera (Linden ex André) H.Wendl. ex de Bary | Photo record           | Ornamental = 12                       | 0                           | 0                             | 0                                 | 0                         |                      |                                                               |
| 73  | Arecaceae       |                           | ERL-50                 | Palmera                             | 1                           | Ornamental = 6                   | 0                           | 0                                 | 0                         | 0                     |                                                               |
| 74  | Aristolochiaceae| Aristolochia teretiflora Pfeifer | SRL-1130              | Orejita de ratón                     | 2                           | Ornamental = 47, 18 = 30          | 0                           | 0                                 | 0.0123 -0.364               | 0                     |                                                               |
| 6   | Asparagaceae    | Agave americana L.       | Photo record           | Maguey de pulque, Maguey de listón | 4                           | Ornamental = 47, 18 = 30          | 0                           | 0                                 | 0.0038                     | 0                     |                                                               |
| 9   | Asparagaceae    | Agave appplanata Lem. ex Jacobi | Photo record           | Maguey cenizo                     | 1                           | Ornamental = 47, 18 = 30          | 0                           | 0                                 | 0                         | 0                     |                                                               |
Table 5 Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = Sutrop$ relative prominence index$^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental); distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| 10  | Asparagaceae | Asparagaceae | Agave kerchovei Lem. | Photo record | Maguey rabo de león | Edible = 20 | 0.0020 | -0.2532 | 0 | 0 |
| 11  | Asparagaceae | Asparagaceae | Agave potatorum Zucc. | RLF-285, SRL-403, SRL-1209 | Maguey papalomé | Fodder = 5, medicinal = 29, edible = 25, 18 = 20 | 0.0068 | 6.6941 | 0.046 | 5.3787 | 0.0388 | 5.4489 |
| 12  | Asparagaceae | Asparagaceae | Agave salmiana Otto ex Salm-Dyck subsp. tehuacanensis (Karw. ex Salm-Dyck) Garcia-Mend. | Photo record | Maguey cimarrón | Ornamental = 12 | 0.0022 | 6.3299 | 0.0098 | 3.672 | 0.0085 | 4.315 |
| 13  | Asparagaceae | Asparagaceae | Agave scaposa Gentry | Photo record | Maguey potro | 0 | 0 | 0 | 0.0074 | 2.0018 |
| 14  | Asparagaceae | Asparagaceae | Agave stricta Salm-Dyck | SRL-1520 | 1 | 0 | 0 | -0.0825 | 0 |
| 15  | Asparagaceae | Asparagaceae | Agave titanota Gentry | SRL-404 | Maguey teso | 0 | -0.6097 | 0 | 0 |
| 16  | Asparagaceae | Asparagaceae | Agave triangularis Jacobi | SRL-437 | Maguey rabo de león, maguey teso | 0 | -0.2987 | 0 | 0 |
| 17  | Asparagaceae | Asparagaceae | Agave tequilana F.A.C. Webe | Photo record | Agave azul | Ornamental = 6 | 0 | 0 | 0 |
| 18  | Asparagaceae | Asparagaceae | Agave vivipara L. | SRL-235, SRL-1353, SRL-1389 | Maguey espadín | Ornamental = 6 | 0 | 0.0147 | 1.6977 | 0.0021 | 2.4585 |
| 533 | Asparagaceae | Beaucarnea stricta Lem. | RLF-149 | Sotol | Ceremonial = 1 | 0 | 0 | 0 |
| 534 | Asparagaceae | Dasylirion serratifolium (Karw. ex Schult. & Schult.f.) Zucc. | SRL-156, SRL-420, SRL-1473, SRL-1521 | Cucharilla, manita | Edible = 95, ceremonial = 5 | 0.0019 | 0.3359 | 0 | 0 |
| 50  | Asparagaceae | Echeandia paniculata Rose | SRL-442, SRL-1114 | Cebolla de cacalote | 0 | 0 | 0 | -0.6167 |
| 51  | Asparagaceae | Echeandia sp. | SRL-319 | Pasto | 0 | -1.0765 | 0 | 0 |
| 25  | Asparagaceae | Milla biflora Cav. | SRL-1537 | Huelo de noche | 0 | 0 | 0 |
| 555 | Asparagaceae | Nolina longifolia (Karw. ex Schult. & Schult.f.) Hemsl. | SRL-228 | Sotol | 0 | 0 | 0 |
| 19  | Asparagaceae | Yucca periculosa Baker | SRL-1505 | Tohuizote | 0 | 0 | 0 |
| 18  | Asparagaceae | Yucca gigantea Lem. | SRL-1532 | Huizote, pita, tehuizote | Ornamental = 12 | 0 | 0 | 0 |
| 215 | Balsaminaceae | Impatiens walleriana Hook.f. | Photo record | Belén | Ornamental = 12 | 0 | 0 | 0 |
| 216 | Basellaceae | Anredera cordifolia (Ten.) Steenis | ERL-119 | | 0 | 0 | 0 |
| 217 | Berberidaceae | Berberis pallida Hartw. ex Benth. | SRL-216, SRL-217, SRL-401, SRL-1235, SRL-1399, SRL-1449 | Palo tostado | Firewood = 100 | 0 | -0.5351 | 0 | 0 |
| 218 | Berberidaceae | Berberis sp. | SRL-1428 | | 0 | 0 | 0 |
| 219 | Bignoniaceae | Jacaranda mimosifolia D.Don | ERL-226 | Jacaranda | Ornamental = 12 | 0 | 0.0074 | 0 | 0 |
Table 5: Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = Sutrop$ relative prominence index$^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial, and ornamental); distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| Species, Family | Common Name | Use Type | Number of Uses | Management Status | Management Site | Ecological Status | EIVI | Origin Region | Management Practices |
|----------------|-------------|----------|----------------|------------------|-----------------|------------------|------|---------------|---------------------|
| 220 Bignoniaceae | *Podranea ricasoliana* (Tanfani) Sprague | Ornamental | 6 | 0 | 0 | 0 | 0.013 | 0.6459 | 0 |
| 221 Bignoniaceae | *Tecoma stans* (L.) Juss. ex Kunth | Tronadora | 2 | 0 | -0.3922 | 0 | 0.0317 | 0.3143 | 0 |
| 222 Boraginaceae | *Antiphytum caespitosum* I.M. Johnst. | Semonilla | 1 | Medicinal | 10 | 0 | 0 | 0.0046 | 0 |
| 223 Boraginaceae | *Borago officinalis* L. | Gordolobo | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 224 Boraginaceae | *Cardia curassavica* (Jacq.) Roem. & Schult. | Semonilla | 1 | Medicinal | 10 | 0 | 0 | 0.0046 | 0 |
| 401 Boraginaceae | *Nama dichotoma* (Ruiz & Pav.) Choisy | Semonilla | 1 | Medicinal | 10 | 0 | 0.0046 | 0.3143 | 0 |
| 402 Boraginaceae | *Nama sp.* | Semonilla | 1 | Medicinal | 10 | 0 | 0.0046 | 0.3143 | 0 |
| 403 Boraginaceae | *Wigandia urens* (Ruiz & Pav.) Kunth | Chichicasle de tierra caliente | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225 Brassicaceae | *Brassica oleracea* L. | Brócoli, Col | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 226 Brassicaceae | *Brassica rapa* L. | Mostaza | 2 | 0.0065 | 0 | 0 | 0 | 0 | 0 |
| 229 Brassicaceae | *Capsella bursa-pastoris* (L.) Medic. | Lentejilla | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 230 Brassicaceae | *Descurainia virilis* (E. Fourn.) O. E. Schulz | Mostaza | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 227 Brassicaceae | *Eruca vesicaria* (L.) Cav. | Jaramón | 2 | Fodder | 40 | 0.0323 | 0 | 0 | 0 |
| 231 Brassicaceae | *Lepidium virginicum* L. | Lentejilla | 3 | Ornamental | 35 | 0.6404 | 0 | 0.2534 | 0.0097 |
| 232 Brassicaceae | *Matthiola incana* (L.) R.Br. | Ailela | 2 | Ornamental | 18, ceremonial | 10 | 0 | 0.0042 | 0 |
| 234 Brassicaceae | *Nasturtium officinale* R.Br. | Berro | 2 | Edible | 15 | 0 | 0 | 0 | 0 |
| 233 Brassicaceae | *Raphanus sativus* L. | Rábano | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 235 Brassicaceae | *Sesuvium portulacastrum* L. | Sesuvio | 2 | Edible | 10 | 0 | 0 | 0.0014 | 0 |
| 236 Bromeliaceae | *Ananas comosus* (L.) Merr. | Piña | 2 | Edible | 10 | 0 | 0 | 0.0014 | 0 |
| 237 Bromeliaceae | *Catopsis compacta* Mez | Soluche de jarrita | 5 | Ornamental | 6, ceremonial | 22 | 0 | 1.1246 | 0 | 2.2591 |
| 238 Bromeliaceae | *Hechtia oaxacana* Burt-Utley, Utley & Garcia-Mend. | Lechugilla | 1 | Fodder | 10 | 0.0384 | -0.866 | 0 | 0 |
| 239 Bromeliaceae | *Hechtia sp.* | Lechugilla de terreno caliente | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
Table 5 Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = $ Sutrop relative prominence index and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIV); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| #  | Family            | Genus                     | Accession(s) | Use Type     | Code | Cognitive Prominence | Biocultural Importance |
|----|-------------------|---------------------------|--------------|--------------|------|----------------------|------------------------|
| 240| Bromeliaceae      | Tillandsia acrostachys     | SRL-1492     | Ceremonial   | 2    | 0                    | -0.4059                |
| 241| Bromeliaceae      | Tillandsia bourgaei Baker  | SRL-1197     | Soluche blanco | 3    | 0                    | -0.5262                |
| 242| Bromeliaceae      | Tillandsia grandis Schidt. | SRL-1472     | Jarrilla     | 3    | 0.0290               | 0.6724                 |
| 243| Bromeliaceae      | Tillandsia gymnobotrya     | SRL-1201, SRL-1435 | Soluche blanco, soluche de flor colorada | 5 | 0.0827  | 0.2377  | 0.0221  | 0.0008   | 0.2934 |
| 244| Bromeliaceae      | Tillandsia juncea (Ruiz & Pav.) | RLF-81, SRL-1246, SRL-1254 | Soluche | 3 | 0 | -0.5262 |
| 245| Bromeliaceae      | Tillandsia macedougallii   | RLF-84, SRL-224, SRL-1242, SRL-1250 | Soluche | 3 | 0 | 1.030 |
| 246| Bromeliaceae      | Tillandsia recurvata (L. L.) | SRL-211 | Soluchito | 3 | 0.0081 | -0.1783 | 0.04357 |
| 247| Bromeliaceae      | Tillandsia usneoides (L. L.) | SRL-138, SRL-1245 | Apasle | 5 | 0.0144 | 2.5721 |
| 248| Bromeliaceae      | Tillandsia sp.             | SRL-1244     | Soluche     | 2   | 0                    | 0.9401                 |
| 249| Bromeliaceae      | Tillandsia sp.             | SRL-1252     | Soluche cimarrón, soluche ixtludo | 3 | 0 | 1.0465 |
| 250| Bromeliaceae      | Tillandsia sp.             | SRL-1243     | Soluche     | 4   | 0 | 0.2635 |
| 251| Buddlejaceae      | Buddleja parviflora Kunth | ERL-197, SRL-371, SRL-1207, SRL-1522 | Lengua de vaca, tepozán | 3 | 0 | 0 |
| 252| Buddlejaceae      | Buddleja sp.               | RLF-83, SRL-30 | 1 | 0 | 0 |
| 253| Buddlejaceae      | Buddleja sp.               | SRL-118      | 0 | 0 | 0 |
| 254| Buddlejaceae      | Buddleja sp.               | RLF-218, RLF-284 | 0 | 0 | 0 |
| 255| Burseraceae       | Bursera biflora (Rose)     | RJS-11, RLF-122, SRL-1219 | Copal colorado, copal amarillo, copal criollo | 7 | 0 | 3.1524 |
| 256| Burseraceae       | Bursera fagaroides (Kunth) | SRL-349      | Copallillo   | 3   | 0.0075 | 0.0065 |
| 257| Burseraceae       | Bursera galeottiana Engl.  | RLF-323      | Cuajilote    | 0   | 0 | 0 |
| 258| Burseraceae       | Bursera moreletensis Ramirez | SRL-1345     | 0 | 0 | 0 |
| 259| Burseraceae       | Bursera pontiventris Rzed., Calderón & Medina | SRL-1271 | Copallillo blanco | 2 | 0 | 0 |
| 260| Burseraceae       | Bursera schlechtendalii Engl. | SRL-1367     | Aceitillo    | 2   | 0.0027 | 0.0065 | 0.0008 |
| 261| Burseraceae       | Bursera submoniliiformis Engl. | SRL-1341, SRL-1346 | Copallillo blanco | 0 | 0 | 0 |
| 262| Cactaceae         | Acanthocereus subinermis   | Photo record | Nopalito de cruz | 1 | 0 | 0 | 0 |

Note: All values are calculated as part of the principal component analysis.
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| #  | Family       | Scientific Name                                      | Photo record | Spanish Common Names                | Uses | Flora | EIVI Mean | Ecological Status | Management Practices | Management Site | Wild Populations |
|----|--------------|------------------------------------------------------|--------------|-------------------------------------|------|-------|-----------|-------------------|---------------------|----------------|-----------------|
| 263| Cactaceae    | Cephalocereus columna-trajani (Karv. ex Pfeiff.)     | Photo record | Cardón pachón, soldadillo           | 1    | 0     | -0.1783  | 0                 | 0                   | 0              |                |
| 264| Cactaceae    | Coryphantha retusa (Pfeiff.) Britton & Rose          | Photo record | Bizniaga                            | 1    | 0     | 0         | 0.0074 0.3458     | 0                   | 0              |                |
| 265| Cactaceae    | Escontria chiotilla (A.A.Weber ex K.Schum.) Rose     | Photo record | Jiotilla                            | 1    | 0     | 0         | 0                 | 0                   | 0              |                |
| 266| Cactaceae    | Ferocactus macrodiscus (Mart.) Britton & Rose        | SRL-402      | Bizniaga                            | 3    | 1     | 0.0161 2.7969 0.0074 0.7647 | 0                   | 0              |                |
| 267| Cactaceae    | Ferocactus recurvus (Mill.) Borg                     | SRL-1419     | Bizniaga grande                     | 3    | 1     | 0.0161 3.2785 0.0074 1.2215 | 0                   | 0              |                |
| 268| Cactaceae    | Hylocereus undatus (Haw.) Britton & Rose             | Photo record | Pitahaya                            | 2    | 0     | Ornamental 12 0 0 0 | 0                   | 0              |                |
| 270| Cactaceae    | Mammillaria carnea Zucc. ex Pfeiff.                 | SRL-387      | Biznaga                             | 0    | 0     | 0         | 0                 | 0                   | 0              |                |
| 271| Cactaceae    | Mammillaria haageana Pfeiff.                        | SRL-387, SRL-1480 | Bizniaga chiquita                  | 2    | 1     | 0.0074 0.8648 | 0                   | 0              |                |
| 272| Cactaceae    | Mammillaria sp.                                      | Photo record | Biznaga                             | 2    | 0     | 0         | 0.0074 0.6323     | 0                   | 0              |                |
| 273| Cactaceae    | Mammillaria sp.                                      | Photo record | Biznaga                             | 1    | 0     | 0         | 0.0074 1.9051     | 0                   | 0              |                |
| 274| Cactaceae    | Mammillaria sp.                                      | Photo record | Biznaga                             | 1    | 0     | 0         | 0.0074 1.7930     | 0                   | 0              |                |
| 269| Cactaceae    | Marginatocereus marginatus (DC.) Backeb.             | SRL-237      | Orégano                             | 5    | 1     | 0.0161 3.2785 0.0074 1.2215 | 0                   | 0              |                |
| 275| Cactaceae    | Opuntia depressa Rose                               | SRL-238      | Nopal de coyote                     | 3    | 0     | 0.007 0.0052 0 0.0139 -0.1499 | 0                   | 0              |                |
| 276| Cactaceae    | Opuntia ficus-indica (L.) Mill.                      | Photo record | Nopal de castilla, nopal pelón      | 2    | 0     | Edible 100 0 0 0 | 0                   | 0              |                |
| 277| Cactaceae    | Opuntia huajuapensis Bravo                          | SRL-239      | Nopal                               | 3    | 0     | 0.0072 1.1617 | 0                   | 0              |                |
| 278| Cactaceae    | Opuntia lasiacantha Pfeiff.                         | SRL-477      | Nopal pachón                        | 2    | 0     | Edible 100 0 0 0 | 0                   | 0              |                |
| 279| Cactaceae    | Opuntia sp.                                         | SRL-236      | Nopal amarillo                      | 3    | 0     | 0.0072 4.1969 | 0                   | 0              |                |
| 280| Cactaceae    | Opuntia sp.                                         | Photo record | Nopal de coyote, nopal tuna roja    | 3    | 0     | 0.0072 1.0967 | 0                   | 0              |                |
| 281| Cactaceae    | Opuntia sp.                                         | Photo record | Nopal de sacristán                  | 2    | 0     | 0.0072 1.9067 | 0                   | 0              |                |
| 282| Cactaceae    | Pachycereus weberi (J.M. Coul.) Backeb.              | Photo record | Cardón verde                        | 0    | 0     | 0         | 0                 | 0                   | 0              |                |
| 283| Cactaceae    | Pseudomitrocereus fulviceps (F.A.C.Weber ex K.Schum.) Bravo & Buxb. | SRL-1451, SRL-1501 | Cardón                             | 0    | 0     | 0         | 0                 | 0                   | 0              |                |
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| No. | Family            | Species            | Common Name           | Elevation | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | N12 | N13 | N14 | N15 | N16 | N17 | N18 | N19 | N20 |
|-----|-------------------|--------------------|-----------------------|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 284 | Cactaceae         | Cactaceae          | SRL-1452              |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 285 | Calochortaceae    | Calochortaceae     | SRL-1204              |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 286 | Campanulaceae     | Campanulaceae      | SRL-156, SRL-157      | 2          |    |    |    |    |    |    | -0.7655 |    | 1.4404 |    |    |    |    |    |    |    |    |    |    |    |
| 287 | Cannaceae         | Cannaceae          | SRL-57, ERL-43, ERL-217 | 2          | Platanillo | 2 | Ornamental = 35, ceremonial = 10 |    |    |    |    |    |    |    |    |    |    |    |    |
| 288 | Cannaceae         | Cannaceae          | SRL-1354              |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 289 | Caparaceae        | Caparaceae         | SRL-1354              |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 290 | Caprifoliaceae    | Caprifoliaceae     | RLF-28, RLF-199, SRL-1300 | 1          | Barin | 2 | Ornamental = 6 |    |    |    |    |    |    |    |    |    |    |    |    |
| 291 | Caricaeae         | Caricaeae          | SRL-41                | Ocote corriente, pino | 4 | Ornamental = 35 |    |    | 0.0588 | 0.0115 |    |    |    |    |    |    |
| 292 | Caricaceae        | Caricaceae         | SRL-1504              |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 293 | Celastraceae      | Celastraceae       | SRL-1334              |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 294 | Chenopodiaceae    | Chenopodiaceae     | SRL-1139              | Quelte de manteca, flor de huizontle | 2 | Edible = 15 |    |    | 0.0046 | -0.3023 | 0 |    |    |    |    |
| 295 | Chenopodiaceae    | Chenopodiaceae     | RLF-184, SRL-194, SRL-1121, SRL-1140, SRL-1321 | 3 | Quelte de guajolote | Fodder = 10, medicinal = 40 | 0.0054 | 0 | 0 |    |    |    |
| 296 | Chenopodiaceae    | Chenopodiaceae     | ERL-32, ERL-33, ERL-168, RLF-89, SRL-1136 | Epazote | 4 | Edible = 100 |    |    | 0.0123 | 1.3678 |    |    |    |    |
| 297 | Chenopodiaceae    | Chenopodiaceae     | SRL-1140              | Espinaca | 1 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 298 | Cistaceae         | Cistaceae          | RLF-17                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 299 | Commelinaceae     | Commelinaceae      | RLF-19, RLF-73, SRL-159 | 2 |    |    |    |    |    | -0.6240 | -1.3004 |    |    |    |    |    |
| 300 | Commelinaceae     | Commelinaceae      | SRL-48                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 301 | Commelinaceae     | Commelinaceae      | RLF-190, SRL-430      | Milpa, lengua de cucho |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 302 | Commelinaceae     | Commelinaceae      | ERL-44                | Ornamental = 6 | 1 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 303 | Commelinaceae     | Commelinaceae      | SRL-149               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | -1.0487 |
| 304 | Commelinaceae     | Commelinaceae      | RLF-15                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| #  | Family       | Species                                      | Spanish Common Names                  | Sutrop Relative Prominence Index (S) | Biocultural Importance (Component Value of PCA) |
|----|--------------|----------------------------------------------|---------------------------------------|-------------------------------------|-----------------------------------------------|
| 84 | Compositae   | Acoutria scapiformis (Bacig.) B.L.Turner     | SRL-163                               | 1                                  | 0 0 -2.1063                                   |
| 85 | Compositae   | Acoutria sp.                                 | SRL-215, SRL-1468                     | 0                                  | 0 0                                          |
| 86 | Compositae   | Adenophyllum glandulosum (Cav.) Strother     | SRL-1264                              | 1                                  | 0 -1.0766                                    |
| 87 | Compositae   | Ageratina espinosarum (A.Gray) R.M.King & H.Rob. | RLF-36, SRL-114, SRL-291, SRL-325, SRL-363, SRL-1279 | 2                                  | 0 0.0391 0 0 -0.347                          |
| 88 | Compositae   | Ageratina maietiana (DC.) R.M.King & H.Rob.  | SRL-186, SRL-390                      | 3                                  | 0 3.3978 0 0.9653 0.15 5.7983                |
| 89 | Compositae   | Ageratina tomentella (Schrad.) R.M.King & H.Rob. | RLF-217, SRL-119, SRL-289, SRL-335, SRL-391, SRL-1191, SRL-1398, SRL-1406 | 1                                  | 0 -0.7561 0 0                              |
| 90 | Compositae   | Ageratina sp.                                | RLF-116, SRL-74                       | 3                                  | 0 -0.2987 -1.0819 0 -0.6123                  |
| 91 | Compositae   | Ageratina sp.                                | RLF-4, SRL-153, SRL-287               | 2                                  | 0 -0.6843 -1.36 0                            |
| 92 | Compositae   | Ageratina sp.                                | SRL-208                              | 1                                  | 0 0 0 0 -0.8137                              |
| 93 | Compositae   | Ageratum tetuacanum R.M.King & H.Rob.        | RLF-26, SRL-113                       | 1                                  | 0 -1.0765 0 0                              |
| 94 | Compositae   | Ambrosia psilostachya DC.                    | RLF-9                                | 1                                  | Medicinal = 5 0 0 0 -0.5778                 |
| 95 | Compositae   | Barkleyanthus salicifolius (Kunth) S. F. Blake | RLF-257, SRL-267, SRL-292, SRL-1241 | 1                                  | 0 -0.9975 0 0                              |
| 96 | Compositae   | Barkleyanthus salicifolius (Kunth) H.Rob. & Brettell | SRL-190, SRL-1531, ERL-27, ERL-83, ERL-190, ERL-218 | 6                                  | Ornamental = 65 0 0 0.6175 0.0291 0.6711    |
| 97 | Compositae   | Bidens bigelovii A.Gray                     | RLF-140, RLF-196                     | 1                                  | Caual cimarrón 0 0 0 0                      |
| 98 | Compositae   | Bidens pilosa L.                             | SRL-4, SRL-1285                      | 2                                  | Oaxaqueña 0 0 0 0 -0.485                    |
| 99 | Compositae   | Bidens pilosa L.                             | RLF-221, SRL-316, SRL-395, SRL-1288  | 1                                  | 0 0 -0.6451 0 0                            |
| 100| Compositae   | Brickellia veronicifolia (Kunth) A.Gray     | RLF-11, RLF-203, RLF-206, SRL-293, SRL-361, SRL-1276, ERL-101 | 3                                  | Oreganillo, orejita de ratón 0 0 0 0.1215   |
| 101| Compositae   | Brickellia sp.                               | SRL-1418                            | 1                                  | 0 0 -1.0765 0 0                            |
| 102| Compositae   | Calendula officinalis L.                    | SRL-49, ERL-22, ERL-24               | 3                                  | Ornamental = 18 0 0 0 0                      |
### Table 5

Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = Sutrop$ relative prominence index<sup>2</sup> and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental); distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| Species                          | Common Name                   | Uses | Sutrop Relative Prominence Index | Biocultural Importance | Ecological Status | Management Practices | Management Site with Respect to Species Wild Populations |
|----------------------------------|-------------------------------|------|----------------------------------|------------------------|-------------------|----------------------|--------------------------------------------------------|
| 106 Compositae **Campanula alvarensis** Rzed. & Calderón | Oaxaqueña 1 | 0 | -1.0765 | 0 | 0 |
| 107 Compositae **Chrysanthemum morifolium** Ramat. | Hierba de San Nicolás 1 | 0 | -1.0765 | 0 | 0 | 0.0167 0.3058 |
| 109 Compositae **Cirsium mexicanum DC.** | Lechuga cimarrón 2 | 0 | -0.6097 | 0 | 0 |
| 110 Compositae **Cirsium sp.** | Espino del diablo, chicalote de monte 1 | 0 | -1.0765 | 0 | 0 |
| 112 Compositae **Coreopsis sp.** | 1 | 0 | 0.0527 | 0 | 0 | 0 |
| 113 Compositae **Cosmos bipinnatus Cav.** | Jazmín 2 | 0 | 0.0167 | 0 | 0 |
| 114 Compositae **Dahlia apiculata** (Sherff) P.D.Sorensen | Dalia corriente, ticurrichi 2 | 0 | 0 | 0 | 1.0674 |
| 115 Compositae **Dahlia coccinea Cav.** | Dalia 2 | 0 | 0 | 0 | 0.7547 |
| 116 Compositae **Dahlia sp.** | Dalia 2 | 0 | 0 | 0 | 0 | 0.015 |
| 117 Compositae **Desmanthodium sp.** | 1 | 0 | 0 | 0 | 0 |
| 118 Compositae **Dysodia papposa** (Vent.) Hitchc. | Cempasuchito 1 | 0 | -1.0765 | 0 | 0 |
| 119 Compositae **Dysodia sp.** | 1 | 0 | 0 | 0 | -2.1063 |
| 120 Compositae **Enigeron kaninskianus DC.** | 1 | 0 | 0 | 0 | 0 |
| 121 Compositae **Enigeron sp.** | 0 | 0 | 0 | 0 | 0 |
| 122 Compositae **Flaveria trinervia** (Spreng.) C.Mohr | Romero cimarrón 0 | 0 | 0 | 0 | 0 |
| 123 Compositae **Galinsoga parviflora Cav.** | 1 | 0 | -1.0765 | 0 | 0 | 0 |
| 108 Compositae **Glebionis coronaria** (L.) Cass. ex Spach | Linda 2 | 0 | 0 | 0 | 0 | 0.0131 |
| 124 Compositae **Gnaphalium sp.** | 1 | 0 | 0 | 0 | -2.1063 |
| 125 Compositae **Gnaphalium sp.** | 1 | 0 | 0 | 0 | 0 | -0.6864 |
| 126 Compositae **Gochnatiun hypoleucus (DC.) A.Gray** | Árnica 1 | 0 | 0 | 0 | 0 | 0.0938 5.0025 |
| 127 Compositae **Grindelia irioideae** Willd. | Cerilla, popote 2 | 0 | 0 | 0 | 0 | 0.0309 0.6436 |
| 128 Compositae **Gymnosperma glutinosum** (Spreng.) Less. | 1 | 0 | 0 | 0 | 0 |

Rangel-Landa et al. *Journal of Ethnobiology and Ethnomedicine* (2016) 12:30
|    | Species                  | Common Names            | Uses      |   |   |   |   |   | EIVI | Region | Status | Management | Site | Species wild populations |
|----|--------------------------|-------------------------|-----------|---|---|---|---|---|-----|--------|--------|-------------|------|-------------------------|
| 129 | Compositae               | Helenium mexicanum Kunth | RLF-25, SRL-1116, SRL-1134 | Chiche de perro | 2 | 0 | 0 | 0 | -0.8599 |
| 130 | Compositae               | Helianthus annuus L.    | Photo record | Girasol | 2 | Ornamental = 6 | 0 | 0 | 0 |
| 131 | Compositae               | Lactuca sativa L.       | Photo record | Lechuga | 1 | 0 | 0 | 0 |
| 132 | Compositae               | Launaea intyacea (Jacq.) | SRL-69 | Mostaza | 1 | 0 | 0 | 0 |
| 133 | Compositae               | Leucanthemum maximum (Ramond) DC. | ERL-138 | Margarita, margaritón | 2 | Ornamental = 24, ceremonial = 8 | 0 | 0.0095 | 0 |
| 134 | Compositae               | Matricaria chamomilla L. | SRL-175 | Manzanilla | 1 | Medicinal = 55 | 0 | 0 | 0.0868 |
| 135 | Compositae               | Melampodium divericatum (Rich. ex Rich.) DC. | RLF-205 | Chimalacate | 2 | 0 | -0.7656 | 0 | -1.4404 |
| 136 | Compositae               | Melampodium longifolium Cerv. ex Cav. | SRL-129, RLF-261 | 1 | 0 | 0 | 0 | 1.5115 |
| 137 | Compositae               | Melampodium sp.         | RLF-220 | 1 | 0 | 0 | 0 | 2.1063 |
| 138 | Compositae               | Montanoa tormentosa Cerv. | RLF-300, SRL-2 | Oaxaqueña | 1 | 0 | 0 | 0 | -1.0367 |
| 139 | Compositae               | Montanoa sp.            | RLF-299 | 1 | 0 | 0 | -1.0354 | 0 | 0 |
| 140 | Compositae               | Neurolaena lobata (L.) R.Br. ex Cass. | SRL-198 | Naranjillo | 2 | 0 | 0 | 0 | -0.8599 |
| 141 | Compositae               | Parthenium bipinnatifidum (Ortega) Rollins | ERL-9, RLF-87, RLF-178, SRL-34, SRL-82, SRL-445, SRL-1325 | Hierba cenizo | 2 | 0 | -0.2194 | 0 | 0 | -0.507 |
| 142 | Compositae               | Parthenium tomentosum DC. | SRL-1213, SRL-1375 | Palo prieto | 2 | 0 | 0 | 0 | -0.86 |
| 143 | Compositae               | Parthenium sp.          | RLF-198 | 0 | 0 | 0 | 0 |
| 144 | Compositae               | Peymenium discolor Schrad. | SRL-277, SRL-1266 | 1 | 0 | 0 | -0.2154 | 0 | 0 |
| 145 | Compositae               | Peymenium mendezii var. angustifolium (Brandegee) J.J.Fay | RLF-110, SRL-351 | Cahual delgado | 1 | 0 | -1.0332 | 0 | 0 |
| 146 | Compositae               | Peymenium sp.           | RLF-251 | Cahual | 2 | 0 | -0.6097 | 0 | 0 | -0.8011 |
| 147 | Compositae               | Pflacitis zinnioides Schrad. | RLF-322 | 0 | 0 | 0 | 0 |
| 148 | Compositae               | Pinaropappus roseus (Less.) Less. | RJS-8, SRL-407, SRL-1526 | Chipule | 1 | 0 | 0 | 0 | 0.0119 | -0.8163 |
| 149 | Compositae               | Piqueria trinervia Cav. | RLF-8 | 0 | 0 | 0 | 0 | 0 | -0.8011 |
| 150 | Compositae               | Porophyllum linaria (Cav.) DC. | RLF-18, SRL-158, SRL-357, SRL-1150, ERL-141 | Pepitza | 4 | Edible = 95 | 0 | 0.0098 | 2.0349 | 0 | 3.1943 |
| 151 | Compositae               | Porophyllum punctatum (Mill.) SF.Blake | SRL-207 | Papaloquelite | 1 | 0 | 0 | 0 | 0 | 0 |
| Species                        | Spanish Common Names | Number of Uses | Percentage of Families | Cognitive Prominence Values | Biocultural Importance Values |
|-------------------------------|----------------------|----------------|------------------------|-----------------------------|------------------------------|
| Rangé-Landa et al. | Journal of Ethnobiology and Ethnomedicine (2016) | 12:30 | | | |
| Species | Spanish common names | Number of uses | Percentage of families that consume it | Cognitive prominence values expressed as $S = \text{Sutrop relative prominence index}^2$ | Biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental) | Distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations |
|---------|----------------------|----------------|----------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| 171 Compositae Tagetes erecta L. | Cempasuchí | 3 | Ornamental = 71, ceremonial = 99 | 0 | 0.0189 | 0.0026 |
| 172 Compositae Tagetes lucida Cav. | Pericón | 4 | Ceremonial = 50 | 0 | 0.0241 | -0.1211 | 0.0523 | 0.4295 |
| 173 Compositae Tagetes lunulata Ortega | Cempasuchí chiquito | 3 | Ornamental = 29, ceremonial = 40 | 0.0027 | 1.8836 | 0 | 1.0404 | 0 |
| 174 Compositae Tanacetum parthenium (L.) Sch.Bip. | Santa María | 3 | Ornamental = 53, ceremonial = 10 | 0 | 0 | 0 | 0.0646 |
| 175 Compositae Taraxacum campylodes G.E.Haglund | Achicoria | 3 | Ornamental = 18 | 0 | 0 | 0 | 0.0046 |
| 176 Compositae Tithonia rotundifolia (Mill.) S.F.Blake | Cahual rojo | 3 | Ornamental = 65, ceremonial = 10 | 0 | 0.0062 | 0 |
| 177 Compositae Tithonia tubaeformis (Jacq.) Cass. | Cahual | 3 | Fodder = 80, ornamental = 41 | 0.1501 | 0.1872 | 0.002 | 0.3403 | 0 |
| 178 Compositae Tridax coronopifolia (Kunth) Hemsl. | 1 | 0 | 0 | 0 | -1.0487 |
| 179 Compositae Verbena gracilipes B.L.Rob. | Chimalacate | 2 | 0 | -0.6097 | 0 | 0 |
| 180 Compositae Vernonia kanivskiana DC. | RLF-187, RLF-210 | 1 | 0 | 0 | -2.1063 | 0 |
| 181 Compositae Viguiera cordata (Hook. & Am.) D'Arcy | Cahual menudito, cahual prieto | 1 | 0 | -1.0765 | 0 | 0 |
| 182 Compositae Viguiera dentata (Cav.) Spreng. | Chimalacate | 5 | 0 | 0.7128 | 0 | 0 | 0.0591 |
| 183 Compositae Viguiera grammatochloa DC. | Cahual prieto | 2 | 0 | -0.2201 | 0 | 0 | -0.5074 |
| 184 Compositae Viguiera purpusii Brandegee | Cahual cimarrón | 1 | 0 | -1.0765 | 0 | 0 |
| 185 Compositae Zaluzania sp. | Cahualito | 1 | 0 | -1.0765 | 0 | 0 |
| 186 Compositae Zinnia elegans L. | Galiloto | 2 | Ornamental = 6 | 0 | 0 | 0 |
| 187 Compositae Zinnia peruviana (L.) L. | Galiloto | 3 | Ornamental = 6 | 0 | 0.3455 | 0 | 0 | -0.161 |
| 188 Compositae | 1 | 0 | 0 | 0 |
| 191 Compositae | 1 | 0 | 0 | 0 |
| 192 Compositae | 1 | 0 | 0 | 0 |
| 193 Compositae | 1 | 0 | 0 | 0 |
Table 5. Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as S = Sutrop relative prominence index$^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental); distribution on vegetal types, importance ecological index value (EIV); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| No. | Family       | Accession | Spanish common name | Use Type | EIV Value | Sutrop Relative Prominence Index | First Component Value | BioCultural Importance | Management Region |
|-----|--------------|-----------|---------------------|----------|-----------|---------------------------------|-----------------------|----------------------|---------------------|
| 194 | Compositae   | SRL-1214  | Jazmínillo, cañuelo blanco | 1        | 0         | 0                               | 0                     | 0                    | 0                   |
| 195 | Compositae   | SRL-1236  | 1                   | 0        | -1.0765   | 0                               | 0                     | 0                    | 0                   |
| 196 | Compositae   | SRL-1442, SRL-1530 | 1  | 0        | 0         | 0                               | 0                     | 0                    | 0                   |
| 197 | Compositae   | SRL-1372  | 1                   | 0        | 0         | 0                               | 0                     | 0                    | 0                   |
| 198 | Compositae   | SRL-1445  | 0                   | 0        | 0         | 0                               | 0                     | 0                    | 0                   |
| 199 | Compositae   | SRL-1355  | 0                   | 0        | 0         | 0                               | 0                     | 0                    | 0                   |
| 200 | Compositae   | SRL-1381  | Cahual de hembra     | 0        | 0         | 0                               | 0                     | 0                    | 0                   |
| 201 | Compositae   | SRL-1407  | 1                   | 0        | -1.0765   | 0                               | 0                     | 0                    | 0                   |
| 202 | Compositae   | SRL-1224  | Cahual               | 0        | 0         | -2.1063                         | 0                     | 0                    | 0                   |
| 203 | Compositae   | SRL-1205  | 0                   | 0        | 0         | 0                               | 0                     | 0                    | 0                   |
| 204 | Compositae   | SRL-1335  | 0                   | 0        | 0         | 0                               | 0                     | 0                    | 0                   |
| 205 | Compositae   | SRL-1360  | 0                   | 0        | 0         | 0                               | 0                     | 0                    | 0                   |
| 206 | Compositae   | SRL-1337  | 0                   | 0        | 0         | 0                               | 0                     | 0                    | 0                   |
| 207 | Compositae   | SRL-1383  | 0                   | 0        | 0         | 0                               | 0                     | 0                    | 0                   |
| 208 | Compositae   | SRL-1377  | 0                   | 0        | 0         | 0                               | 0                     | 0                    | 0                   |
| 209 | Compositae   | ERL-121, SRL-1275 | Cahual prieto  | 1        | 0         | 0                               | 0                     | 0                    | -0.8133             |
| 210 | Compositae   | SRL-1478  | Hierba de ángel, oaxaqueña | 1        | 0         | 0                               | 0                     | 0                    | 0.0384              |
| 211 | Compositae   | SRL-1339  | Cempasúchitl de molito de campo | 1        | 0         | 0                               | 0                     | 0                    | 0                   |
| 305 | Convolvulaceae | Cuscuta sp. | RLF-264, RLF-315, SRL-447 | 0        | 0         | 0                               | 0                     | 0                    | 0                   |
| 306 | Convolvulaceae | Cuscuta sp. | RLF-1540, RLF-1545 | 0        | 0         | 0                               | 0                     | 0                    | 0                   |
| 307 | Convolvulaceae | Dichondra argentea Humb. & Bonpl. ex Wild. | RLF-71, SRL-134, SRL-167 | Orejita de ratón | 1 | 0 | 0 | 0 | -0.7399 |
| 309 | Convolvulaceae | Ipomoea conzattii Greenm. | SRL-1491, SRL-1510 | Jícama de cerro | 2 | 0 | -0.6097 | 0 | 0 |
| 310 | Convolvulaceae | Ipomoea elongata Choisy | RLF-130, RLF-192, SRL-327, SRL-1203 | Manto de la virgen del campo | 1 | 0 | 0 | -2.1063 | 0 |
| 311 | Convolvulaceae | Ipomoea pauciflora M.Martens & Galeotti | SRL-1366 | 0 | 0 | 0 | 0 | 0 |
| 308 | Convolvulaceae | Ipomoea aff. populina House | SRL-1306 | Jícama | 2 | 0 | -0.6097 | 0 | 0 |
| 312 | Convolvulaceae | Ipomoea purpurea (L.) Roth | ERL-14, RLF-44, RLF-45, SRL-145, SRL-448 | Quiabra platos | 1 | 0 | 0 | 0 | -0.7546 |
| Species | Common Names | Use Type | EIVI | Origin Region | Ecological Status | Management Practices | Management Site | Cognition | Biocultural | Remarks |
|---------|--------------|----------|------|---------------|------------------|---------------------|-----------------|-----------|-------------|---------|
| Ipomoea ternifolia Cav. | Manto de la Virgen | Ornamental = 12 | -1.0765 | 0 | 0.0147 | 0 |
| Ipomoea tricolor Cav | Photo record | 1 | 0 | 0 | 0 |
| Bryophyllum delagoense (Eckl. & Zeyh.) Druce | Víborita | Ornamental = 12 | 0 | 0 | 0 |
| Echeveria gigantea Rose & Purpus | Siempreviva grande, lengua de vaca, oreja de toro | Ornamental = 18 | 0 | 0.0107 | 0.9419 | 0.0025 | 1.7348 |
| Echeveria nodulosa (Baker) Otto | Siempreviva chiquita | 0 | 0 | 0.0033 | 0.2914 | 0 | 1.7058 |
| Echeveria pulvinata | Photo record | Siempreviva | 0 | 0 | 0 | 0 |
| Echeveria sp. | Photo record | Siempreviva | 0 | 0 | 0 | 0 |
| Echeveria sp. | Photo record | Siempreviva | 0 | 0 | 0 | 0 |
| Kalanchoe blossfeldiana Poelln. | Juanita | Ornamental = 6, ceremonial = 1 | 0 | 0 | 0 |
| Kalanchoe sp. | Oreja de elefante | Ornamental = 41, ceremonial = 14 | 0 | 0 | 0 |
| Sedum allantoides Rose | Dedito de Dios | Ornamental = 18 | 0 | 0 | 0 | 0 |
| Sedum dendroideum Moc. & Sessé ex DC. | Siempreviva | Ornamental = 29, ceremonial = 14 | 0 | 0.0272 | 2.4485 | 0.0056 | 2.5616 |
| Sedum hemsleyanum Rose | Borreguito | 0 | 0 | 0 | 0 | 0 |
| Sedum liebmannianum Hemsl. | Siempreviva chiquita | Ornamental = 6 | 0 | 3.4262 | 0.0037 | 0.9638 | 0 |
| Sedum stahlii Salms | 0 | 0 | 0 | 0 | 0 | 0 |
| Sedum palmeri S.Watson | Siempreviva | Ornamental = 6 | 0 | 0 | 0 | 0 |
| Sedum potosinum Rose | Ornamental = 12 | 0 | 0 | 0 | 0 | 0 |
| Villadia albiflora (Hemsl.) Rose | Borreguito | 0 | 0 | 0 | 0 | 0 |
| Villadia guatemalensis Rose | Colita de borrego | Ornamental = 6 | 0 | 3.4262 | 0.0037 | 0.9638 | 0 |
| Cucumis melo L. | Melón | 1 | 0 | 0 | 0 | 0 | 0 |
| Cucurbita ficifolia Bouché | Chilacayota | Edible = 100 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cucurbita pedatifolia L.H.Bailey | Calabacita amarga | 3 | 0 | 0.0916 | 0 | 0 | -0.3182 |
Table 5  Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = $ Sutrop relative prominence index$^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental); distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| Table 5 | Species | Spanish common names | Number of uses | Edible | Fodder | Firewood | Ceremonial | Ornamental | Management practices | Management site | Distribution on vegetal types | Ecological status |仅为中文标题，无内容 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 335 | Cucurbitaceae | Cucurbita pepo L. | SRL-184 | Calabaza | 2 | Edible = 100 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337 | Cucurbitaceae | Cyclanthera dissecta (Torr. & A.Gray) Arn. | SRL-151 | Chayotita | 2 | 0 | -0.2201 | 0 | 0 | 0.5074 |
| 338 | Cucurbitaceae | Schizocarpum filiforme Schrad. | SRL-1260 | Chayotito | 2 | 0 | -0.2201 | 0 | 0 | 0.5074 |
| 339 | Cucurbitaceae | Sechium edule subsp. edule (Jacq.) Sw. | ERL-56, ERL-215 | Chayote | 1 | Edible = 100 | 0 | 0 | 0 | 0 |
| 340 | Cucurbitaceae | Sicyos laciniatus L. | ERL-100, RLF-90, SRL-14 | Chayotillo, pegajosa | 2 | Fodder = 40 | 0 | -0.0182 | 0 | 0 | -0.4506 |
| 342 | Cupressaceae | Cupressus sempervirens L. | Photo record | Ciprés | 1 | Ornamental = 24 | 0 | 0 | 0.0294 | 0 |
| 341 | Cupressaceae | Cupressus lusitanica var. benthamii (Endl.) Carrière | RLF-129, SRL-36 | Nebro fino | 3 | Ornamental = 6 | 0 | 0 | 0 | 0 |
| 343 | Cupressaceae | Juniperus flaccida Schltdl. | ERL-187, RLF-126, RLF-134, SRL-123, SRL-412, SRL-1119 | Nebro | 8 | Ornamental = 35, firewood = 100 | 0.0054 | 5.2489 | 0.147 | 4.8804 | 0 | 3.0378 |
| 344 | Cupressaceae | Taxodium huegelii C.Lawson | SRL-210, RLF-434, SRL-1294 | Sabino | 5 | Ornamental = 6 | 0 | 0 | 2.3689 | 0 |
| 345 | Cupressaceae | Thuja occidentalis L. | ERL-122 | Tuja | 1 | Ornamental = 6 | 0 | 0 | 0 | 0 |
| 347 | Cyperaceae | Bulbostylus junceoides (Vahl) Kük. ex Herter | SRL-310 | Pasto | 1 | 0 | -0.4243 | 0 | 0 | 0 |
| 348 | Cyperaceae | Carex sp. | RLF-133 | Pasto | 2 | 0 | -0.6097 | 0 | 0 | -0.8011 |
| 349 | Cyperaceae | Cyperus aggregatus (Willd.) Endl. | SRL-382 | Pasto | 1 | 0 | -1.0538 | 0 | 0 | 0 |
| 351 | Cyperaceae | Cyperus spectabilis Link | RLF-334 | Pasto | 1 | 0 | 0 | 0 | 0 | 0 |
| 352 | Cyperaceae | Eriophorum acicularis (L.) Roem. & Schult. | RLF-138 | Pasto de arroyo | 1 | 0 | 0 | 0 | -1.0487 |
| 353 | Cyperaceae | Eriophorum montevidensis Kunth | SRL-197 | Pasto de arroyo | 1 | 0 | 0 | 0 | 0 |
| 346 | Cyperaceae | Fimbristylis mexicana Palla | SRL-304 | Pasto | 1 | 0 | -0.2720 | 0 | 0 | 0 |
| 354 | Cyperaceae | Fimbristylis mexicana Palla | SRL-304 | Pasto | 1 | 0 | -1.0765 | 0 | 0 | 0 |
| 350 | Cyperaceae | Pycreus niger (Ruiz & Pav.) Cufod. | RLF-144 | Pasto | 1 | 0 | 0 | -1.0765 | 0 | 0 |
| 355 | Cyperaceae | Rhynchospora sp. | RLF-145 | Pasto fino | 1 | 0 | 0 | -1.0765 | 0 | 0 |
| 356 | Ebenaceae | Diospyros oaxacana Standl. | RLF-1446 | Zapotito | 2 | 0 | -0.6097 | 0 | 0 | 0 |
| 357 | Equisetaceae | Equisetum sp. | SRL-422 | 0 | 0 | 0 |
| 358 | Ericaceae | Arbutus xalapensis Kunth | ERL-172, RLF-124, RLF-279, SRL-1477 | Madroño, ollita | 4 | Ceremonial = 14, firewood = 100 | 0 | 0 | 0 | -0.1056 |
| No. | Family       | Species                        | Common Names                                      | Uses          | Firewood | Medicinal | Firewood | Ceremonial | Ornamental | Ornamental | EIVI  | Ecological Status | Management Practice | Site with Respect to Wild Populations |
|-----|--------------|--------------------------------|---------------------------------------------------|---------------|----------|-----------|----------|------------|------------|------------|-------|------------------|----------------------|-------------------------------------------------|
| 359 | Ericaceae    | Comarostaphylis polifolia     | (Kunth) Zucc. ex Klotzsch                          | Palo prieto   | 3        | 0         | 0        | 0          | 0          | 0          |       |                  |                      |                                  |
| 360 | Euphorbiaceae| Acalypha aff. purpurascens    | Kunth                                             | RLF-189, SRL-256 | 0        | 0         | 0        | 0          | 0          | 0          |       |                  |                      |                                  |
| 361 | Euphorbiaceae| Bernardia sp.                |                                                   | SRL-1386 | 0        | 0         | 0        | 0          | 0          | 0          |       |                  |                      |                                  |
| 362 | Euphorbiaceae| Cnidocactus tehuacanensis    | Beeckon                                           | Photo record  | Mala mujer | 1 | 0 | 0 | 0.0043 | -0.9341 |       |                  |                      |                                  |
| 363 | Euphorbiaceae| Croton sp.                   |                                                   | SRL-441 | 0        | 0         | 0        | 0          | 0          | 0          |       |                  |                      |                                  |
| 364 | Euphorbiaceae| Croton sp.                   |                                                   | SRL-1444 | 0        | 0         | 0        | 0          | 0          | 0          |       |                  |                      |                                  |
| 365 | Euphorbiaceae| Euphorbia colletoides        | Benth.                                           | SRL-1359 | 1        | 0         | 0        | -1.0765    | 0          | 0          | 0    |                  |                      |                                  |
| 366 | Euphorbiaceae| Euphorbia cyathophora        | Murray                                            | SRL-1369 | 0        | 0         | 0        | 0          | 0          | 0          |       |                  |                      |                                  |
| 367 | Euphorbiaceae| Euphorbia cymbifera          | (Schldtl) V.W.Steinm.                            | SRL-1500 | 0        | 0         | 0        | 0          | 0          | 0          |       |                  |                      |                                  |
| 368 | Euphorbiaceae| Euphorbia cyri               | V.W.Steinm.                                       | SRL-1128 | Cordobán | 2        | Ornamental | 12          | 0          | 0          | 0    |                  |                      |                                  |
| 369 | Euphorbiaceae| Euphorbia dentata            | Michx.                                           | RLF-51, SRL-102, SRL-299, SRL-376 | Lechillo, limil | 1 | 0.0025 | -0.1758 | 0           | 0          | 0    |                  |                      |                                  |
| 370 | Euphorbiaceae| Euphorbia dioeca             | Kunth                                             | ERL-107, RLF-7, SRL-359 | Celedonia | 1 | 0 | 0 | 0 | 0 | 0 | -0.7546 |                      |                                  |
| 371 | Euphorbiaceae| Euphorbia graminea           | Jacq.                                             | RLF-288, RLF-311, SRL-317 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |                  |                      |                                  |
| 372 | Euphorbiaceae| Euphorbia lactea             | Haw.                                              | Photo record | 1 | 0 | 0 | 0 | 0 | 0 | 0 | -0.8599 |                      |                                  |
| 373 | Euphorbiaceae| Euphorbia macropus           | (Klotzsch & Garcke) Boiss.                       | SRL-1120 | Hierba de chicle | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |                  |                      |                                  |
| 374 | Euphorbiaceae| Euphorbia pulcherina         | Willd. ex Klotzsch                                | Photo record | Noche buena | 2 | Ornamental | 47, ceremonial | 11 | 0 | 0.1246 | 0 | 0 | 0 | 0 | 0 | 0 |                  |                      |                                  |
| 375 | Euphorbiaceae| Euphorbia rossiana           | Pax                                                | SRL-1450 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |                  |                      |                                  |
| 376 | Euphorbiaceae| Euphorbia sp.                |                                                   | RLF-141 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |                  |                      |                                  |
| 377 | Euphorbiaceae| Euphorbia sp.                |                                                   | RLF-301, SRL-254 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |                  |                      |                                  |
| 378 | Euphorbiaceae| Euphorbia sp.                |                                                   | RLF-119, RLF-152, RLF-167, SRL-283 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |                  |                      |                                  |
| 379 | Euphorbiaceae| Jatropha neopauciflora       | Pax                                                | SRL-1357 | Sangre de grado, aceitillo | 2 | 0 | -0.6097 | 0 | 0 | 0 | -0.8011 |                      |                                  |
| 380 | Euphorbiaceae| Ricinus communis             | L.                                                 | ERL-116, ERL-144, ERL-145, ERL-243, SRL-23, SRL-1129 | Gria | 5 | 0 | 0 | 0 | 0.0161 |                      |                                  |
| 381 | Euphorbiaceae| Sebastiana aff. pavoniana    | (Müll.Arg.) Müll.Arg.                             | SRL-263 | Hierba de venado | 1 | 0 | -1.0683 | 0 | 0 | 0 |                  |                      |                                  |
| Species | Spanish common names | Number of Uses | Percentage of families | Cognitive prominence values | Biocultural importance values |
|---------|----------------------|----------------|-----------------------|---------------------------|-----------------------------|
| 382 Euphorbiaceae | Tragia nepetifolia Cav. | SRL-318 | 0 | 0 | 0 |
| 383 Euphorbiaceae |  | RLF-252 | 0 | 0 | 0 |
| 384 Fagaceae | Quercus acutifolia Née | SRL-1226, SRL-1516 | Encino colorado | 7 | Firewood = 100 | 0.0153 | 3.7957 | 0.0392 | 2.304 | 0.0101 | 2.6129 |
| 385 Fagaceae | Quercus castanea Née | RLF-78, SRL-1233, SRL-1408, SRL-1425, SRL-1431 | Encino prieto, encino blanco | 7 | Firewood = 100 | 0.0215 | 1.4099 | 0.0392 | 1.4528 | 0 | 0.4908 |
| 386 Fagaceae | Quercus conspersa Benth. | SRL-1156 | Encino colorado | 7 | Firewood = 100 | 0.0153 | 0.6176 | 0.0392 | 0.7792 | 0.0101 | 0.1196 |
| 387 Fagaceae | Quercus x dyssophylla Benth. | SRL-1108 | Encino de tesmole | 3 | Firewood = 100 | 0 | 0.6263 | 0.0392 | 0.5657 | 0 |
| 388 Fagaceae | Quercus glaucoidea M. Martens & Galeotti | SRL-1109, SRL-1459, SRL-1486, SRL-1513 | Encino chaparro | 5 | Firewood = 100 | 0.0161 | 0.3057 | 0.0686 | 1.3213 | 0 |
| 389 Fagaceae | Quercus laeta Liebm. | RLF-68, SRL-143, SRL-253, SRL-385, SRL-1230 | Encino prieto, encino amarillo | 6 | Ornamental = 6, firewood = 100 | 0.0129 | 4.1162 | 0.0392 | 4.6656 | 0 |
| 390 Fagaceae | Quercus liebmannii Oerst. ex Trel. | SRL-1107, SRL-1514 | Encino amarillo | 8 | Firewood = 100 | 0.0108 | 6.7493 | 0.0392 | 4.6656 | 0 |
| 391 Fagaceae | Quercus obtusata Bonpl. | SRL-1423 | Encino prieto | 6 | Firewood = 100 | 0.0092 | 0.9366 | 0.0392 | 0.8996 | 0 |
| 392 Fagaceae | Quercus polymorpha Schidtd. & Cham. | SRL-1503 | Encino prieto | 5 | 0 | 0.6356 | 0.0392 | 0.6369 | 0 |
| 393 Fagaceae | Quercus urbanii Trel | RLF-161, SRL-252, SRL-475, SRL-1228 | Encino cucharilla | 6 | Firewood = 100 | 0.0081 | 1.9079 | 0.0392 | 1.7423 | 0 |
| 394 Fagaceae | Garryaceae | Garrya ovata Benth. | SRL-330, SRL-469 | Hierba de ardilla | 2 | Firewood = 100 | 0.0323 | -0.0578 | 0 | 0 |
| 395 Geraniaceae | Geranium sp. | RLF-278, SRL-136 | 0 | 0 | 0 |
| 396 Geraniaceae | Pelargonium peltatum (L) L’Hér. | Photo record | Geranio, malva rosa | 2 | Ornamental = 6 | 0 | 0 | 0 |
| 397 Geraniaceae | Pelargonium zonale (L) L’Hér. ex Aiton | ERL-84, ERL-200 | Geranio, malva rosa | 2 | Ornamental = 88, ceremonial = 43 | 0 | 0.0888 | 0 |
| 398 Geraniaceae |  | SRL-81 | 0 | 0 | 0 |
| 399 Geraniaceae | Hypoxidaceae | Hydrangea macrophylla (Thunb) Ser. | Photo record | Hortensia | 2 | 0 | 0 | 0 |
| 400 Hypoxidaceae | Hypoxis sp. | RLF-37, SRL-141 | Pasto | 2 | 0 | -0.5563 | 0 | 0 |
| 401 Iridaceae | Gladiolus hortulanus L.H. Bailey | Photo record | Gladiolo | 2 | Ornamental = 41, ceremonial = 22 | 0 | 0 | 0 |
| 402 Iridaceae | Iris x germanica L. | SRL-225 | Lirio corriente | 2 | Ornamental = 29 | 0 | 0 | 0 |
| 403 Iridaceae | Neomarica sp. | Photo record | 0 | 0 | 0 |
| 404 Iridaceae | Sisyrinchium tenaxfolium Humb. & Bonpl. ex Wild. | RLF-146, SRL-1548 | Hierba de camino corriente | 1 | 0 | -0.9652 | 0 | 0 |
| 405 Iridaceae | Tigridia illecebrosa Cruden | RJS-10 | Flor de gamito | 2 | 0 | -0.7655 | 0 | -1.4404 | 0 |
Table 5: Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = Sutrop$ relative prominence index$^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| Table 5 | Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = Sutrop$ relative prominence index$^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued) |
| 410 | Iridaceae | Tigridia pavonia (L.f.) DC. | RLF-201 |
| 410 | Iridaceae | Phoradendron tuberosum (Haw.) Greene | RLF-272, RLF-273, SRL-331 |
| 411 | Juglandaceae | Juglans regia L. | ERL-80, RLF-64, SRL-29, SRL-1146 |
| 412 | Krameriaceae | Krameria cytisoides Cav. | RLF-97, SRL-251, SRL-1265, SRL-1376 |
| 413 | Lamiaceae | Clinopodium mexicanum (Benth.) Govaerts | RLF-131, RLF-262, SRL-1190, SRL-1280, SRL-1403 |
| 414 | Lamiaceae | Hyptis sp. | SRL-209 |
| 415 | Lamiaceae | Leonotis nepetifolia (L.) R.Br. | SRL-1315 |
| 416 | Lamiaceae | Marrubium vulgare L. | ERL-8, RLF-64, SRL-29, SRL-1146 |
| 417 | Lamiaceae | Mentha x piperita L. | ERL-19, ERL-61, ERL-95, SRL-70, SRL-1137 |
| 418 | Lamiaceae | Ocimum basilicum L. | ERL-1, RLF-194, SRL-116, SRL-273, SRL-1195, SRL-1202, SRL-1397, SRL-1420 |
| 419 | Lamiaceae | Ocimum majorana L. | ERL-15, ERL-53, ERL-85, ERL-142, SRL-73, SRL-206 |
| 420 | Lamiaceae | Plectranthus hadiensis (Forssk.) Schweinf. ex Sprenger | Photo record |
| 421 | Lamiaceae | Rosmarinus officinalis L. | Photo record |
| 422 | Lamiaceae | Salvia aspera M.Martens & Galeotti | SRL-345, SRL-1263 |
| 423 | Lamiaceae | Salvia cinnamata Cav. | RLF-215, SRL-1291 |
| 424 | Lamiaceae | Salvia keerlii Benth. | SRL-155, SRL-1456 |
| 425 | Lamiaceae | Salvia oaxacana Fernald | RLF-232, SRL-1161, SRL-1188 |
| 426 | Lamiaceae | Salvia pannosa Fernald | RLF-181 |
| 427 | Lamiaceae | Salvia pungens Cav. | RLF-1, RLF-194, SRL-116, SRL-273, SRL-1195, SRL-1202, SRL-1397, SRL-1420 |
| 428 | Lamiaceae | Salvia sessei Bent. | RLF-33, RLF-195, SRL-1162 |
| 429 | Lamiaceae | Salvia thymoides Bent. | RLF-245, SRL-1469 |

**Note:** The table continues with additional entries for each species, detailing their uses, cognitive prominence values, and biocultural importance. The specific details include the number of uses, percentage of families that consume it, and other ecological and management attributes.
| # | Family       | Species                  | Type          | Code         | Common Name       | CH | Edible | Ceremonial | Fodder | Wild Populations |
|---|-------------|--------------------------|---------------|--------------|-------------------|----|--------|------------|--------|-----------------|
| 432 | Lamiaceae   | Salvia tiliifolia Vahl. | Rangel-Landa et al. | ERL-28-ERL-112, RLF-162, SRL-3 | Chía | 2      | 0          | 0      | 0               | -0.5632 |
| 433 | Lamiaceae   | Salvia villosa Fernald  | ERL-28       | SRL-285      |                   | 0  | 0      | 0          | 0      |                 |
| 434 | Lamiaceae   | Salvia sp.               | Photo record | Mirto        |                   | 1  | 0      | 0          | 0      | 0.0035          | -0.7569 |
| 435 | Lamiaceae   | Salvia sp.               | RLF-20       |             |                   | 0  | 0      | 0          | 0      |                 |
| 436 | Lamiaceae   | Salvia sp.               | RLF-150      |             |                   | 0  | 0      | 0          | 0      |                 |
| 437 | Lamiaceae   | Salvia sp.               | SRL-140      | Marrubio macho |                   | 1  | 0      | 0          | 0      | -1.0487         |
| 438 | Lamiaceae   | Salvia sp.               | SRL-1304     |             |                   | 1  | 0      | -1.0765   | 0      | 0               |
| 439 | Lamiaceae   | Salvia sp.               | SRL-1448     |             |                   | 0  | 0      | 0          | 0      |                 |
| 440 | Lauraceae   | Litsea glaucescens Kunth| Rangel-Landa et al. | SRL-1157, SRL-1515 | Laurel | 3 | Ceremonial = 2 | 0 | 0 | 0 |
| 441 | Lauraceae   | Persea americana Mill.  | ERL-52-ERL-65, RLF-106, SRL-432 | Aguacate | 2 | Edible = 100 | 0 | 0 | 0 | 0.0013 |
| 442 | Leguminosae | Acacia cochlacantha Willd. | Rangel-Landa et al. | SRL-1374 | Guaje de espino | 1 | 0 | -1.0765 | 0 | 0 |
| 443 | Leguminosae | Acacia farnesiana (L.) Willd. | Photo record | Espino | 2 | 0.0086 | -0.2900 | 0 | 0 |
| 444 | Leguminosae | Acacia pennatula (Schldtl. & Cham.) Benth. | SRL-1471 | Espino | 2 | 0.0076 | 0.0810 | 0 | 0 |
| 445 | Leguminosae | Acacia schaffneri (S.Watson) F.J.Herm. | SRL-183,SRL-460 | Espino | 3 | 0.0068 | 0.0056 | 0 | 0 |
| 446 | Leguminosae | Acaciella tequilana (S.Watson) Britton & Rose | RLF-53 | Barba de chivo | 1 | 0 | -1.0765 | 0 | 0 |
| 447 | Leguminosae | Bauhinia sp. | Rangel-Landa et al. | SRL-160, SRL-1443 | | | | | | |
| 448 | Leguminosae | Calliandra sp. | SRL-276 | Guaje de gambito | 2 | Edible = 6 | 0 | -0.63 | 0 | 0 |
| 449 | Leguminosae | Calliandra sp. | Photo record | Crin de caballo | 0 | 0 | 0 | 0 | 0 |
| 450 | Leguminosae | Calliandropsis nervosus (Britton & Rose) H.M.Herm. & P. | SRL-1511 | | | | | | |
| 451 | Leguminosae | Canavalia villosa Benth. | RLF-226, SRL-1439 | | 1 | 0 | -1.0765 | 0 | 0 |
| 452 | Leguminosae | Cologania broussonetii (Balb.) DC. | SRL-106 | | 1 | 0 | -1.0765 | 0 | 0 |
| 453 | Leguminosae | Cologania sp. | RLF-153 | Hierba de venado | 1 | 0 | -1.0765 | 0 | 0 |
| 454 | Leguminosae | Cologania sp. | SRL-324 | Lentejilla corriente | 1 | 0 | -0.7835 | 0 | 0 |
| 455 | Leguminosae | Crotalaria pumila Ortega | SRL-103, SRL-364 | | 2 | 0 | -0.6097 | 0 | 0 | -0.8011 |
| 456 | Leguminosae | Crotalaria sp. | SRL-13 | | | | | | |
| 457 | Leguminosae | Dalea bicolor Willd. | SRL-1461 | | | | | | |
Table 5  Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = Sutrop$ relative prominence index $^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental); distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| Species | Common Name | Number of Uses | Prominence Values | Management Practices | Management Site |
|---------|-------------|----------------|-------------------|----------------------|-----------------|
| Dalea carthagrensis (Jacq.) J.F.Macbr. | RLF-115, RLF-168, RLF-222, SRL-154, SRL-417, SRL-1185, SRL-1299 | Hierba de Obo | 2 | -0.2201 | 0.0096 | 0.5388 |
| Dalea hegewischiana Steud. | SRL-1283 | 0 | 0 | 0 |
| Dalea tomentosa (Cav.) Willd. | RLF-214, SRL-214 | 2 | -0.5455 | 0 | 0 | 0.7614 |
| Dalea sp. | RLF-328 | 1 | 0 | -1.0765 | 0 | 0 |
| Dalea sp. | SRL-348 | 1 | 0 | 0 | 0 |
| Dalea sp. | SRL-111, SRL-168 | 0 | 0 | 0 |
| Desmanthus virginus (L.) Willd. | SRL-368 | Guajito de gabito | 1 | 0 | 0 | 0 |
| Desmanthus sp. | RLF-225 | Tepeguaje cimarrón | 2 | 0 | -0.6097 | 0 | 0 |
| Desmodium axillare (Sw.) DC. | RLF-74, SRL-286, SRL-425 | Lentejilla corriente | 1 | 0 | -0.3076 | 0 | 0 |
| Desmodium orbiculare Schltdl. | RLF-216, SRL-1269 | Papaloquelede chivo | 1 | 0.0036 | -1.0538 | 0 | 0 |
| Desmodium subsessile Schltdl. | RLF-114 | 1 | 0 | -0.9207 | 0 | 0 |
| Erythrina americana Mill. | ERL-175, SRL-181, SRL-458 | Hierba de pipi | 5 | 0.0023 | 0 | 0.0025 |
| Eysenhardtia polystachya (Ortega) Sarg. | RLF-253, SRL-346, SRL-476 | Coatillo | 5 | Ornamental = 6, firewood = 100 | 0.0194 | 0.5698 | -0.1759 |
| Harpalyce formosa DC. | RLF-176, RLF-286, SRL-343 | Guaje de caballo | 1 | 0 | -1.06 | 0 | 0 |
| Havardia sp. | RLF-325 | 0 | 0 | 0 |
| Hybosma ehenbergii (Schldrl.) Harms | RLF-123, SRL-259 | Guajillo de chivo | 1 | 0 | -0.8214 | 0 | 0 |
| Lens culinaris Medik. | Photo record | Lenteja | 1 | Edible = 100 | 0 | 0 | 0 |
| Leucaena esculenta (DC.) Benth. | ERL-31, ERL-87, ERL-110, RLF-107, RLF-174, SRL-1167, SRL-1216, SRL-1251, SRL-1343 | Guaje colorado, guaje de caballo, guaje de rapia | 5 | Ornamental = 94, edible = 100, firewood = 100 | 0.0161 | 0 | 0 |
| Leucaena leucocephala (Lam.) de Wit | ERL-88, ERL-209 | Guaje de la cana, guaje verdes | 1 | Edible = 47 | 0 | 0 | 0 |
| Leucaena sp. | SRL-1158 | Guaje de gambito | 1 | Edible = 6 | 0 | 0 | 0 |
| Lupinus leptophyllus Cham. & Schltdl. | SRL-1410 | 1 | 0 | 0 | 0 |
| Macroptilium atropurpureum (DC.) Urb. | SRL-426 | 1 | 0 | -1.0539 | 0 | 0 |
Table 5  Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as \( S = \text{Sutrop relative prominence index}^2 \) and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIIV); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| Species (L.) | Common Name | Ranges | Uses | Edible | FC | Ecological Status | Note |
|--------------|-------------|--------|------|--------|----|------------------|------|
| 480 Leguminosae | Macroptilium gibossifolium (Ortega) A.Delgado | RLF-63, SRL-108 | 2 | 0 | -0.7428 | 0 | 0 |
| 481 Leguminosae | Medicago lupulina L. | SRL-192 | 1 | 0 | 0 | 0 | 0 |
| 482 Leguminosae | Medicago polymorpha L. | RLF-69, SRL-15, SRL-1328 | 1 | 0 | 0 | 0 | 0 |
| 483 Leguminosae | Melilotus indicus (L.) All. | SRL-88, SRL-120 | 1 | 0 | 0 | 0 | 0 |
| 484 Leguminosae | Mimosa lacerata Rose | RLF-283 | Espino | 1 | 0 | 0 | 0 |
| 485 Leguminosae | Mimosa sp. | RLF-85 | Garabato, espino | 1 | 0 | 0 | 0 |
| 486 Leguminosae | Nissolia sp. | RLF-163 | 0 | 0 | 0 | 0 | 0 |
| 487 Leguminosae | Parkinsonia praecox (Ruiz & Pav.) Hawkins | SRL-1396 | Palo verde | 0 | 0 | 0 | 0 |
| 488 Leguminosae | Phaseolus coccineus L. | ERL-7, ERL-161 | Frijol ayocote | 2 | Edible = 12 | 0 | 0 | 0 |
| 489 Leguminosae | Phaseolus vulgaris L. | ERL-8, ERL-47, ERL-48, ERL-49, ERL-139, ERL-160, SRL-9 | Frijol de tierra, frijol de milpa, bayo, amarillo, negro, enredador | 2 | Edible = 100 | 0.0352 | 0 | 0 |
| 490 Leguminosae | Phaseolus sp. | SRL-144 | 1 | 0 | -1.0765 | 0 | 0 |
| 491 Leguminosae | Phaseolus sp. | RLF-169 | 0 | 0 | 0 | 0 | 0 |
| 492 Leguminosae | Phaseolus sp. | SRL-1206 | Ejote de venado | 2 | 0 | -0.6097 | 0 | 0 |
| 493 Leguminosae | Phaseolus sp. | SRL-1231 | 1 | 0 | -1.0765 | 0 | 0 |
| 494 Leguminosae | Piscidia grandifolia (Donn.Sm.) I.M.Johnst. | SRL-1210 | 2 | 0 | 0 | 0 | 0 | -0.8599 |
| 495 Leguminosae | Pison sativum L. | Photo record | Alberjón | 1 | 0 | 0 | 0 | 0 |
| 496 Leguminosae | Prosopis sativus (Willd.) M.C.Johnst. | SRL-1388 | Mezquite | 5 | 0 | 0.4025 | 0 | 0.0035 | -0.1182 |
| 497 Leguminosae | Rhynchosia pringlei Rose | RLF-247, SRL-1440 | Hierba de venado | 1 | 0 | -1.0765 | 0 | 0 |
| 498 Leguminosae | Rhynchosia senna Hook. | SRL-284, SRL-366 | 1 | 0 | -1.0598 | 0 | 0 | 0 |
| 499 Leguminosae | Senna guatemalensis (Donn.Sm.) H.S.Irwin & Barneby | RLF-246, RLF-295 | 3 | Ceremonial = 1 | 0 | -0.2593 | 0 | 0 | -0.588 |
| 500 Leguminosae | Senna holwayana (Rose) H.S.Irwin & Barneby | ERL-223, RLF-75, RLF-230, SRL-1437 | Mostaza corriente | 2 | Ornamental = 6 | 0 | -0.4532 | 0 | -1.0925 | 0 |
| 501 Leguminosae | Teramnus labialis (L.f) Spreng. | SRL-396 | 0 | 0 | 0 | 0 | 0 | 0 |
| 502 Leguminosae | Trifolium sp. | SRL-375 | 2 | 0 | 0 | 0 | 0 | 0 |
| 503 Leguminosae | Vicia faba L. | Photo record | Haba | 1 | 0 | 0 | 0 | 0 | 0 |
| 504 Leguminosae | Zornia reticulata Sm. | SRL-300 | 2 | 0 | -0.5973 | 0 | 0 | -0.7935 | 0 |
| No. | Family               | Species and Code          | Common Name       | Uses          | Sutrop Relative Prominence Index | First Component Value | Biocultural Importance Value | Distribution on Vegetal Types | Importance Ecological Index Value (EIVI) | Species Origin Region | Ecological Status | Management Practices | Species Wild Populations |
|-----|----------------------|---------------------------|-------------------|---------------|---------------------------------|-----------------------|-------------------------------|-------------------------------|----------------------------------------|---------------------|----------------|----------------------|---------------------|
| 505 | Leguminosae          | RLF-327, SRL-1227 Timbre  | 5                 | 0.0029        | 0.3201                          | 0                     | 0                             |                               |                          |                    |                 |                      |                     |
| 506 | Leguminosae          | SRL-1212                  | Tepeguaje         | 3             | 0                               | 0.4545                | 0                             |                               |                          |                    |                 |                      | -0.7298             |
| 507 | Leguminosae          | SRL-1556                  |                   | 0             | 0                               | 0                     | 0                             |                               |                          |                    |                 |                      |                     |
| 508 | Leguminosae          | SRL-1538                  |                   | 0             | 0                               | 0                     | 0                             |                               |                          |                    |                 |                      |                     |
| 509 | Leguminosae          | SRL-1113                  | Guaje que come el venado | 0             | 0                               | 0                     | 0                             |                               |                          |                    |                 |                      |                     |
| 510 | Leguminosae          | RJS-7                     |                   | 1             | 0                               | 0.765                 | 0                             |                               |                          |                    |                 |                      |                     |
| 511 | Leguminosae          | SRL-1166                  | Timbre            | 1             | 0                               | 0                     | -0.0825                       |                               |                          |                    |                 |                      |                     |
| 512 | Leguminosae          | SRL-1350                  |                   | 0             | 0                               | 0                     | 0                             |                               |                          |                    |                 |                      |                     |
| 513 | Leguminosae          | SRL-1370                  | Guaje de gamito   | 0             | 0                               | 0                     | 0                             |                               |                          |                    |                 |                      |                     |
| 514 | Leguminosae          | SRL-1371                  | Espino            | 0             | 0                               | 0                     | 0                             |                               |                          |                    |                 |                      |                     |
| 515 | Leguminosae          | SRL-1498                  |                   | 0             | 0                               | 0                     | 0                             |                               |                          |                    |                 |                      |                     |
| 516 | Leguminosae          | SRL-1217                  |                   | 2             | 0                               | 0.6097                | 0                             |                               |                          |                    |                 |                      | -0.8011             |
| 517 | Lentibulariaceae     | Pinguicula moranensis Kunth | RLF-148, SRL-436, SRL-1553, SRL-1496 | Siempreviva | 0                             | 0                     | 0                             |                               |                          |                    |                 |                      |                     |
| 518 | Linaceae             | Linum scabrellum Planch.  | SRL-1462          | 0             | 0                               | 0                     | 0                             |                               |                          |                    |                 |                      |                     |
| 519 | Linaceae             | Linum sp.                 | RLF-175           | 2             | 0                               | 0.2201                | 0                             |                               |                          |                    |                 |                      | -0.5074             |
| 520 | Loasaceae            | Mentzelia hispida Wild.   | RLF-54, RLF-94, SRL-428 | Pegajosa   | 1                             | 0                     | 0                             |                               |                          |                    |                 |                      | -0.755              |
| 521 | Loranthaceae         | Psittacanthus calyculus (DC.) G.Don | SRL-1502   | Injerto           | 1                             | 0                     | 0                             |                               |                          |                    |                 |                      |                     |
| 522 | Lythraceae           | Cuphea sp.                | RLF-100, RLF-143, RLF-172, SRL-20, SRL-350, SRL-1178 | 3             | 0                               | 0.0939                | 0                             |                               |                          |                    |                 |                      | -0.3167             |
| 523 | Lythraceae           | Cuphea sp.                | SRL-25            | 1             | 0                               | 0                     | 0                             |                               |                          |                    |                 |                      |                     |
| 524 | Lythraceae           | Cuphea sp.                | SRL-105, SRL-296  | 1             | 0                               | 0                     | 0                             |                               |                          |                    |                 |                      |                     |
| 670 | Lythraceae           | Punica granatum L.        | ERL-38, ERL-39, ERL-70, ERL-71, ERL-104, ERL-206, SRL-43 | Granada | 5                             | Ornamental = 71, edible = 10 | 0                             | 0.0147                        |                               |                          |                    |                 |                      |                     |
| 525 | Malpighiaceae        | Bunchosia sp.             | SRL-451           | Huevo de gato  | 2                             | 0                     | 0                             |                               |                          |                    |                 |                      |                     |
| 526 | Malpighiaceae        | Bunchosia sp.             | SRL-1351          | 0             | 0                               | 0                     | 0                             |                               |                          |                    |                 |                      |                     |
| 527 | Malpighiaceae        | Echinopterys eglandulosa (A.Juss.) Small | SRL-1384 | 0                             | 0                     | 0                             |                               |                               |                          |                    |                 |                      |                     |
| 528 | Malpighiaceae        | Galphimia multicaulis A.Juss. | RLF-65, RLF-293, SRL-1177 | Flor de chivo | 2                             | 0                     | -0.5325                       |                               |                          |                    |                 |                      | -1.0487             |
| 529 | Malpighiaceae        | Gaudichaudia galeottiana (Nied.) Chodat | RLF-241 | | 1                             | 0                     | 0                             |                               |                          |                    |                 |                      |                     |
Table 5  Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as S = Sutrop relative prominence index\(^2\) and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

|  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|
| 530 | Malpighiaceae | Heteropterys brachiata (L.) DC. | SRL-1342 | 0 | 0 | 0 |
| 531 | Malpighiaceae | Malpighia galeottiana A.Juss. | SRL-362, SRL-471, SRL-1272 | 0.0018 | 0.3567 | 0 | 0 |
| 532 | Malvaceae | Alcea rosea L. | ERL-140, ERL-201, ERL-227, SRL-62, SRL-187 | 0 | 0.0042 | 0 |
| 533 | Malvaceae | Anoda cristata (L.) Schltdl. | RLF-67, RLF-277, SRL-6, SRL-446, SRL-1125 | 0.5126 | 0 | -0.4235 | -0.1293 |
| 534 | Malvaceae | Gossypium hirsutum L. | Photo record | 0 | 0 | 0 |
| 535 | Malvaceae | Hermannia inflata Link & Otto | SRL-1301 | 0 | 0 | 0 |
| 536 | Malvaceae | Hibiscus rosa-sinensis L. | ERL-207 | 0 | 0 | 0 |
| 537 | Malvaceae | Hibiscus sp. | SRL-1474 | 0.0194 | 0 | 0.0324 |
| 538 | Malvaceae | Malva parviflora L. | ERL-111, ERL-210 | 1.9551 | 0.0118 | 3.3295 | 0 |
| 539 | Malvaceae | Malva sylvestris L. | Photo record | 0 | 0 | 0 |
| 540 | Martyniaceae | Proboscidea louisianica (Mill.) Thell. | SRL-21 | 0 | 0.6329 | 0 |
| 541 | Meliaceae | Cedrela sp. | ERL-60 | 0.0165 | 0.0116 | 0 |
| 542 | Meliaceae | Melia azedarach L. | ERL-2, SRL-53 | 0.0116 | 0 | 0 |
| 543 | Meteoriaceae | Meteorium deppei (Hornsch. ex Müll. Hal.) Mitt. | SRL-1432 | 0.0116 | 0 | 0 |
| 544 | Moraceae | Ficus benjamina | SRL-1170 | 0.0116 | 0.0116 | 0.0329 | 0 |
| 545 | Moraceae | Ficus carica L. | ERL-125 | 0.0116 | 0 | 0 |
| 546 | Moraceae | Ficus crocata (Miq.) Mart. ex Miq. | SRL-76, SRL-1171 | 0.0116 | 0.0116 | 0.0329 | 0 |
| 547 | Moraceae | Ficus microcarpa L. f. | ERL-115 | 0.0116 | 0 | 0 |
| 548 | Moraceae | Ficus pertusa L.f. | SRL-433 | 0.0116 | 0 | 0 |
| 549 | Moraceae | Morus celtidifolium Kunth | ERL-55, ERL-78, ERL-55, ERL-78, ERL-124, ERL-128, ERL-129, ERL-214, ERL-220, ERL-221, RLF-92, SRL-55, SRL-1517 | 0.0116 | 1.9551 | 0.0118 | 3.3295 | 0 |
| Table 5 Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S =$ Sutrop relative prominence index\(^2\) and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental); distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued) |
|---|
| **550*** Musaceae | *Musa × paradisiaca* L. | Photo record | Plátano | 2 | Ornamental = 12, edible = 100 | 0 | 0.0074 | 0 |
| **551*** Myrtaceae | *Eucalyptus camaldulensis* Dehnh. | SRL-203 | Eucalipto | 2 | 0 | 0 | 0 | 0.0019 |
| **552*** Myrtaceae | *Psidium guajava* L. | SRL-1528 | Guayaba | 1 | 0 | 0 | 0 | 0 |
| **556*** Nyctaginaceae | *Boerhavia anisophylla* Torr. | SRL-162, SRL-193, SRL-370, SRL-1184, SRL-1303 | 1 | 0 | -0.5246 | 0 | 0 |
| **557*** Nyctaginaceae | *Bougainvillea spectabilis* Willd. | SRL-33, SRL-191 | Bugambilia | 3 | Ornamental = 18 | 0 | 0.0529 | 0 |
| **558*** Nyctaginaceae | *Mirabilis jalapa* L. | ERL-29, ERL-99, SRL-421, SRL-1145 | Hierba cuchi, maravilla | 3 | Fodder = 50, ornamental = 29 | 0 | 0.2319 | 0 | -0.0608 | 0 | -0.3165 |
| **559*** Oleaceae | *Forestiera rotundifolia* (Brandegee) Standl. | RLF-306, SRL-1259 | Tlasisle | 3 | 0.0025 | 0.0567 | 0 | 0 |
| **560*** Oleaceae | *Fraxinus purpusii* Brandegee | SRL-341, SRL-1463, SRL-1512 | Zapotillo, fresno | 3 | Firewood = 100 | 0.0076 | -0.307 | 0 | 0 |
| **561*** Oleaceae | *Fraxinus uhdei* (Wenz.) Lingelsh. | SRL-1409 | Fresno | 1 | 0 | 0 | 0 | 0 |
| **562*** Oleaceae | *Ligustrum japonicum* Thunb. | ERL-105, ERL-238, SRL-59, SRL-453 | Trueno | 4 | Ornamental = 18, ceremonial = 22 | 0 | 0.0235 | 0 |
| **563*** Onagraceae | *Fuchsia* sp. | SRL-386, SRL-393 | 0 | 0 | 0 | 0 |
| **564*** Onagraceae | *Gaura coccinea* Nutt. ex Pursh | SRL-17, SRL-411 | Gradiolita | 2 | 0 | -0.2194 | 0 | 0 | -0.507 |
| **565*** Onagraceae | *Lopezia racemosa* Cav. | ERL-114, SRL-1, SRL-94, SRL-1323 | 1 | 0 | 0 | 0 | 0 |
| **566*** Onagraceae | *Oenothera pubescens* Willd. ex Spreng. | RLF-76, RLF-113, SRL-22, SRL-40, SRL-150, SRL-213 | Campanita grande | 2 | Ornamental = 12 | 0 | 0 | -0.8404 | 0 | -0.5653 |
| **567*** Onagraceae | *Oenothera rosea* L’Her. ex Alton | SRL-1127, SRL-1322 | Sanguinaria | 2 | Ornamental = 12 | 0 | 0 | -0.8404 | 0 | -0.5653 |
| **568*** Orchidaceae | *Barkeria lindleyana* subsp. vanneriana (Rchb.f.) Thien | SRL-1509 | Monjita de peña | 2 | Ceremonial = 8 | 0 | 0 | 0.1802 | 0 |
| **569*** Orchidaceae | *Corallorhiza* sp. | RLF-207 | Flor de jarrita | 0 | 0 | 0 | 0 |
| **571*** Orchidaceae | *Cyrtopodium macrobulbon* (Lex.) G.A.Romero & Carnevali | Photo record | Jarrito | 2 | 0 | -0.1422 | 0 | -1.0573 | 0 |
| **572*** Orchidaceae | *Dichromanthus cinnabarinus* (Lex.) Garay | RLF-223, RLF-289, SRL-1155, SRL-1172 | Cola de león | 3 | 0 | 0 | -1.1298 | 0 | -0.6711 |
| **574*** Orchidaceae | *Encyclia hanburyi* (Lindl.) Schltr. | SRL-1519 | Monjita morada de campo | 2 | 0 | 0.0074 | 0.3814 | 0 | 0 |
Table 5: Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = $ Sutrop relative prominence index$^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIV); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| Code  | Family          | Species                                         | Common Names            | Use Type       | Uses | Ecological Status | Ornamental | Ceremonial | EIV       | S          | First Component Value | Edit Distance |
|-------|-----------------|-------------------------------------------------|-------------------------|----------------|------|-------------------|------------|------------|-----------|-----------|------------------------|---------------|
| 570   | Orchidaceae     | Epidendrum lignosum Lex.                       | Flor de cañada          | RJS-9, RLF-50, SRL-139 | 1    | 0                 | 0          | 0          | -0.0825  | 0         | 1.2721                 | 0.9739         |
| 571   | Orchidaceae     | Epidendrum longipetalum A.Rich. & Galeotti     | Monjita moradita de varas | RJS-6          | 1    | 0                 | 0          | 0          | 1.2721   | 0         | 0                      | 1.2721         |
| 572   | Orchidaceae     | Epidendrum radiofrensis (Ames, F.T.Hubb. & C.Schweinf.) | Monjita colorada        | RJS-3          | 2    | Ornamental = 12, ceremonial = 85 | 0          | 0          | 1.2721   | 0         | 0.0139                 | 0.8741         |
| 573   | Orchidaceae     | Euchile karwinskii (Mart.) Christenson          | Monjita amarilla        | RJS-1          | 3    | Ornamental = 47, ceremonial = 99 | 0          | 0          | 0.045    | 3.5005    | 0.0017                 | 2.6178         |
| 574   | Orchidaceae     | Guenon ilgophora Lindl.                        | Jarrito                 | SRL-1270       | 3    | 0                 | 0.1688     | 0          | 0         | 0         | -0.7946                | 0.9739         |
| 575   | Orchidaceae     | Homalopetalum kienastii (Richb. &) Withner     | Monjita blanca          | SRL-1249       | 1    | 0                 | 0          | 0          | 0         | 0         | 1.2721                 | 0.9739         |
| 576   | Orchidaceae     | Laelia albida Bateman ex Lindl.                 | Monjita morada          | ERL-126       | 2    | Ornamental = 35, ceremonial = 77 | 0          | 0          | 0.0497   | 2.6014    | 0                      | 1.2721         |
| 577   | Orchidaceae     | Malaxis unifolia Michx.                        | Monjita pinta amorilla  | SRL-1196       | 1    | 0                 | 0          | 0          | 0         | 0         | 0                      | 1.2721         |
| 578   | Orchidaceae     | Oncidium brachyandrum Lindl.                    | Monjita pinta           | RJS-5          | 1    | 0                 | 0          | 0          | 0         | 0         | 1.2721                 | 0.9739         |
| 579   | Orchidaceae     | Orobanchaceae Ponthieva mexicana (A.Rich. & Galeotti) Salazar | Monjita de peña       | RLF-256, RLF-267 | 1    | 0                 | 0          | 0          | 0         | 0         | 0                      | 1.2721         |
| 580   | Orchidaceae     | Prosthechea concolor (Lex.) W.E.Higgins        | Monjita pintita chiquita | RJS-2, SRL-1189 | 1    | 0                 | 0          | 0          | 0         | 0         | 1.2721                 | 0.9739         |
| 581   | Orchidaceae     | Prosthechea vitellina (Lindl.) W.E.Higgins     | Monjita pintita         | Photo record   | 1    | 0                 | 0          | 0          | 0         | 0         | 1.2721                 | 0.9739         |
| 582   | Orchidaceae     | Rhynchostele maculata (Lex.) Soto Arenas & Salazar | Monjita pinta           | ERL-173, SRL-1476 | 2    | Ornamental = 6, ceremonial = 92 | 0          | 0          | 0.0174   | 0.8134    | 0                      | 1.2721         |
| 583   | Orchidaceae     | Spirantes sp.                                  | Monjita de peña         | RLF-208        | 1    | 0                 | 0          | 0          | 0         | 0         | 0                      | 1.2721         |
| 584   | Orchidaceae     | Buchnera pusilla Kunth                         | Monjita de peña         | Photo record   | 1    | 0                 | 0          | 0          | 0         | 0         | 1.2721                 | 0.9739         |
| 585   | Orchidaceae     | Castilleja tenuifolia M.Martens & Galeotti    | Monjita de carmitito largo | Photo record   | 1    | 0                 | 0          | 0          | 0         | 0         | 1.2721                 | 0.9739         |
| 586   | Orchidaceae     | Conopholis alpina Lieb.,                       | Flor de elote           | SRL-218, SRL-1481 | 2    | 0                 | -0.7655    | 0          | 0         | 0         | 0.9186                 | 0.9739         |
| 587   | Orchidaceae     | Buchnera pusilla Kunth                         | Romero cimarrón         | SRL-117, SRL-223, SRL-329, SRL-1438, SRL-1485 | 3    | 0                 | -0.1987    | 0          | 0         | 0         | -0.5504                | 0.9739         |
Table 5 Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = $ Sutrop relative prominence index$^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| SRL  | Species, Family                                         | Common Name | Use Type | Uses | Percentage of Families | EIVI | Sutrop Relative Prominence | Biocultural Importance |
|------|--------------------------------------------------------|-------------|----------|------|------------------------|------|---------------------------|------------------------|
| 722  | Orobanchaceae Lamourouxia dayantha    (Cham. & Schltdl) W.R.Ernst | Lisión      | Ceremonial | 17   | 0                      | 0.0059 | -1.2315                  | 0                      |
| 723  | Orobanchaceae Lamourouxia viscosa Kunth               | Moco de pavo, flor de miel | 1        | 0    | 0                      | 0    | 1.1914                   | 0                      |
| 594  | Oxalidaceae Oxalis comiculata L.                     | Coyule      |          | 0    | 0                      | 0    | 2.8029                   | 0                      |
| 592  | Oxalidaceae Oxalis aff. latifolia Kunth              | Coyule      |          | 0    | 0                      | 0    | 0                        | 0                      |
| 593  | Oxalidaceae Oxalis aff. nelsonii (Small) R.Knuth     | Coyule      |          | 0    | 0                      | 0    | 0                        | 0                      |
| 595  | Oxalidaceae Oxalis sp.                              | Coyule delgado | 0      | 0    | 0                      | 0    | 0                        | 0                      |
| 596  | Papaveracea Argemone mexicana L.                     | Chicalote   |          | 0    | 0                      | 0    | 0                        | -0.3555                |
| 597  | Passifloraceae Passiflora bryonoiides Kunth          | Granadilla  |          | 0    | 0                      | 0    | 0                        | 0                      |
| 598  | Passifloraceae Passiflora suberosa L.                | Granadilla  |          | 0    | 0                      | 0    | 0                        | 0                      |
| 761  | Passifloraceae Turnera diffusa Willd. ex Schult.     | Tamorreal   | Medicinal | 5    | 0                      | 0    | 0.037                    | 2.85                   |
| 721  | Phrymaceae Berendthella leviagata (B.L.Rob. & Greenm.) Thieret | Hierba de pajarito | 1      | 0    | -1.0765                | 0    | 0                        | 0                      |
| 599  | Phytolaccaceae Phytolacca icosandra L.               | Pino, ocote | Ornamental | 47   | 0                      | 0    | 0.3331                   | 0                      |
| 600  | Pinaceae Pinus sp.                                   | Verdelaga    | Edible   | 95   | 0                      | 0    | 0                        | 0                      |
| 601  | Piperaceae Peperomia quadrifolia (L.) Kunth           | Verdelaga    |          | 0    | 0                      | 0    | 0                        | 0                      |
| 602  | Piperaceae Peperomia sp.                             | RJS-4       |          | 0    | 0                      | 0    | 0                        | 0                      |
| 603  | Piperaceae Piper auritum Kunth                       | Hierba santa |          | 0    | 0                      | 0    | 0                        | 0                      |
| 717  | Plantaginaceae Antirrhinum majus L.                  | Perrito     | Ornamental | 12   | 0                      | 0    | 0.0147                   | 0                      |
| 718  | Plantaginaceae Bacopa monnieri (L.) Wettst.           | Verdelaga de agua | Edible | 5   | 0                      | 0    | 0.2864                   | 0                      |
| 724  | Plantaginaceae Maunandyia barclaoiana Lindl.         | Maunandyia barclaoiana | Ornamental | 18   | 0                      | 0    | 0.8535                   | 0                      |
| 725  | Plantaginaceae Penstemon barbatus (Cav.) Roth         | Bandera     |          | 0    | 0                      | 0    | 0                        | 0                      |
| 726  | Plantaginaceae Penstemon roseus (Cerv. ex Sweet) G.Don | Bandera     |          | 0    | 0                      | 0    | 0                        | 0                      |
| 604  | Plantaginaceae Plantago major L.                     | Bandera     |          | 0    | 0                      | 0    | 0                        | 0                      |
| 727  | Plantaginaceae Russelia obtusata S.F.Blake           | Bandera     |          | 0    | 0                      | 0    | 0                        | 0                      |
| 728  | Plantaginaceae Veronica persica Poir.                | Bandera     |          | 0    | 0                      | 0    | 0                        | 0                      |
| 729  | Plantaginaceae SRL-1198                              | Bandera     |          | 0    | 0                      | 0    | 0                        | 0                      |
| Species | Common Name | Number of Uses | Management Site | Cognitive Prominence Values | Biocultural Importance Values |
|---------|-------------|----------------|----------------|-----------------------------|-----------------------------|
| Plumbaginaceae | Plumbago pulchella | 0 | 0 | 0 |
| Poaceae | Aegopogon cenchroides | SRL-83 | Pasto | 2 | Fodder = 20 | 0.1738 | -0.3545 | 0.0074 | -0.904 | 0 |
| Poaceae | Aristida adscensionis | RLF-239, SRL-354 | Pasto | 3 | 0.1738 | 0.0074 | 0 |
| Poaceae | Aristida jorullensis | SRL-142 | Pasto de semilla | 2 | 0.1738 | -0.955 | 0.0074 | -1.2392 | 0 |
| Poaceae | Aristida schiedean | SRL-309 | Pasto | 2 | 0.1738 | 0.0074 | 0.5759 | 0 |
| Poaceae | Arundo donax | ERL-147, SRL-429 | Carrizo | 4 | 0 | 0 | 0 |
| Poaceae | Avena fatua | SRL-1546 | Avena | 1 | Fodder = 10 | 0.1041 | 0 | 0 |
| Poaceae | Bouteloua curtipendula | RLF-98, RLF-237, RLF-296 | Pasto | 2 | Fodder = 20 | 0.1738 | -0.3545 | 0.0074 | -0.904 | 0 |
| Poaceae | Chloris rufescens | RLF-99 | Pastón, cebadía, gabilla | 2 | Fodder = 20 | 0.1738 | -0.3545 | 0.0074 | -0.904 | 0 |
| Poaceae | Chloris submutica | SRL-38 | Pastón | 2 | Fodder = 20 | 0.1738 | -0.3545 | 0.0074 | -0.904 | 0 |
| Poaceae | Chloris submutica | SRL-38 | Pasto | 2 | Fodder = 20 | 0.1738 | -0.3545 | 0.0074 | -0.904 | 0 |
| Poaceae | Chondrosum simplex | SRL-305 | Pasto | 2 | 0.1738 | -0.8225 | 0.0074 | -1.1081 | 0 |
| Poaceae | Cymbopogon citratus | Photo record | Té limón, té de pasto | 1 | 0 | 0 | 0 |
| Poaceae | Dactylolovenium aegyptium | SRL-86 | Pasto de semilla | 2 | 0.1738 | 0.0074 | 0 |
| Poaceae | Digitaria bicornis | SRL-312 | Pasto | 2 | 0.1738 | 0.0074 | 0 |
| Poaceae | Eragrostis intermedia | RLF-164, SRL-306 | Pasto | 2 | Fodder = 20 | 0.1738 | -0.3545 | 0.0074 | -0.904 | 0 |
| Poaceae | Eragrostis mexicana | SRL-84 | Pasto | 2 | Fodder = 20 | 0.1738 | -0.3545 | 0.0074 | -0.904 | 0 |
| Poaceae | Eragrostis aff. pectinacea | SRL-85 | Pasto legítimo | 2 | Fodder = 20 | 0.1738 | -0.3545 | 0.0074 | -0.904 | 0 |
| Poaceae | Erioneuron avenaceum | RLF-292 | Pasto | 2 | 0.1738 | -0.955 | 0.0074 | -1.2392 | 0 |
| Poaceae | Heteropogon contortus | RLF-202 | Pasto | 2 | 0.1738 | -0.955 | 0.0074 | -1.2392 | 0 |
| Poaceae | Hilaria cenchroides | SRL-281, SRL-308 | Pasto | 2 | 0.1738 | -0.8824 | 0.0074 | -1.1673 | 0 |
| Poaceae | Hordeum vulgare | Photo record | Cebada | 1 | Fodder = 10 | 0.0794 | 0 | 0 |
| Poaceae | Lasiacis sp. | SRL-1506 | Otate | 1 | 0 | 0.0074 | -1.9051 | 0 |
| Poaceae | Lycurus philoides | SRL-307 | Pasto | 2 | 0.1738 | -0.8745 | 0.0074 | -1.1595 | 0 |
Table 5 Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as \( S = \text{Sutrop relative prominence index} \) and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); species origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

|   | Family          | Species, Commonnames | Code | Type  | Uses | Nfamilies | Ecological Status | Importance EIVI | Management Practices | Site | Origin Region | Management Site with Respect to Species Wild Populations |
|---|-----------------|----------------------|------|-------|------|-----------|------------------|-----------------|---------------------|------|--------------|------------------------------------------------------|
| 628 | Poaceae | Muhlenbergia gigantea (E.Fourn.) Hitchc. | RLF-305 | Pastón | 2 | 0 | 0.0074 | -1.1597 | 0 | Pastón | 2 | 0 | 0 | 0 |
| 629 | Poaceae | Muhlenbergia robusta (E.Fourn.) Hitchc. | RLF-66, SRL-169 | Pastón | 2 | 0 | 0.0074 | -1.0966 | 0 | Pastón | 2 | 0 | 0 | 0 |
| 630 | Poaceae | Nassella tenuissima (Trin.) Barkworth | RLF-258 | Pasto | 2 | 0.1738 | -0.955 | 0.0074 | -1.2392 | 0 | Pasto | 2 | 0 | 0 | 0 |
| 631 | Poaceae | Oryza sativa L. | Photo record | Arroz | 1 | 0 | 0 | 0 | 0 | Arroz | 1 | 0 | 0 | 0 |
| 632 | Poaceae | Otatea acuminata (Munro) C.E.Calderón & Soderstr. | RLF-250 | Otaie | 2 | 0 | 0 | -1.3925 | 0 | Otaie | 2 | 0 | 0 | 0 |
| 633 | Poaceae | Panicum maximum Jacq. | RLF-147 | Pasto cenizo, pastón | 2 | 0.1738 | 0.0074 | 0 | 0 | Pasto | 2 | 0 | 0 | 0 |
| 634 | Poaceae | Phalaris canariensis L. | ERL-231 | Alpiste | 1 | 0 | 0 | 0 | 0 | Alpiste | 1 | 0 | 0 | 0 |
| 635 | Poaceae | Setaria grisebachii E.Fourn. | RLF-231, RLF-358 | Pasto de semilla | 3 | 0.1738 | -0.4232 | 0.0074 | -0.8164 | 0 | Pasto | 3 | 0 | 0 | 0 |
| 636 | Poaceae | Sporobolus indicus (L.) R.Br. | RLF-132 | Pastón | 3 | 0.1738 | -0.4882 | 0.0074 | -0.8807 | 0 | Pasto | 3 | 0 | 0 | 0 |
| 637 | Poaceae | Triticum aestivum L. | SRL-172 | Trigo | 2 | Edible = 95 | 0.0573 | 0 | 0 | Trigo | 2 | Edible = 95 | 0.0573 | 0 | 0 |
| 638 | Poaceae | Zea mays L. | SRL-174 | Maíz | 3 | Edible = 100, Fodder = 80, ceremonial = 1 | 0.3047 | 0 | 0 | Maíz | 3 | Edible = 100, Fodder = 80, ceremonial = 1 | 0.3047 | 0 | 0 |
| 639 | Poaceae | | RLF-157 | Pasto | 3 | 0.1738 | -0.4882 | 0.0074 | -0.8807 | 0 | Pasto | 3 | 0 | 0 | 0 |
| 640 | Poaceae | | SRL-311 | Pasto de semilla | 3 | 0.1738 | -0.3818 | 0.0074 | -0.7755 | 0 | Pasto | 3 | 0 | 0 | 0 |
| 641 | Poaceae | | SRL-258 | Pasto | 2 | 0.1738 | -0.7199 | 0.0074 | -1.0066 | 0 | Pasto | 2 | 0 | 0 | 0 |
| 642 | Poaceae | | RLF-291 | Pasto | 2 | 0.1738 | -0.4149 | 0.0074 | -0.705 | 0 | Pasto | 2 | 0 | 0 | 0 |
| 643 | Poaceae | | RLF-316 | Pasto | 2 | 0.1738 | -0.955 | 0.0074 | -1.2392 | 0 | Pasto | 2 | 0 | 0 | 0 |
| 644 | Poaceae | | RLF-331 | Pasto | 2 | 0.1738 | -0.955 | 0.0074 | -1.2392 | 0 | Pasto | 2 | 0 | 0 | 0 |
| 645 | Poaceae | | RLF-332 | Pasto | 2 | 0.1738 | -0.955 | 0.0074 | -1.2392 | 0 | Pasto | 2 | 0 | 0 | 0 |
| 646 | Poaceae | | RLF-333 | Pasto | 2 | 0.1738 | -0.955 | 0.0074 | -1.2392 | 0 | Pasto | 2 | 0 | 0 | 0 |
| 647 | Poaceae | | RLF-334 | Pasto | 2 | 0.1738 | -0.955 | 0.0074 | -1.2392 | 0 | Pasto | 2 | 0 | 0 | 0 |
| 648 | Poaceae | | RLF-317 | Pasto | 2 | Fodder = 20 | 0.1738 | -0.3545 | 0.0074 | -0.904 | 0 | Pasto | 2 | Fodder = 20 | 0.1738 | -0.3545 | 0.0074 | -0.904 | 0 |
| 649 | Polemoniaceae | Loeselia caerulea (Cav.) G.Don | RLF-265, SRL-96, SRL-353, SRL-1267, SRL-1282, SRL-1364, SRL-1401, SRL-1458 | 2 | 0 | -0.2933 | 0 | 0 | -0.6054 | 0 | 0 | 0 | 0 |
| 650 | Polygalaceae | Polygala compacta Rose | SRL-255 | 0 | 0 | 0 | 0 | 0 |
| 651 | Polygalaceae | Polygala scoparia Kunth | RLF-224, RLF-287 | 2 | 0 | -0.4 | 0 | 0 | -0.8599 | 0 | 0 | 0 | 0 |
| Species Family | Scientific Name | Common Names | Number of Uses | Percentage of Families | Cognitive Prominence | Biocultural Importance | Distribution on Vegetal Types | Importance Ecological Index Value (EIVI) | Specie Origin Region | Ecological Status | Management Practices | Management Site with Respect to Species Wild Populations |
|----------------|-----------------|--------------|----------------|------------------------|----------------------|-----------------------|-----------------------------|------------------------------------------|----------------------|-----------------|-------------------|------------------------------------------------|
| 653 Polygonaceae | Rumex crispus L. | SRL-1533 | 0 | 0 | 0 | | | | | | | |
| 654 Polypodiaceae | Pleopeltis conzattii (Weath.) RM.Tryon & A.F.Tryon | RLF-46, SRL-135, SRL-1237 | 1 | 0 | -1.0765 | 0 | | | | | | |
| 655 Polypodiaceae | Pleopeltis pulepise (Roemer ex Kunze) T.Moore | SRL-1434 | 0 | 0 | 0 | | | | | | | |
| 656 Polypodiaceae | Polypodium martensii Mett. | RLF-47, SRL-137, SRL-1433 | 2 | 0 | -0.7655 | -1.4404 | | | | | | |
| 658 Polypodiaceae | Polypodium thyssanolepis A.Braun ex Klotzsch | RLF-294 | 0 | 0 | 0 | | | | | | | |
| 657 Polypodiaceae | Polypodium sp. | SRL-352 | 0 | 0 | 0 | | | | | | | |
| 658 Polypodiaceae | Polypodium sp. | SRL-415 | 0 | 0 | 0 | | | | | | | |
| 659 Primulaceae | Anagallis arvensis L. | ERL-108, ERL-228, RLF-200, SRL-87, SRL-100, SRL-1133 | 3 | 0 | 0 | 0.0065 | | | | | | |
| 662 Proteaceae | Grevillea robusta A.Cunn. ex R.Br. | ERL-6 | 2 | Ornamental = 12 | 0 | 0.0042 | | | | | | |
| 663 Pteridaceae | Adiantum capillus-veneris L. | SRL-1518 | 0 | 0 | 0 | | | | | | | |
| 664 Pteridaceae | Adiantum piaireti Wikstr. | SRL-202, SRL-427 | 1 | 0 | 0 | 0 | -0.9676 | | | | | |
| 665 Pteridaceae | Astroplexis crassifolia (Houlston & T.Moore) D.M.Benham & Windham | RLF-34, SRL-389 | 0 | 0 | 0 | | | | | | | |
| 666 Pteridaceae | Chelioplecton rigidum (Sw.) Fée | RLF-112, RLF-213, RLF-254, SRL-1457 | 0 | 0 | 0 | | | | | | | |
| 667 Pteridaceae | Notholaena sp. | SRL-230 | 0 | 0 | 0 | | | | | | | |
| 668 Pteridaceae | Pellaea sp. | RLF-185 | 0 | 0 | 0 | | | | | | | |
| 671 Ranunculaceae | Anemone mexicana Kunth | RLF-43, RLF-128, RLF-271, SRL-1240 | 2 | 0 | -0.7655 | -1.4404 | | | | | | |
| 672 Ranunculaceae | Clematis dioica L. | SRL-303, SRL-1305 | 0 | 0 | 0 | | | | | | | |
| 673 Ranunculaceae | Consolida ajacis (L.) Schur | ERL-182 | 2 | Ceremonial = 14 | 0 | 0.0147 | | | | | | |
| 674 Ranunculaceae | Delphinium bicorumatum Hemsl. | SRL-1200 | 1 | Ceremonial = 8 | 0 | 0 | | | | | | |
| 675 Ranunculaceae | Thalictrum gibbosum Lecoy. | RLF-212, RLF-302 | 1 | 0 | 0 | 0 | -1.0487 | | | | | |
| 676 Rhamnaceae | Condalia mexicana Schtdl. | RLF-86, SRL-457, SRL-1147 | 3 | Ornamental = 29 | 0 | 0.0074 | 0.0446 | | | | | |
| 677 Rhamnaceae | Ziziphus amole (Sessé & Moc.) M.C.Johnst. | SRL-1329 | 1 | 0 | 0 | 0 | | | | | | |
| Species | Spanish common names | Type | Ecological Index Value | Management Practices | Management Site | Wild Populations |
|---------|----------------------|------|------------------------|----------------------|----------------|-----------------|
| Sp. | | | | | | |
| Rosaceae | Cercocarpus fothergilloides Kunth | | | | | |
| Rosaceae | Crataegus mexicana Moc. & Sess, ex DC | | | | | |
| Rosaceae | Eriobotrya japonica (Thunb.) Lindl. | | | | | |
| Rosaceae | Lindleya mespiloides Kunth | | | | | |
| Rosaceae | Malacomeles denticulata (Kunth) G.N.Jones | | | | | |
| Rosaceae | Malus domestica Borkh. | | | | | |
| Rosaceae | Prunus armeniaca L. | | | | | |
| Rosaceae | Prunus persica (L.) Batsch | | | | | |
| Rosaceae | Prunus serotina subsp. capuli (Cav. ex Spreng.) McVaugh | | | | | |
| Rosaceae | Prunus sp. | | | | | |
| Rubiaceae | Bouvardia longiflora (Cav.) Kunth | | | | | |
| Rubiaceae | Bouvardia ternifolia (Cav.) Schldl. | | | | | |
| Rubiaceae | Chiococca alba (L.) Hitchc. | | | | | |
| Rubiaceae | Coutaportla ghiesbreghtiana (Bail.) Urb. | | | | | |
| Rubiaceae | Crusea diversiflora (Kunth) WR.Anderson | | | | | |
| Rubiaceae | Crusea sp. | | | | | |
| Rubiaceae | Didymaea alsinoides (Cham. & Schtdl) Standl. | | | | | |
| Rubiaceae | Galium sp. | | | | | |
Table 5 Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = \text{Sutrop relative prominence index}^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| Species, Family | Scientific Name | Botanical Code | Spanish Common Name | Uses | Edible | Medicinal | Firewood | Fodder | Ceremonial | Ornamental | EIVI | Ecological Status | Management Practices | Management Site | J. Ethnobiol. Ethnomed. 12(30) 2016 |
|----------------|----------------|----------------|---------------------|------|--------|-----------|----------|--------|------------|----------|-----|-----------------|----------------------|----------------|----------------|
| 698 Rubiaceae  | Randia capitata DC. | RLF-281, SRL-1208 | Limoncito de coyote | 1   | 0      | 0         | 0        | 0      | -1.0487   |           |     |                  |                      |                 |                |
| 699 Rubiaceae  | Randia thurberi S.Watson | SRL-1344 |                     |     | 0      | 0         | 0        | 0      |            |           |     |                  |                      |                 |                |
| 700 Rutaceae   | Casimiroa edulis La Llave | ERL-130, ERL-176 | Zapote blanco | 4   | Edible = 5 | 0         | 0        | 0      | 0.021     |           |     |                  |                      |                 |                |
| 701 Rutaceae   | Citrus aurantiifolia (Christm.) Swingle | Photo record | Limón | 3   | Ornamental = 71; medicinal = 5; edible = 100 | 0      | 0.0189   | 0.0046   |           |           |     |                  |                      |                 |                |
| 702 Rutaceae   | Citrus maxima (Burm.) Merr. | Photo record | Toronja | 1   | Ornamental = 6 | 0         | 0.0147   | 0        |           |           |     |                  |                      |                 |                |
| 703 Rutaceae   | Citrus sinensis (L.) Osbeck | Photo record | Naranja | 4   | Ornamental = 12; edible = 100 | 0      | 0.0147   | 0.0015   |           |           |     |                  |                      |                 |                |
| 704 Rutaceae   | Citrus reticulata Blanco | Photo record | Mandarina | 1   | 0      | 0         | 0        | 0      |            |           |     |                  |                      |                 |                |
| 705 Rutaceae   | Citrus × latifolia (Yu.Tanaka) | Photo record | Lima | 2   | 0      | 0         | 0        | 0.0056   |            |           |     |                  |                      |                 |                |
| 706 Rutaceae   | Ptelea trifoliata L. | ERL-196, RLF-27, RLF-308, SRL-274, SRL-466, SRL-467 | Hierba de zorrillo | 3   | Firewood = 100 | 0         | 0        | 0.0028   | -0.2649   |           |     |                  |                      |                 |                |
| 707 Rutaceae   | Ruta chalepensis L. | ERL-93, ERL-127, ERL-208, ERL-241, SRL-68 | Ruda | 2   | Ornamental = 53 | 0         | 0        | 0.0427   |           |           |     |                  |                      |                 |                |
| 708 Rutaceae   | Zanthoxylum sp. | SRL-1221 |                     |     | 0      | 0         | 0        | 0      |            |           |     |                  |                      |                 |                |
| 709 Rutaceae   | Zanthoxylum sp. | SRL-326 |                     |     | 0      | 0         | 0        | 0      |            |           |     |                  |                      |                 |                |
| 710 Rutaceae   | Zanthoxylum sp. | SRL-1348 | Hierba de zorrillo | 1   | 0      | 0         | 0        | 0      |            |           |     |                  |                      |                 |                |
| 711 Sapindaceae | Neopriniglea viscosa (Liebm.) Rose | SRL-337 |                     |     | 0      | 0         | 0        | 0      |            |           |     |                  |                      |                 |                |
| 712 Sapindaceae | Salix bonplandiana Kunth | SRL-204 | Sauce | 3   | 0      | 0         | 0        | 0      |            |           |     |                  |                      |                 |                |
| 713 Sapindaceae | Phoradendron reinchenbachianum (Seem.) Oliv. | RLF-329, SRL-1483 | Injerto | 0   | 0      | 0         | 0        | 0      |            |           |     |                  |                      |                 |                |
| 714 Sapindaceae | Phoradendron sp. | ERL-180, SRL-1558 | Injerto, chahuistle | 0   | 0      | 0         | 0        | 0      |            |           |     |                  |                      |                 |                |
| 715 Sapindaceae | Phoradendron sp. | RLF-228, SRL-1268 | Injerto | 2   | 0      | -0.298    | 0         | 0      | -0.5662   |           |     |                  |                      |                 |                |
| 716 Sapindaceae | Dodonaea visciosa (L.) Jacq. | RLF-30, SRL-294, SRL-473, SRL-1118, ERL-189 | Cachovenado | 4   | Firewood = 100 | 0      | 0.0147   | 0.2881   |           |           |     |                  |                      |                 |                |
| 717 Sapindaceae | Unvilea ulmacea Kunth | SRL-1332 |                     | 0   | 0      | 0         | 0        | 0      |            |           |     |                  |                      |                 |                |
| 718 Sapindaceae | Sideroxylon palmeri (Rose) T.D.Penn. | ERL-219, SRL-454 | Tempesquistle | 1   | Edible = 90 | 0         | 0        | 0      |            |           |     |                  |                      |                 |                |
| 719 Sapindaceae | Sideroxylon salicifolium (L.) Lam. | RLF-244 |                     | 0   | 0      | 0         | 0        | 0      | -1.0765   |           |     |                  |                      |                 |                |
| 720 Sapindaceae | Sideroxylon capitum (A.DC.) Pittier | SRL-1508 |                     | 0   | 0      | 0         | 0        | 0      |            |           |     |                  |                      |                 |                |
| Code | Family             | Species, Common Names | Use Types | Cognition Index | Biocultural Importance | Distribution | Ecological Status | Management Practices | Management Site |
|------|--------------------|-----------------------|-----------|-----------------|------------------------|--------------|-------------------|----------------------|-----------------|
| 730  | Selaginellaceae    | Selaginella lepidophylla (Hook. & Grev.) Spring |           | 1               | 0                      | 0            | 0                 | -1.0487              |                 |
| 731  | Simaroubaceae      | Castela erecta Turpin |           | 0               | 0                      | 0            | 0                 |                      |                 |
| 732  | Smilacaceae        | Smilax moranensis M.Martens & Galeotti |           | 0               | 0                      | 0            | 0                 |                      |                 |
| 733  | Solanaceae         | Brugmansia × candida Pers. |           | 2               | 0                      | 0            | 0                 | Ornamental = 12, ceremonial = 17 |                 |
| 734  | Solanaceae         | Capsicum annuum L. |           | 3               | 0                      | 0            | 0                 | Edible = 120,  ornamental = 17 |                 |
| 735  | Solanaceae         | Capsicum pubescens Ruiz & Pav. |           | 2               | 0                      | 0            | 0                 |                      |                 |
| 736  | Solanaceae         | Capsicum sp. |           | 1               | 0                      | 0            | 0                 | -1.0487              |                 |
| 737  | Solanaceae         | Capsicum sp. |           | 1               | 0                      | -1.0765      | 0                 |                      |                 |
| 738  | Solanaceae         | Datura stramonuim L. |           | 0               | 0                      | 0            | 0                 |                      |                 |
| 739  | Solanaceae         | Jaltomata procumbens (Cav.) J.L.Gentry |           | 2               | 0                      | 0            | 0                 | -0.6249              |                 |
| 740  | Solanaceae         | Lycianthes ciliolata (M.Martens & Galeotti) Bitter |           | 2               | 0                      | 0            | 0                 | 0.0051 -0.5422       |                 |
| 741  | Solanaceae         | Nicotiana glauca Graham |           | 4               | 0                      | 0            | 0                 | Ornamental = 6, firewood = 100 | 0.0028          |
| 742  | Solanaceae         | Nicotiana tabacum L. |           | 1               | 0                      | 0            | 0                 |                                    |                 |
| 743  | Solanaceae         | Physalis philadelphica Lam. |           | 2               | 0                      | 0            | 0                 |                                    | 0.0069 1.5091 |
| 744  | Solanaceae         | Solandra maxima (Moc. & Sessé ex Dunal) P.S.Green |           | 1               | 0                      | 0            | 0                 |                                    | 0.0059          |
| 745  | Solanaceae         | Solanum americanum Mill. |           | 1               | 0                      | 0            | 0                 |                                    |                 |
| 746  | Solanaceae         | Solanum erianthum D.Don. |           | 1               | 0                      | 0            | 0                 |                                    | -0.7375 0.0046 |
| 747  | Solanaceae         | Solanum lanceolatum Cav |           | 1               | 0                      | 0            | 0                 |                                    | 0.0046 -0.6538 |
| 748  | Solanaceae         | Solanum lesteri Hawkes & Hjert. |           | 1               | 0                      | 0            | 0                 |                                    |                 |
| 749  | Solanaceae         | Solanum lycopersicum L. |           | 1               | 0                      | 0            | 0                 |                                    |                 |
| 750  | Solanaceae         | Solanum rostratum Dunal |           | 1               | 0                      | 0            | 0                 |                                    | -1.0487 |
| No. | Family         | Species                        | Common Names          | Number of Uses | Distribution | Ecological Status | Species Origin Region | Ecological Index Value (EIVI) | Management Practices and Management Site with Respect to Species Wild Populations |
|-----|----------------|-------------------------------|-----------------------|----------------|--------------|-------------------|-----------------------|-----------------------------|--------------------------------------------------------------------------------|
| 751 | Solanaceae     | Solanum rudepannum Dunal      | RLF-22, RLF-95, RLF-120, RLF-275, SRL-128, SRL-302 | 2              | Tepozán      | 0                 | 0                     | 0.0046                      | -0.784                        |
| 753 | Solanaceae     | Solanum tridynamum Dunal      | SRL-1361, SRL-1391    |                |              |                   |                       |                             |                                |
| 754 | Solanaceae     | Solanum tuberosum L.          | Photo record         | 1              | Papa         | Edible = 100      | 0                     | 0                           | 0                              |
| 752 | Solanaceae     | Solanum sp.                   | SRL-27               |                |             |                   |                       |                             |                                |
| 756 | Sterculiaceae  | Melochia sp.                  | SRL-1555             |                |             |                   |                       |                             |                                |
| 659 | Talinaceae     | Talinum sp.                   | SRL-414              | 1              |             |                   | 0                     | -1.023                      | 0                              |
| 757 | Thelypteridaceae | Thelyptenis albicaulis (Fée) | SRL-200              |                | Pojalillo    |                   |                       |                             |                                |
| 758 | Thelypteridaceae | Thelyptenis sp.               | SRL-161, RLF-303     | 1              |             |                   |                       |                             |                                |
| 760 | Tropaeolaceae  | Tropaeolum majus L.           | ERL-18, ERL-89, RLF-182, SRL-60, SRL-196 | 3              | Mastuerzo    | Ornamental = 18   | 0                     | 0.0033                      | 0                              |
| 762 | Typhaceae      | Typha sp.                     | Photo record         |                |             |                   |                       |                             |                                |
| 764 | Urticaceae     | Perietaria pensylvanica Muhl. ex Willd. | ERL-73, RLF-88, RLF-266, SRL-18 | 1              | Paletaria    |                   |                       |                             | 0.0159                      | -0.5533                        |
| 765 | Urticaceae     | Pilea microphylla (L.) Liebm. | RLF-171, SRL-1256, SRL-1309 | 1              | Pinolillo    | Ornamental = 6    | 0                     | 0                           | 0.0738                        |
| 766 | Urticaceae     | Urena caracasana (Jacq.) Gaudich. ex Griseb. | SRL-1543 | 2              | Chichicasle  |                   |                       |                             | 0.0031                      | -0.5744                        |
| 768 | Verbenaceae    | Citharexylum aff bourgeauianum Greenm. | SRL-1215 | 1              |             |                   | 0                     | -2.1063                    |                                |
| 769 | Verbenaceae    | Citharexylum tetrarnerum Brandegee | Photo record       |                |             |                   |                       |                             |                                |
| 770 | Verbenaceae    | Glandularia elegans (Kunth) Umber | RLF-5, SRL-110, SRL-279, SRL-1326, SRL-1479 | 1              |             |                   | 0                     | 0                           | -1.0167                        |
| 771 | Verbenaceae    | Lantana ochryanthifolia Desf. | RLF-61, RLF-62, SRL-109, SRL-152, SRL-369, SRL-1296 | 2              | Hierba buena de monte |                   |                       | -0.2001                     | 0                            | -0.4950                        |
| 772 | Verbenaceae    | Lantana camara L.             | RLF-91, RLF-197, SRL-115, SRL-459, SRL-1112, SRL-1154, SRL-1169, SRL-1365 | 4              | Triundica, siete negritos |                   | 0.0054                      | 3.3596                      | 0.8495                        | 0.0056                          | 2.2797                        |
| 773 | Verbenaceae    | Lantana velutina M.Martens & Galeotti | ERL-185, RLF-31, RLF-204, SRL-272, SRL-1115, SRL-1168 | 4              | Triundica blanca, cinco negritos | Ornamental = 12 | 0                     | 0                           | 1.484                         | 0                             | 2.4772                        |
| 774 | Verbenaceae    | Lippia graveolen Kunth        | Oreganillo, salvarreal de castilla | 4              | Medicinal = 5 |                   | 0.0065                      | 0.0052                      | 0.0069                          | 0.0526                        |
| 775 | Verbenaceae    | Lippia oaxacana B.L.Rob. & Greenm. | SRL-71, SRL-1378, SRL-1454, SRL-1549 | 2              | Medicinal = 60 |                   | 0                     | 0                           | 0.2636                        | 10.3582                        |
| 776 | Verbenaceae    | Priva mexicana (L.) Pers.     | RLF-29               |                |             |                   |                       |                             | Piojito                       |                                |
Table 5: Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as S = Sutrop relative prominence index and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| Species (Family) | Common Name | Sutrop Index | Use Type | Origin Region | Ecological Status | Management Practices | Management Site |
|------------------|-------------|--------------|----------|--------------|-------------------|----------------------|-----------------|
| 777 Verbenaceae  | Stachytarpheta acuminata A.DC. | SRL-1380 | 0 | 0 | 0 |
| 778 Verbenaceae  | Verbena carolina L. | RLF-93, SRL-125, SRL-173, SRL-456 | 1 | 0 | 0 | -1.5594 |
| 782 Vitaceae     | Cissus sp. | RLF-101, RLF-173, SRL-1373, SRL-1535 | 2 | 0 | 0 | -1.2488 |
| 783 Vitaceae     | Vitis vinifera L. | SRL-54 | 2 | 0 | 0 | 0 |
| 784 Xanthorrhoeaceae | Aloe vera (L.) Burm.f. | ERL-188, SRL-78 | 5 | Ornamental = 47 | 0 | 0 | 0.0552 |
| 82 Xanthorrhoeaceae | Asphodelus fistulosus L. | SRL-388, SRL-1415 | 1 | Ornamental = 6 | 0 | 0 | 0 |
| 83 Xanthorrhoeaceae | Kniphofia uvaria (L.) Oken | ERL-158 | 2 | Ornamental = 24 | 0 | 0 | 0 |
| 785 Zygophyllaceae | Morkillia mexicana (DC.) Rose & Painter | SRL-1338, SRL-1349 | 0 | 0 | 0 | 0 |
| 786 Octavillo     | 1 | Ceremonial = 17 | 0 | 0 | 0 | 0 |

Notes:
- Collectors name: ERL Erandi Rivera Lozoya, RLF Ricardo Lemus Fernández, RJS José Rosario Jiménez Salazar, SRL Selene Rangel Landa
- Fodder plants Sutrop Index details: Number of lists = 31; Average length of lists = 6; Number of cited items = 65; Total number of cited items = 195; Number of collected lists for no new information addition = 14. Sutrop Index rarefaction curve 1
- Ornamental plants Sutrop Index details: Number of lists = 34; Average length of lists = 6; Number of cited items = 85; Total number of cited items = 200; Number of collected lists for no new information addition = 25. Sutrop Index rarefaction curve 2
- Medicinal plants Sutrop Index details: Number of lists = 36; Average length of lists = 8; Number of cited items = 76; Total number of cited items = 285; Number of collected lists for no new information addition = 19. Sutrop Index rarefaction curve 3
- Edible plants Sutrop Index details: Number of lists = 38; Average length of lists = 10; Number of cited items = 83; Total number of collected lists for no new information addition = 185. Sutrop Index rarefaction curve 4
- Ceremony plants Sutrop Index details: Number of lists = 36; Average length of lists = 5; Number of cited items = 41; Total number of cited items = 185; Number of collected lists for no new information addition = 13. Sutrop Index rarefaction curve 5
- Firewood Sutrop Index details: Number of lists = 35; Average length of lists = 7; Number of cited items = 39; Total number of cited items = 244; Number of collected lists for no new information addition = 9. Sutrop Index rarefaction curve 6
- Key to vegetation type: AA Ancient settlements, Bal Urban secondary vegetation, BEA Quercus liebmanni and Quercus laeta forest, BEC Quercus urbani forest, BEM Quercus spp.forest, BG Gallery forest (Taxodium mucronatum), BN Juniperus flacida forest, CaCe Cephalocereus columnna-trajanni shrubland, CaMy Pseudomytrocereus fulviceps shrubland, Iz Izotal (shrubland dominated by rosettes), Ms Mexical, Pal Mescal factories, Palm Palm shrubland of Brahea dulcis, Pizz grassland, SB Tropical dry forest, Sol Homegardens, TS Agricultural fields, VR Riparian vegetation
- Key to Area of Origin: AC American Continent, EAAA Europa, Asia, Africa, Australia, Ixc Ixcatlán (species with wild populations in Ixcatlán territory, and Mesoamerican area native species that have naturalized populations in Ixcatlán territory), Mex Mexico, TCV Tehuacán-Cuicatlán Valley (plants natives of VTC but in Ixcatlán only could be finding in settlements under cultivation), Ux Unknown
- Key to Ecological Status: D Domesticated, R-W Ruderal-Weedy, W Wild
- Key to Management practices: E Enhancement, F Forage, G Gathering, P Protection, Pp Propagation, T Tolerance, Ti Transplanting of individuals, Ur Uproot
- Key to Management site: In situ = when management take place in sites where species wild populations are distributed; ex situ = when management take place in sites out of species wild populations distribution
Table 5 Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as S = Sutrop relative prominence index\textsuperscript{2} and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| ID | Edible | Ceremonial | Firewood | Vegetation type\textsuperscript{3} | EIVI (ecological importance value index) | Origin\textsuperscript{4} | Ecological status\textsuperscript{5} | Management practices\textsuperscript{6} | Management site\textsuperscript{7} |
|----|--------|------------|----------|-------------------------------|----------------------------------------|----------------|----------------|-------------------------------|----------------|
| 1  | 0      | 0          | 0        | SB                            | 0                                      | Ixc            | W              | P, Prp                         | ex situ       |
| 2  | 0      | 0          | 0        | CaCe                          | 0                                      | Ixc            | W              |                               |               |
| 3  | 0      | 0          | 0        | CaCe                          | 0                                      | Ixc            | W              |                               |               |
| 4  | 0      | 0          | 0        | Sol                           | 0.000153                               | TCV            | W              | P, Prp                         | ex situ       |
| 5  | 0      | 0          | 0        | BG, Pal                       | 0                                      | Ixc            | W              | T                             | in situ       |
| 20 | 0      | 0          | 0        | Sol                           | 0.000026                               | EAAA           | W              | P, Prp                         | ex situ       |
| 21 | 0      | 0          | 0        | Sol                           | 0.000026                               | EAAA           | W              | P, Prp                         | ex situ       |
| 22 | 0      | 0          | 0        | Sol                           | 0.000026                               | EAAA           | W              | P, Prp                         | ex situ       |
| 28 | 0      | 0          | 0        | Iz                            | 0                                      | Ixc            | W              |                               |               |
| 29 | 0      | 0          | 0        | Bal, Sol                      | 0.000153                               | Ixc            | R-W            | F, G, T, Ur                    | in situ       |
| 30 | 0.2516 | 2.025      | 0        | Bal, Sol, TS                  | 0.006548                               | Ixc            | R-W            | E, F, G, P, T, Ur             | in situ       |
| 31 | 0.0218 | 0          | 0        | Sol                           | 0.000051                               | EAAA           | D              | P, Prp                         | ex situ       |
| 33 | 0      | 0.0296     | 0        | Sol                           | 0.000077                               | TCV            | D              | E, P, Prp                      | ex situ       |
| 34 | 0      | 0          | 0        | Bal, BEA, BN, Iz, Me, Palm    | 0.008464                               | Ixc            | W              | F, G                          | in situ       |
| 35 | 0      | 0          | 0        | Iz                            | 0.000784                               | Ixc            | W              | F                             | in situ       |
| 36 | 0      | 0          | 0        | Me                            | 0                                      | Ixc            | W              |                               |               |
| 26 | 0      | 0          | 0        | Pal, Sol                      | 0.000077                               | EAAA           | D              | P, Prp                         | ex situ       |
| 23 | 0      | 0          | 0        | Sol                           | 0.000051                               | EAAA           | D              | P, Prp                         | ex situ       |
| 24 | 0      | 0          | 0        | Sol                           | 0.000153                               | EAAA           | D              | P, Prp                         | ex situ       |
| 37 | 0      | 0.0588     | 0        | Pal, Sol                      | 0.000153                               | EAAA           | D              | P, Prp                         | ex situ       |
| 38 | 0      | 0.0056     | 0        | Pal, Sol                      | 0.000128                               | AC             | D              | P, Prp                         | ex situ       |
| 39 | 0      | 0          | 0        | Pal                           | 0                                      | Ixc            | W              | T                             | in situ       |
| 40 | 0      | 0          | 0        | Me, Sol                       | 0.000026                               | Ixc            | W              | E, P, Prp, Ti                  | ex situ, in situ |
| 41 | 0      | 0          | 0        | Me                            | 0                                      | Ixc            | W              |                               |               |
| 42 | 0      | 0          | 0.0092  | -0.5723                       | CaCe, Me, Iz, Palm                      | 0.003085       | Ixc            | W, G                          | in situ       |
| 43 | 0      | -1.3811    | 0        | CaCe                          | 0                                      | Ixc            | W              | G                             | in situ       |
| 44 | 0      | 0          | 0        | BG, CaCe, Iz, SB, Pal, Sol    | 0.000026                               | Ixc            | W              | F, G, T                        | in situ       |
| 45 | 0      | 0.06       | 0.03     | 0.2684                        | BEA, BEC, Me, Pal, SB, TS               | 0.013869       | Ixc            | W, F, G, T                    | in situ       |
Table 5 Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = \text{Sutrop relative prominence index}^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental); distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| No. | Use Type | EIVI | Habitat Type | Species | Management Practices | Ecosystem Status | Management Site | Management Site Details |
|-----|----------|------|--------------|---------|----------------------|-----------------|-----------------|-------------------------|
| 46  | 0        | -0.5044 | 0            | BEA, BEC, Iz, Me, Pal, Palm, TS | 0.023686 | bc | W | G, T | in situ |
| 47  | 0        | -0.0476 | 0            | BEA, BN, Iz, Me, BB, TS | 0.017724 | bc | W | F, G, T | in situ |
| 48  | 0        | 0        | 0            | Sol     | 0.000026 | AC | W | E, P, T, Ti | ex situ |
| 49  | 0.0088   | 0        | 0            | Sol     | 0.000026 | AC | D | P, Prp | ex situ |
| 52  | 0        | 0.0469  | 0            | Sol     | 0.000205 | EAAA | D | E, P, Prp, T, Ti | ex situ |
| 53  | 0        | 0        | Bal, BG, Sol | 0 | bc | W | T | | in situ |
| 54  | 0.0610   | 0        | 0            | Sol     | 0.000205 | EAAA | D | E, P, Prp, T, Ti | ex situ |
| 55  | 0.0075   | 0        | 0            | Sol     | 0 | EAAA | D | P, Prp | ex situ |
| 56  | 0        | 0        | 0            | BEA, Paz | 0.003360 | bc | W | G | in situ |
| 57  | 0        | 0        | 0            | Me      | 0 | bc | W | G | in situ |
| 58  | 0        | 0        | 0            | BEA, BEC | 0.001155 | bc | W | G | in situ |
| 59  | 0.0066   | 0        | 0            | Sol     | 0.000051 | EAAA | W | P, Prp | ex situ |
| 60  | 0.0263   | 0        | 0            | Sol     | 0.000128 | EAAA | D | P, Prp | ex situ |
| 61  | 0        | 0        | 0            | NE, TS  | 0 | Nat-Uk | W | F, T, Ur | ex situ |
| 75  | 0        | 0        | 0            | Sol     | 0.000026 | bc | W | P, Prp | ex situ, in situ |
| 76  | 0        | 0        | 0            | BEA     | 0 | bc | W | | | |
| 64  | 0        | 0        | 0            | CaCe    | 0 | bc | W | G | in situ |
| 78  | 0        | 0        | 0            | BEA, Sol | 0 | bc | W | F | in situ |
| 79  | 0        | 0        | 0            | Sol     | 0.000026 | EAAA | W | P, Prp | ex situ |
| 77  | 0.0022   | -0.5798 | 0            | BEA, Pal, Sol | 0 | bc | W | G, P, T | in situ |
| 80  | 0        | 0        | 0            | Iz      | 0 | bc | W | | | |
| 62  | 0        | 0.004   | 0            | Sol     | 0.00153 | EAAA | D | P, Prp, Ti | ex situ |
| 63  | 0        | 0.007   | 0.608        | CaMy, Sol | 0.000051 | bc | W | G, P, Prp | ex situ, in situ |
| 81  | 0        | 0        | 0            | BEA     | 0 | bc | W | | | |
| 65  | 0        | 0.12    | 0            | Pal, Sol | 0.000230 | EAAA | D | P, Prp, Ti | ex situ |
| 66  | 0        | 0.12    | 0            | BEA, Sol | 0.000026 | bc | W | G, P, T | in situ |
| 67  | 0        | 0.0469  | 0            | Sol     | 0.000026 | EAAA | W | P, Ti | ex situ |
| 68  | 0.0015   | 3.3156  | 0            | BEA, BEC, BG, BN, Iz, Me, Pal, Palm, TS | 0.105714 | bc | W | E, F, G, P, T, Ti | in situ |
| 69  | 0        | 0        | 0            | BEA     | 0 | bc | W | G, P | in situ |
| 70  | 0        | 0        | 0            | BEA, Me, Sol | 0 | bc | W | G, P, Ti | ex situ, in situ |
| 71  | 0        | 0        | 0            | Sol     | 0.000077 | EAAA | W | P, Prp, T, Ti | ex situ |
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| No. | EIVI | Prominence | Use Type | Species | origin | Ecological Status | Management Practices | Site with respect to species wild populations |
|-----|------|------------|----------|---------|--------|------------------|---------------------|---------------------------------------------|
| 72  | 0    | 0          | 0        | Sol     |         | 0.000051         | AC, W               | P, Prp, T, Ti, ex situ                       |
| 73  | 0    | 0          | 0        | Sol     |         | 0.000026         | EAAA, W             | P, T, Ti, ex situ                           |
| 74  | 0    | 0          | 0        | Sol, TS |         | 0.000205         | Mex, D              | P, Prp, Ti, ex situ                         |
| 6   | 0    | 0          | 0        | Sol, TS |         | 0.001780         | bc, W               | G, T, in situ                               |
| 9   | 0    | 0          | 0        | Me, Pal, TS |      | 0.001780         | bc, W               | F, G, in situ                               |
| 10  | 0.0148 | -0.8621    | 0        | Iz, Pal |         | 0.000026         | bc, W               | F, G, in situ                               |
| 11  | 0.0717 | 3.9275     | 0        | BEA, Iz, Me, Pal, Palm, SB, Sol, TS |     | 0.020100         | bc, W               | E, F, G, P, Prp, T, Ti, ex situ, in situ    |
| 12  | 0    | 3.1267     | 0.0104   | 3.0362  | 0.000026 | bc, W           | G, P, Ti            | ex situ, in situ                            |
| 13  | 0    | 0          | 0        | BEM, Sol |         | 0.000026         | bc, W               | G, P, Ti, ex situ                           |
| 14  | 0    | 0          | 0        | Me, Sol |         | 0.000026         | bc, W               | G, P, Ti, ex situ                           |
| 15  | 0    | -1.1696    | 0        | Iz      |         | 0.000026         | bc, W               | F, G, in situ                               |
| 16  | 0    | -1.0057    | 0        | Iz      |         | 0.000026         | bc, W               | F, G, in situ                               |
| 17  | 0    | 0          | 0        | Pal, Sol |         | 0.000026         | Mex, D              | P, Prp, Ti, ex situ                         |
| 8   | 0    | 0          | 0        | CaCe, Iz, Pal, SB, Sol, Ts |     | 0.000026         | bc, W               | G, P, Prp, ex situ                          |
| 553 | 0    | 0        | -0.75    | 0        | Iz      | 0.012638         | bc, W               | G, P, ex situ                               |
| 554 | 0.1098 | 0.1909    | 0       | -0.6392 | 0       | 0.000547         | bc, W               | F, G, in situ                               |
| 50  | 0    | -1.0101   | 0        | 0        | BEA, Iz, Me |     | 0.000026         | bc, W               | G, P, ex situ                               |
| 51  | 0    | 0          | 0        | 0        | BEA, BEC |     | 0.000026         | bc, W               | G, P, ex situ                               |
| 25  | 0    | 0          | 0        | 0        | Me, Palm, TS |     | 0.000026         | bc, W               | T, in situ                                  |
| 555 | 0    | 0        | -1.1913  | 0        | BEA, Me |     | 0.000026         | bc, W               | G, P, ex situ                               |
| 19  | 0    | 0          | 0        | AA      |         | 0.000026         | bc, W               | G, P, ex situ                               |
| 18  | 0.0066 | 0        | 0        | 0        | Sol     | 0.000026         | bc, W               | G, P, ex situ                               |
| 215 | 0    | 0          | 0        | Sol     |         | 0.000026         | bc, W               | G, P, ex situ                               |
| 216 | 0    | 0          | 0        | Sol     |         | 0.000026         | bc, W               | G, P, ex situ                               |
| 217 | 0    | 0        | 0.0086   | -1.2037 | BEA, Iz, Me, Palm |     | 0.002781         | bc, W               | F, G, in situ                               |
| 218 | 0    | 0          | 0        | BEM     |         | 0.000026         | bc, W               | G, P, ex situ                               |
| 219 | 0    | 0          | 0        | Sol     |         | 0.000026         | bc, W               | G, P, ex situ                               |
| 220 | 0    | 0          | 0        | Sol     |         | 0.000026         | bc, W               | G, P, ex situ                               |
| 221 | 0    | 0          | 0        | BEA, BN, Iz, Me |     | 0.000026         | bc, W               | G, P, ex situ                               |
| 222 | 0    | 0          | 0        | BN, Me, Palm |     | 0.000026         | bc, W               | G, P, ex situ                               |
| 223 | 0    | 0          | 0        | Sol     |         | 0.000026         | bc, W               | G, P, ex situ                               |
Table 5  Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as S = Sutrop relative prominence index\(^2\) and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIV); species origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| Species | Spanish common names | Number of uses | Percentage of families | Ecological Status | Management Practices | Management Site | Distribution on Vegetal Types | Importance Ecological Index Value (EIV) |
|---------|---------------------|----------------|-----------------------|------------------|---------------------|----------------|-------------------------------|---------------------------------|
| 224     | 0                   | 0              | 0                     | Lx               | W                   | F              | in situ                       | 0.000026 EAAA D P, Prp            |
| 401     | 0                   | 0              | 0                     | Lx               | W                   | F              | in situ                       | 0.000028 Nat-EAAA R-W G, T, Ur    |
| 402     | 0                   | 0              | 0                     | Lx               | W                   | T              | in situ                       | 0.000026 Nat-EAAA R-W G, T, Ur    |
| 403     | 0                   | 0              | 0                     | Lx               | W                   |                | in situ                       | 0.000026 Nat-EAAA R-W F, G       |
| 225     | 0.0075              | 0              | 0                     | Sol              | 0.000026 EAAA D P, Prp | Ex situ       | 0.002183 Nat-EAAA R-W G, T, Ur | Ex situ                        |
| 226     | 0.0038              | 0              | 0                     | Bal, Sol, TS     | 0.000026 Nat-EAAA R-W F, G, T, Ur | Ex situ       | 0.000153 Lx R-W F, G, P, T   | In situ                        |
| 227     | 0                   | 0              | 0                     | Bal, Sol         | 0.000026 Nat-EAAA R-W F, G, T, Ur | Ex situ       | 0.000026 Nat-EAAA R-W G, T, Ur | Ex situ                        |
| 231     | 0                   | 0              | 0                     | Bal, BEA, Sol   | 0.000026 Nat-EAAA R-W G, T, Ur | Ex situ       | 0.000026 Nat-EAAA R-W G, T, Ur | Ex situ                        |
| 232     | 0.0261              | 0              | 0                     | Sol              | 0.000026 Nat-EAAA D P, Prp | Ex situ       | 0.000153 Lx R-W F, G, P, T   | In situ                        |
| 234     | 0.0132              | 0              | 0                     | VR               | 0.000026 Nat-EAAA R-W G | Ex situ       | 0.000026 Nat-EAAA R-W G, T, Ur | Ex situ                        |
| 235     | 0                   | 0              | 0                     | Bal              | 0.000026 Nat-EAAA R-W T | Ex situ       | 0.000026 Nat-EAAA R-W G, T, Ur | Ex situ                        |
| 236     | 0                   | 0              | 0                     | Sol              | 0.000026 AC D P, Prp | Ex situ       | 0.000026 Nat-EAAA R-W G, T, Ur | Ex situ                        |
| 238     | 0                   | 0              | 0                     | BEA, Iz, Sol    | 0.000026 Lx W G, P, Ti | Ex situ, in situ | 0.000257 Lx W F, G | In situ                        |
| 239     | 0                   | 0              | 0                     | CaCe             | 0.000026 Lx W       |                | in situ                       | 0.000026 Lx W G, P, Ti            |
| 240     | 0.000026            | -0.9895        | 0                     | Me               | 0.000026 Lx W Ti    |                | in situ                       | 0.000026 Lx W G, P, Ti            |
| 241     | 0.000026            | -1.0578        | 0                     | BEA              | 0.000026 Lx W G     |                | in situ                       | 0.000026 Lx W G, P, Ti            |
| 242     | 0.000026            | 0.0093         | 0.7779                | CaCe, Me, Sol   | 0.000026 Lx W       |                | in situ                       | 0.000026 Lx W G, P, Ti            |
| 243     | 0.000026            | -0.6966        | 0.7305                | BEA              | 0.000026 Lx W G     |                | in situ                       | 0.000026 Lx W G, P, Ti            |
| 244     | 0.000026            | -1.1767        | 0                     | BEA, Sol        | 0.000026 Lx W G     |                | in situ                       | 0.000026 Lx W G, P, Ti            |
| 245     | 1.116               | 0              | 0                     | BEA, Pal, Sol   | 0.000026 Lx W       |                | in situ                       | 0.000026 Lx W G, P, Ti            |
| 246     | 0                   | 0              | 0                     | Palm, Sol       | 0.000026 Lx W       |                | in situ                       | 0.000026 Lx W G, T               |
| 247     | 1.7881              | 0              | 0                     | BEA, BEM, Pal, Sol | 0.000026 Lx W       |                | in situ                       | 0.000026 Lx W G, P, Ti            |
| 248     | 0                   | 0              | 0                     | BEA, Sol        | 0.000026 Lx W       |                | in situ                       | 0.000026 Lx W G, P, Ti            |
| 249     | 0                   | 0              | 0                     | BEA, Pal        | 0.000026 Lx W       |                | in situ                       | 0.000026 Lx W G, P, Ti            |
| 250     | 0.000026            | 0              | 0                     | BEA              | 0.000026 Lx W G     |                | in situ                       | 0.000026 Lx W G, T               |
| 251     | 0                   | 0              | 0.0071                | BEA, BG, Palm, Sol | 0.000026 Lx W       |                | in situ                       | 0.000026 Lx W G, T               |
| 252     | 0                   | 0              | 0                     | BEA, BN, Sol    | 0.000026 Lx W       |                | in situ                       | 0.000026 Lx W G, T               |
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| #   | Species | Common Names | Uses | % Families | P ROM | BIC | Dist | EIVI | Origin Region | Status | Management Practices | Site |
|-----|---------|--------------|------|------------|-------|-----|------|-----|-------------|--------|----------------------|------|
| 253 | 0       | 0            | 0    | 0          | 0     | Bic | 0    |     | BEA         | 0      | G, P, Prp, Ti       | ex situ, in situ |
| 254 | 0       | 0            | 0    | 0          | 0     | Bic | 0    |     | Iz          | 0      | G, P, Prp, Ti       | ex situ, in situ |
| 255 | 0.0278  | 2.8995       | 0.036 | 1.9672     | Iz, Me, SB | 0   | Bic | 0    |               | G, P, Prp, Ti | ex situ, in situ |
| 256 | 0       | -1.1371      | 0.036 | -1.4632    | Me     | 0.000149 | Bic | 0    | F, G        | in situ |
| 257 | 0       | 0            | 0    | 0          | Iz     | 0   | Bic | 0    |               | G, P, Prp, Ti | ex situ, in situ |
| 258 | 0       | 0            | 0    | 0          | CaCe  | 0   | Bic | 0    |               | in situ |
| 259 | 0       | -1.0042      | 0.036 | -1.2693    | Me     | 0   | Bic | 0    |               | G, P, Prp, Ti | in situ |
| 260 | 0       | 0            | 0    | 0          | CaCe  | 0   | Bic | 0    |               | F, G, Prp, Ti | in situ |
| 261 | 0       | 0            | 0    | 0          | CaCe  | 0   | Bic | 0    |               | F, G, Prp, Ti | in situ |
| 262 | 0       | 0            | 0    | 0          | Sol   | 0.000026 | Mex | 0    | P, Prp      | ex situ |
| 263 | 0       | 0            | 0    | 0          | CaCe, Sol | 0   | Bic | 0    |               | ex situ, in situ |
| 264 | 0       | 0            | 0    | 0          | Me, Palm, Sol | 0.000433 | Bic | 0    | ex situ, in situ |
| 265 | 0.0018  | 0            | 0    | 0          | TS     | 0   | TCV | 0    | P, Prp      | ex situ |
| 266 | 0.0033  | 1.0957       | 0    | 0          | Paz, Sol | 0.000484 | Bic | 0    | ex situ, in situ |
| 267 | 0.0033  | 1.4159       | 0    | 0          | Paz, Sol, TS | 0.001008 | Bic | 0    | ex situ, in situ |
| 268 | 0       | 0            | 0    | 0          | Sol    | 0.000153 | Mex | 0    | P, Prp      | ex situ |
| 269 | 0       | 0            | 0    | 0          | CaCe  | 0   | Bic | 0    |               | F, G, Prp, Ti | in situ |
| 270 | 0       | 0            | 0    | 0          | 0.4819 | 0.0004228 | Bic | 0    | P, Ti       | ex situ, in situ |
| 271 | 0       | 0            | 0    | 0          | 0.719 | 0.0005848 | Bic | 0    | P, Ti       | ex situ, in situ |
| 272 | 0       | 0            | 0    | 0          | CaMy  | 0   | Bic | 0    |               | F, G, T, Prp, Ti | ex situ |
| 273 | 0       | 0            | 0    | 0          | NE, Sol | 0.000026 | Bic | 0    | ex situ, in situ |
| 274 | 0       | 0            | 0    | 0          | AA, Sol | 0.000256 | TCV | 0    | P, Prp, Ti   | ex situ |
| 275 | 0       | 0            | 0    | 0          | BEA,TS | 0.000281 | Mex | 0    | P, Prp      | ex situ |
| 276 | 0       | 0            | 0    | 0          | Sol    | 0.00281 | Mex | 0    | P, Prp      | ex situ |
| 277 | 0       | 0            | 0    | 0          | BEA, BEC, BN, Iz, Me, Palm, Paz, TS | 0.014066 | Bic | 0    | F, G, T, Ti | in situ |
| 278 | 0       | 0            | 0    | 0          | Sol, TS | 0.000179 | Bic | 0    | P, Prp, Ti   | ex situ, in situ |
| 279 | 0       | 0            | 0    | 0          | Sol    | 0   | TCV | 0    | F, G, Prp, Ti | ex situ, in situ |
| 280 | 0       | 2.0015       | 0    | 0          | Palm, Sol | 0.000026 | Bic | 0    | ex situ, in situ |
| 281 | 0       | 0            | 0    | 0          | Palm, TS | 0   | Bic | 0    |               | F, P, T, Ti | in situ |
| 282 | 0       | 0            | 0    | 0          | SB     | 0   | Bic | 0    |               | F, P, T, Ti | in situ |
| 283 | 0       | 0            | 0    | 0          | CaMy   | 0   | Bic | 0    |               | W, T, Ti | in situ |
### Table 5

Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = \text{Sutrop relative prominence index}^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| ID | Uses | Percent of Families | Common Names | Prominence | Biocultural Importance | Distribution | Management Practices | Management Site | Status |
|----|------|---------------------|--------------|------------|------------------------|-------------|----------------------|----------------|--------|
| 284 | 0    | 0                   | CaMy         | 0          | bxc                    | W           |                      |                |        |
| 285 | 0    | 0                   | BEA          | 0          | bxc                    | W           |                      |                |        |
| 286 | 0    | 0                   | BEA, Me, Pal | 0          | bxc                    | W           |                      | F              | in situ |
| 763 | 0    | 0.2066              | Me, Sol      | 0.000179   | bxc                    | W           |                      | P, T           | in situ |
| 287 | 0    | 0                   | Sol          | 0.000153   | TCV                    | W           |                      | P, Prp         | ex situ |
| 288 | 0    | 0                   | CaCe         | 0          | bxc                    | W           |                      |                |        |
| 213 | 0    | 0                   | Sol          | 0.000026   | EAAA                   | W           |                      | P, Prp         | ex situ |
| 767 | 0    | 0                   | VR           | 0.000026   | bxc                    | W           |                      | F              | in situ |
| 289 | 0.0053| 0                   | Sol          | 0.000051   | Mex                    | D           |                      | P, Prp         | ex situ |
| 290 | 0    | 0.0147              | Sol          | 0          | EAAA                   | D           |                      | P, Prp         | ex situ |
| 291 | 0.0095| 0                   | Sol          | 0.000153   | EAAA                   | W           |                      | P, Ti          | ex situ |
| 292 | 0    | 0                   | Me           | 0          | bxc                    | W           |                      |                |        |
| 293 | 0    | 0                   | CaCe         | 0          | bxc                    | W           |                      |                |        |
| 294 | 0.0222| -0.788              | Sol          | 0.000026   | bxc                    | R-W         | F, G, T              |                | in situ |
| 295 | 0.0081| 0                   | Bal, Sol     | 0.000128   | Nat-EAAA               | R-W         | F, G, T, Ur          |                | ex situ |
| 296 | 0.0237| 0.7706              | Bal, Sol     | 0.000179   | bxc                    | R-W         | E, P, Prp, T         |                | in situ |
| 297 | 0.0053| 0                   | Sol          | 0          | EAAA                   | D           |                      | P, Prp         | ex situ |
| 298 | 0    | 0                   | BEA          | 0          | bxc                    | W           |                      |                |        |
| 299 | 0    | 0                   | BEA, Pal     | 0.005276   | bxc                    | R-W, W      | F                    |                | in situ |
| 300 | 0    | 0                   | Sol          | 0          | EAAA                   | W           |                      | P, Prp         | ex situ |
| 301 | 0    | 0                   | BG, Iz       | 0          | bxc                    | W           |                      |                |        |
| 302 | 0    | 0                   | Sol          | 0.000026   | TCV                    | W           |                      | P, Prp         | ex situ |
| 303 | 0    | 0                   | Me           | 0          | bxc                    | W           |                      | G              | in situ |
| 304 | 0    | 0                   | BEA, Me      | 0.000920   | bxc                    | W           |                      | F, G           | in situ |
| 84  | 0    | 0                   | BEA          | 0          | bxc                    | W           |                      |                |        |
| 85  | 0    | 0                   | Me           | 0.004331   | bxc                    | W           |                      |                |        |
| 86  | 0    | 0                   | Me           | 0          | bxc                    | W           |                      | F              | in situ |
| 87  | 0    | 0                   | BEA, Bec, BG, BN, Iz, Me, Pal, Palm, Sol, TS | 0.009661 | bxc                    | R-W, W      | F, G, T, Ur          |                | in situ |
| 88  | 0    | 0                   | BEA, Pal, Sol | 0.004801 | bxc                    | R-W, W      | F, P, T, Ti          |                | ex situ, in situ |
| 89  | 0    | 0                   | BEA, BG, BN, Iz, Me, Palm | 0.011943 | bxc                    | R-W, W      | F                    |                | in situ |
| 90  | 0    | 0                   | Me, Sol      | 0          | bxc                    | W           |                      | F, G           | in situ |
Table 5 Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = Sutrop$ relative prominence index$^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| #  |   |   |   | Species, Spanish common names | Cognitive Prominence | Biocultural Importance | Management Site |
|----|---|---|---|-------------------------------|----------------------|--------------------|-----------------|
| 91 | 0 | 0 | 0 | BEA, BN, Me                   | 0.003029             | W                  | F               | in situ         |
| 92 | 0 | 0 | 0 | Pal, Sol                      | 0                    | bc                 | W, G, T         | in situ         |
| 93 | 0 | 0 | 0 | BEA, BN                       | 0                    | bc                 | W, F            | in situ         |
| 94 | 0 | 0 | 0 | BEA, BN, Me, Paz              | 0.006536             | bc                 | R-W, W, G       | in situ         |
| 97 | 0 | 0 | 0 | BEA, BEC, BN, Iz              | 0.002943             | bc                 | R-W, W, F       | in situ         |
| 95 | 0 | 0 | 0 | Sol                           | 0.000026             | TCV                | W, P, Prp       | ex situ         |
| 214| 0 | 0 | 0 | Sol, TS                       | 0.008509             | bc                 | W                | in situ         |
| 98 | 0 | 0 | 0 | BEA                           | 0                    | bc                 | R-W, W, G       | in situ         |
| 99 | 0 | 0 | 0 | 0.0082                        | -0.2179              | bc                 | R-W, W, F, G, T | in situ         |
| 100| 0 | 0 | 0 | VR                            | 0                    | bc                 | W, F            | in situ         |
| 101| 0 | 0 | 0 | BG, Pal, Sol, TS              | 0.001353             | bc                 | R-W, W, F, G, T, Ur | in situ         |
| 102| 0 | 0 | 0 | BEA, BEC, BG, Iz, Pal         | 0.016081             | bc                 | W, F            | in situ         |
| 103| 0 | 0 | 0 | BEA, BN, Iz, Me, Pal, Palm, Sol, TS | 0.015409 | bc | R-W, W, F, G, T | in situ         |
| 104| 0 | 0 | 0 | Paz                           | 0                    | bc                 | R-W, W, F       | in situ         |
| 105| 0 | 0 | 0 | Sol                           | 0.000077             | EAAAA              | D, E, P, Prp, T, Ti | ex situ         |
| 106| 0 | 0 | 0 | BEA, Iz, Me                   | 0                    | bc                 | W, F            | in situ         |
| 107| 0 | 0 | 0 | Palm                          | 0                    | bc                 | W, G, P         | in situ         |
| 109| 0 | 0 | 0.1021 | Sol                           | 0.000230             | EAAAA              | D, E, P, Prp, Ti | ex situ         |
| 110| 0 | -1.1696 | 0 | BG, Pal                       | 0                    | bc                 | W, F, G         | in situ         |
| 111| 0 | 0 | 0 | BEA, BEM                      | 0                    | bc                 | W, F            | in situ         |
| 112| 0 | 0 | 0 | BEA, BEC, BN, Me, Palm, Paz   | 0.042091             | bc                 | R-W, W, F       | in situ         |
| 113| 0 | 0 | 0.0093 | Sol                           | 0.000102             | Nat-Mex            | W, E, P, Prp, T | ex situ         |
| 114| 0 | 1.1027 | 0 | BEA, BEM, Pal, Sol            | 0.000551             | bc                 | W, G, P, Prp, Ti | ex situ, in situ |
| 115| 0 | 1.1017 | 0 | BEA, BEM, BG, Me, Pal, Sol    | 0                    | bc                 | W, G, P, Prp, Ti | ex situ, in situ |
| 116| 0 | 0 | 0 | Sol                           | 0                    | TCV                | D, P, Prp       | ex situ         |
| 117| 0 | 0 | 0 | BEA                           | 0.006577             | bc                 | W               | in situ         |
| 118| 0 | 0 | 0 | Iz, Pal, Sol                  | 0                    | bc                 | R-W              | F               | in situ         |
| 119| 0 | 0 | 0 | BEA                           | 0                    | bc                 | W               | in situ         |
| 120| 0 | 0 | 0 | BEA                           | 0                    | bc                 | W, F            | in situ         |
| 121| 0 | 0 | 0 | Bal                           | 0                    | bc                 | W, T            | in situ         |
| 122| 0 | 0 | 0 | Bal, Sol                      | 0                    | bc                 | R-W, T          | in situ         |
| Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = \text{Sutrop relative prominence index}^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued) |
|---|---|---|---|---|---|---|---|---|---|
| 123 | 0 | 0 | BEA, Palm | 0 | lxc | W | F | in situ |
| 108 | 0 | 0.0023 | 0 | Sol | 0.000128 | EAAA | D | E, P, Prp, T | ex situ |
| 124 | 0 | 0 | Iz | 0 | lxc | R-W, W |
| 125 | 0 | 0 | Paz | 0 | lxc | R-W, W | G | in situ |
| 126 | 0 | 0 | Me | 0 | lxc | W |
| 127 | 0 | 0 | BEA, BN, Pal, Palm, Paz, Sol | 0.002068 | lxc | W | G, P, Prp | ex situ, in situ |
| 128 | 0 | 0 | Bal, BEA, BN, Iz, Me, Pal, Palm, Sol, TS | 0.016987 | lxc | R-W, W | F, G, T, Ur | in situ |
| 129 | 0 | 0 | BEA, Palm | 0 | lxc | W | G | in situ |
| 130 | 0 | 0 | Sol | 0.000026 | Mex | D | P, Prp | ex situ |
| 132 | 0.0175 | 0 | Sol | 0.000026 | EAAA | D | P, Prp | ex situ |
| 131 | 0 | 0 | Bal, Sol | 0 | Nat-EAAA | R-W | F | ex situ |
| 133 | 0 | 0.0417 | 0 | Pal, Sol | 0.000102 | EAAA | D | P, Prp | ex situ |
| 134 | 0 | 0 | Sol | 0.000051 | EAAA | D, R-W | E, P, Prp, T, Ti | ex situ |
| 135 | 0 | 0 | Iz | 0 | lxc | W | F | in situ |
| 136 | 0 | 0 | BEA, Pal | 0 | lxc | W | T, Ur | in situ |
| 137 | 0 | 0 | Iz | 0 | lxc | W |
| 138 | 0 | 0 | Iz, Sol | 0.000728 | lxc | R-W, W | G | in situ |
| 139 | 0 | 0 | Iz | 0.001532 | lxc | W | F | in situ |
| 150 | 0 | 0 | -1.4144 | 0 | VR | 0 | lxc | W | G | in situ |
| 140 | 0 | 0 | Sol | 0.000026 | lxc | R-W | F, G, T, Ur | in situ |
| 141 | 0 | 0 | 0 | -1.7316 | CaCe, SB | 0 | lxc | W | G | in situ |
| 142 | 0 | 0 | Iz | 0 | lxc | W |
| 143 | 0 | 0 | BEA, BEC, BN, Me, Palm, Paz, TS | 0.017574 | lxc | W | F, T, Ur | in situ |
| 144 | 0 | 0 | Me | 0.001615 | lxc | W | F | in situ |
| 145 | 0 | 0 | Iz | 0 | lxc | W | F, G | in situ |
| 146 | 0 | 0 | Iz | 0 | lxc | W |
| 147 | 0 | 0 | Bal, BG, Iz, Paz | 0.002255 | lxc | W | G | in situ |
| 148 | 0 | 0 | BEA | 0 | lxc | W | F, G | in situ |
| 151 | 0.0784 | 2.8958 | 0 | BEA, BN, Me, Palm, Paz, Sol, TS | 0.011119 | lxc | R-W, W | G, P, Prp, T, Ti | ex situ, in situ |
| 153 | 0 | 0 | Sol | 0 | TCV | W | P, Ti | ex situ |
| 152 | 0.1613 | 3.3603 | 0 | Me, Sol | 0.000625 | lxc | W | E, G, P, Prp, T, Ti | ex situ, in situ |
Table 5  Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = \text{Sutrop relative prominence index}^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

|   |   |   |   | Species, common names | EIVI | Distribution | Ecological status | Management practices | Site | Ex situ, in situ |
|---|---|---|---|------------------------|------|--------------|-------------------|----------------------|------|------------------|
| 154 | 0 | 0 | 0 | BEA, BEC | 0.002022 | Ixc | W | | | |
| 155 | 0 | 0 | 0 | BEA, Iz | 0.001101 | Ixc | W | G, P, Ti | | ex situ, in situ |
| 156 | 0 | 0 | 0 | BEA | 0 | Ixc | W | | | |
| 157 | 0 | 0 | 0 | BEA | 0 | Ixc | W | | | |
| 158 | 0 | 0 | 0 | Me, Palm, Sol, TS | 0.003088 | Ixc | R-W, W | F, G, T, Ur | | in situ |
| 149 | 0 | 0 | 0 | Me, Sol | 0.000051 | Ixc | W | G, P, Ti | | ex situ, in situ |
| 159 | 0 | 0 | 0 | Palm, Sol, TS | 0.015309 | Ixc | W | F, G, T, Ur | | in situ |
| 160 | 0 | 0 | 0 | BEA, BN | 0 | Ixc | W | F | | in situ |
| 161 | 0 | 0 | 0 | BEA | 0 | Ixc | W | F | | in situ |
| 162 | 0 | 0 | 0 | Sol | 0.000102 | Nat-EAAA | R-W | G, T, Ur | | ex situ |
| 163 | 0 | -1.1394 | 0 | Iz, Pal, Palm | 0 | Ixc | W | G, T | | in situ |
| 164 | 0 | -1.1086 | 0 | BN, Iz, Me, Palm, TS | 0.005100 | Ixc | R-W, W | F, T, Ur | | in situ |
| 165 | 0 | 0 | 0 | Paz | 0.000463 | Ixc | W | | | |
| 166 | 0 | 0 | 0 | BEA, BN | 0.002541 | Ixc | W | | | |
| 167 | 0 | 0 | 0 | BN, Pal, Sol, TS | 0 | Ixc | W | G | | in situ |
| 168 | 0 | 0 | 0 | BEA, Pal | 0 | Ixc | W | G | | in situ |
| 169 | 0 | 0 | 0 | Me | 0 | Ixc | W | G | | in situ |
| 170 | 0 | 0 | 0 | Pal | 0 | Ixc | W | F, G | | in situ |
| 171 | 0 | 0 | 0 | Sol | 0.000205 | AC | R-W, W | E, P, Prp, T, Ti | | ex situ |
| 172 | 0 | 0 | 0 | Sol, TS | 0.003298 | TCV | D | E, P, Prp, T, Ti | | ex situ |
| 173 | 0 | 0 | 0 | BEA, Paz | 0.000128 | TCV | D | E, P, Prp, T, Ti | | ex situ |
| 174 | 0 | 0 | 0 | Sol | 0.000230 | EAAA | W | E, P, Prp, T | | in situ |
| 175 | 0 | 0 | 0 | Sol | 0.000077 | Nat-EAAA | R-W | G, T, Ur | | ex situ |
| 176 | 0 | 0 | 0 | Sol | 0.000281 | TCV | W | E, F, P, Prp | | ex situ |
| 177 | 0 | 0 | 0 | BEA, Iz, Me, Sol, TS | 0.001488 | Ixc | R-W, W | F, G, T, Ur | | in situ |
| 178 | 0 | 0 | 0 | BN | 0 | Ixc | W | G | | in situ |
| 179 | 0 | 0 | 0 | BEA | 0 | Ixc | W | F, G | | in situ |
| 180 | 0 | 0 | 0 | Iz | 0 | Ixc | W | | | |
| 181 | 0 | 0 | 0 | Bal | 0 | Ixc | R-W, W | F | | in situ |
Table 5 Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = Sutrop$ relative prominence index and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| 182  | 0   | -0.4176 | 0 | BEA, BEC, BG, Iz, Me, Pal, Sol, TS | 0 | bc | R-W, W | F, G, T, Ur | in situ |
| 183  | 0   | 0       | 0 | BG, Iz, Me, Pal, Palm, TS         | 0 | bc | R-W, W | F, G, T, Ur | in situ |
| 184  | 0   | 0       | 0 | Iz                                | 0 | bc | R-W, W | F          | in situ |
| 185  | 0   | 0       | 0 | Iz, SB                            | 0 | bc | W      | F          | in situ |
| 186  | 0   | 0       | 0 | Sol                               | 0.000026 | Mex | D | P, Prp | ex situ |
| 187  | 0   | 0       | -0.6963 | BEA, BN, Iz, Me, Palm, TS       | 0.009492 | bc | R-W, W | F, G, T, Ur | in situ |
| 188  | 0   | 0       | 0 | BEA, BEM                          | 0 | bc | W      |            |         |
| 191  | 0   | 0       | 0 | Me                                | 0 | bc | W      |            |         |
| 192  | 0   | 0       | 0 | BEM                               | 0 | bc | W      |            |         |
| 193  | 0   | 0       | 0 | BG                                | 0 | bc | W      |            |         |
| 194  | 0   | 0       | -1.6375 | SB                                | 0 | bc | W      | G          | in situ |
| 195  | 0   | 0       | 0 | BEA                               | 0 | bc | W      | F          | in situ |
| 196  | 0   | 0       | 0 | BCe, VR                           | 0 | bc | W      |            |         |
| 197  | 0   | 0       | 0 | CaCe                              | 0 | bc | W      | G          | in situ |
| 198  | 0   | 0       | 0 | VR                                | 0 | bc | W      |            |         |
| 199  | 0   | 0       | 0 | CaCe                              | 0 | bc | W      |            |         |
| 200  | 0   | 0       | 0 | SB                                | 0 | bc | W      |            |         |
| 201  | 0   | 0       | 0 | BEA                               | 0 | bc | W      | F          | in situ |
| 202  | 0   | 0       | 0 | SB                                | 0 | bc | W      |            |         |
| 203  | 0   | 0       | 0 | Paz                               | 0 | bc | W      |            |         |
| 204  | 0   | 0       | 0 | CaCe                              | 0 | bc | W      |            |         |
| 205  | 0   | 0       | 0 | CaCe                              | 0 | bc | W      |            |         |
| 206  | 0   | 0       | 0 | CaCe                              | 0 | bc | W      |            |         |
| 207  | 0   | 0       | 0 | SB                                | 0 | bc | W      |            |         |
| 208  | 0   | 0       | 0 | Me                                | 0 | bc | W      |            |         |
| 209  | 0   | 0       | 0 | Pal, Sol, VR                      | 0.0000026 | bc | W | G, T | in situ |
| 210  | 0   | 0       | 0 | BEA                               | 0 | bc | W      | G          | in situ |
| 211  | 0   | 0       | 0 | CaCe                              | 0 | bc | W      | G          | in situ |
| 305  | 0   | 0       | 0 | BEA, BN, Sol, TS                  | 0.000758 | bc | R-W | Ur | in situ |
| 306  | 0   | 0       | 0 | Sol                               | 0 | bc | R-W | Ur | in situ |
| 307  | 0   | 0       | 0 | BEA, BEC, BN, Me, Palm            | 0.018603 | bc | W | G | in situ |
Table 5: Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = Sutrop$ relative prominence index and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); species origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| Species Code | Prominence Value | Percentage of Families | Use Type | Number of Uses | Biocultural Importance | Management Site |
|--------------|------------------|------------------------|----------|----------------|------------------------|-----------------|
| 309          | 0.0042           | 0                      | CaMy, Me | 0              | 0                      | W               |
| 310          | 0                | 0                      | BEA, Iz, Paz | 0              | 0                      | R-W, W          |
| 311          | 0                | 0                      | CaCe     | 0              | 0                      | W               |
| 308          | 0.0042           | 0                      | Me       | 0              | 0                      | W               |
| 312          | 0                | 0                      | BEA, Me, Paz, Sol, TS | 0.000026 | 0                      | R-W, G, T, Ur   |
| 313          | 0                | 0                      | CaCe     | 0              | 0                      | W               |
| 314          | 0                | 0                      | Sol      | 0.000051       | TCV                    | W               |
| 315          | 0                | 0                      | Sol      | 0.000026       | EAAA                   | W               |
| 316          | 0                | 0                      | Sol      | 0.000051       | EAAA                   | W               |
| 317          | 0                | 0                      | MR, Sol  | 0.000077       | W                      | G, P, Ti        |
| 318          | 0                | 0                      | BEA, Me, Iz, Palm, Sol | 0.000823 | 0                      | W               |
| 319          | 0                | 0                      | Sol      | 0.000026       | TCV                    | W               |
| 320          | 0                | 0                      | NE, Sol  | 0.000026       | W                      | P, Ti           |
| 321          | 0                | 0                      | Sol, VN  | 0              | 0                      | W               |
| 322          | 0                | 0                      | Sol      | 0.000026       | EAAA                   | W               |
| 323          | 0                | 0                      | Sol      | 0.0000179      | EAAA                   | W               |
| 324          | 0                | 0                      | Sol      | 0.000077       | TCV                    | W               |
| 325          | 0                | 0.0069                 | NE, Sol  | 0.000128       | bxc                    | W               |
| 326          | 0                | 0                      | MR       | 0              | 0                      | W               |
| 327          | 0                | 0                      | BEA, BN, Me, Palm, Sol | 0.000026 | 0                      | W               |
| 328          | 0                | 0                      | Me       | 0              | 0                      | W               |
| 329          | 0                | 0                      | Sol      | 0.000026       | Mex                    | W               |
| 330          | 0                | 0                      | Sol      | 0.000051       | Mex                    | W               |
| 331          | 0                | 0                      | MR, Me   | 0              | 0                      | W               |
| 332          | 0                | 0                      | Me, MR, Sol | 0.000026 | 0                      | W               |
| 333          | 0                | 0                      | Sol      | 0              | EAAA                   | D               |
| 334          | 0                | 0                      | Sol      | 0.000256       | Mex                    | D               |
| 335          | 0.0411           | 0                      | Bal, Pal, Sol | 0.000026 | 0                      | W               |
| 336          | 0                | 0                      | Sol, TS  | 0.000256       | TCV                    | D               |
| 337          | 0                | 0                      | Me, TS   | 0              | 0                      | R-W, F, G, T, Ur |
| 338          | 0                | 0                      | Sol, TS  | 0              | 0                      | W               |

Rangel-Landa et al. Journal of Ethnobiology and Ethnomedicine (2016) 12:30
| No.  | Species | EIVI Value | Management Category | Management Site | Distribution | Ecological Status | Ecological Index Value | Management Practices | Management Site With Respect to Species Wild Populations |
|------|---------|-------------|---------------------|-----------------|--------------|------------------|------------------------|---------------------|-----------------------------------------------|
| 339  | Sol     | 0.0128      | ex situ             |                 |              |                  |                        |                     | in situ                                      |
| 340  | Sol, TS | 0.003422    | R-W, F, G, T, Ur    |                 |              |                  |                        |                     |                                               |
| 341  | Sol     | 0.000102    | W, P, Ti            |                 |              |                  |                        |                     | ex situ                                      |
| 342  | Sol     | 0.000026    | TCV, W, P, Ti       |                 |              |                  |                        |                     | ex situ                                      |
| 343  | BEA, BEC, BG, BN, Iz, Me, Pal, Palm, Sol, TS | 0.085151 | W, F, G, P, T, Ti |                 |              |                  |                        |                     | in situ                                      |
| 344  | BG, Pal, Palm, Sol | 0.018054 | W, G, P, Prp, T, Ti |                 |              |                  |                        |                     | ex situ, in situ                             |
| 345  | Sol     | 0.000026    | AC, W, P, Ti        |                 |              |                  |                        |                     | ex situ                                      |
| 346  | Me, Palm, Paz, TS | 0.009787 | R-W, W, F, T, Ur   |                 |              |                  |                        |                     | in situ                                      |
| 347  | Paz     | 0.000846    | W, F                |                 |              |                  |                        |                     | in situ                                      |
| 348  | Iz      | 0           | bc, W               |                 |              |                  |                        |                     |                                               |
| 349  | VR      | 0           | bc, W               |                 |              |                  |                        |                     | in situ                                      |
| 350  | VR      | 0           | bc, W               |                 |              |                  |                        |                     | in situ                                      |
| 351  | VR      | 0           | bc, W               |                 |              |                  |                        |                     |                                               |
| 352  | VR      | 0           | bc, W               |                 |              |                  |                        |                     | in situ                                      |
| 353  | VR      | 0           | bc, W               |                 |              |                  |                        |                     | in situ                                      |
| 354  | Me, Palm, Paz, TS | 0.015465 | W, F, T, Ur        |                 |              |                  |                        |                     | in situ                                      |
| 355  | Paz     | 0           | bc, W               |                 |              |                  |                        |                     | in situ                                      |
| 356  | VR      | 0           | bc, W               |                 |              |                  |                        |                     | in situ                                      |
| 357  | VR      | 0           | bc, W               |                 |              |                  |                        |                     |                                               |
| 358  | BEA, BEC, BEM, BN, Me, TS | 0.008534 | W, G, T             |                 |              |                  |                        |                     | in situ                                      |
| 359  | BEA, BEC, BEM, BN, Me, Palm, TS | 0.010056 | W, G, T             |                 |              |                  |                        |                     | in situ                                      |
| 360  | BEA, Iz, Pal | 0.001362 | W, T, Ur           |                 |              |                  |                        |                     | in situ                                      |
| 361  | CaCe    | 0           | bc, W               |                 |              |                  |                        |                     |                                               |
| 362  | Iz, Palm | 0.002686    | bc, W               |                 |              |                  |                        |                     | in situ                                      |
| 363  | Iz      | 0           | bc, W               |                 |              |                  |                        |                     |                                               |
| 364  | VR      | 0           | bc, W               |                 |              |                  |                        |                     |                                               |
| 365  | CaCe    | 0           | bc, W               |                 |              |                  |                        |                     |                                               |
| 366  | CaCe    | 0           | bc, W               |                 |              |                  |                        |                     |                                               |
| 367  | CaCe    | 0           | bc, W               |                 |              |                  |                        |                     |                                               |
| 368  | Sol     | 0.000051    | TCV, W, P, Prp      |                 |              |                  |                        |                     | ex situ                                      |
| 369  | BEA, BEC, BN, Iz, Me, Palm, Paz, TS | 0.019153 | W, F, T, Ur        |                 |              |                  |                        |                     | in situ                                      |
Table 5: Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = $ Sutrop relative prominence index$^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value ($EIV$); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| #  | Identification | Family | Scientific Name | Sutrop | Biocultural | Management Practice | Management Site |
|----|----------------|--------|-----------------|--------|-------------|-------------------|-----------------|
| 370| 0              | 0      | BEA, Sol        | 0.000026 | bxG         | W, T, Ur          | in situ         |
| 371| 0              | 0      | BEA, BEC, BG, Iz, Palm, Sol, TS | 0.010247 | bxG         | W, T, Ur          | in situ         |
| 372| 0              | 0      | Sol             | 0       | EAAA        | W, P, Ti          | ex situ         |
| 373| 0              | -1.2217| Palm            | 0       | bxG         | W, G              | in situ         |
| 374| 0              | 0.0444 | Sol             | 0.000205 | Mex         | D, P, Prp         | ex situ         |
| 375| 0              | 0      | CaCe, Me        | 0       | bxG         | W                 |                 |
| 376| 0              | 0      | VR              | 0       | bxG         | W                 |                 |
| 377| 0              | 0      | BEA, Iz         | 0.002724 | bxG         | W                 |                 |
| 378| 0              | 0      | BN, Me          | 0.001886 | bxG         | W                 |                 |
| 379| 0              | 0      | CaCe            | 0       | bxG         | W, F, G           | in situ         |
| 380| 0              | 0      | Bal, Sol        | 0.000205 | Nat-EAAA    | R-W, E, G, P, T, Ur | ex situ         |
| 381| 0              | 0      | BEA, BN         | 0.000305 | bxG         | F                 | in situ         |
| 382| 0              | 0      | BEA, BEC        | 0.001155 | bxG         | W                 |                 |
| 383| 0              | 0      | Iz              | 0       | bxG         | W                 |                 |
| 384| 0              | 0      | 2.1047 0.2789 2.3609 | BEM     | 0           | bxG, W, F, G, P, Ti, ex situ, in situ |
| 385| 0              | 0      | 0.4695 0.1446 0.4208 | BEA, BEC, BN, TS | 0.018170 | bxG, W, F, G, T | in situ         |
| 386| 0              | 0      | 0.2952 0.2789 0.2097 | BEM     | 0           | bxG, W, F, G, P | in situ         |
| 387| 0              | 0      | 0.0099 -0.3662 | 0.0099 0.0099 | bxG, W, F, G, P | in situ         |
| 388| 0              | 0      | 0.0155 -0.6322 | 0.0155 0.0155 | bxG, W, F, G | in situ         |
| 389| 0              | 0      | 3.5799 0.7699 3.806 | BEA, BEC, Pal, Sol | 0.003111 | bxG, W, F, G, P, Prp, T | ex situ, in situ |
| 390| 0              | 0      | 5.4336 0.7699 5.5501 | BEA, Me, Pal, TS | 0.048434 | bxG, W, F, G, P, Prp, T | in situ         |
| 391| 0              | 0      | 0.0928 0.1446 0.1359 | BEM     | 0           | bxG, W, F, G | in situ         |
| 392| 0              | 0      | -0.0567 0.2136 0.0509 | BEA, BEC, TS | 0.024545 | bxG, W, F, G, P, T | in situ         |
| 393| 0              | 0      | 0.9619 0.2222 0.8145 | BEM     | 0           | bxG, W, F, G | in situ         |
| 394| 0              | 0      | 0               | 0       | bxG         | T                 | in situ         |
| 395| 0              | 0      | 0               | 0       | bxG         | T                 | in situ         |
| 396| 0              | 0      | 0               | 0       | bxG         | T                 | in situ         |
| 397| 0              | 0      | 0               | 0       | bxG         | T                 | in situ         |
| 398| 0              | 0.0386 | 0               | 0       | bxG         | T                 | in situ         |
| 399| 0              | 0      | 0               | 0       | bxG         | T                 | in situ         |
| 400| 0              | 0      | 0               | 0       | bxG         | T                 | in situ         |
| 401| 0              | 0      | 0               | 0       | bxG         | T                 | in situ         |
Table 5 Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S =$ Sutrop relative prominence index$^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| No. | Value | % Use | Common Name | Species, Region | Ecological Status | Management Practices | Site | Status |
|-----|-------|-------|-------------|-----------------|------------------|---------------------|------|--------|
| 405 | 0.1512| 0     | Sol         | 0.000179        | EAAA D           | P, Prp              | ex situ |
| 406 | 0     | 0     | Pal, Sol    | 0.000128        | EAAA D           | P, Prp              | ex situ |
| 407 | 0     | 0     | Sol         | 0.000126        | EAAA D           | P, Prp              | ex situ |
| 408 | 0     | 0     | BEA, Iz     | 0.004148        | Ixc W            | F                   | in situ |
| 409 | 0     | 0     | Me          | 0.003560        | Ixc W            | G, P, Ti            | ex situ, in situ |
| 410 | 0     | 0     | Iz          | 0.001830        | Ixc W            | G                   | in situ |
| 669 | 0     | 0     | BEA, BEC, BN, Me, Palm, TS | 0.008338 | Ixc W            | G, T                | in situ |
| 411 | 0     | 0     | Sol         | 0.000026        | EAAA D           | P, Prp              | ex situ |
| 412 | 0     | 0     | Me, Palm    | 0.002292        | Ixc W            | F, G                | in situ |
| 413 | 0.9569| 0     | BEA, Me, Pal, Sol, VR | 0.003560 | Ixc W            | G, P, Ti            | ex situ, in situ |
| 414 | 0     | 0     | BEA         | 0.001830        | Ixc W            | G                   | in situ |
| 415 | 0     | 0     | Sol         | 0.000026        | Nat-EAAA R-W     | E, P, T, Ur         | ex situ |
| 416 | 0     | 0     | Sol         | 0.000026        | Nat-EAAA R-W     | G, T, Ur            | ex situ |
| 417 | 0     | 0     | Sol         | 0.001830        | Nat-EAAA R-W     | G, T, Ur            | ex situ |
| 418 | 0.0263| 0     | Bal, Pal, Sol | 0.003560 | Ixc W            | G                   | in situ |
| 419 | 0     | 0     | Sol         | 0.000026        | Ixc W            | G                   | in situ |
| 420 | 0.0183| 0     | Sol         | 0.000026        | Ixc W            | G                   | in situ |
| 421 | 0     | 0     | Sol         | 0.000026        | Ixc W            | G                   | in situ |
| 422 | 0     | 0     | Sol         | 0.000026        | Ixc W            | G                   | in situ |
| 423 | 0.0159| 0     | BEA, Iz, Me, Palm | 0.0004494 | Ixc W            | F                   | in situ |
| 424 | 0     | 0     | Me          | 0.000026        | Ixc W            | F                   | in situ |
| 425 | 0     | 0     | Me          | 0.000026        | Ixc W            | F                   | in situ |
| 426 | 0     | 0     | Palm        | 0.000026        | Ixc W            | F                   | in situ |
| 427 | 0     | 0     | BEA         | 0.000026        | Ixc W            | F                   | in situ |
| 428 | 0     | 0     | Me, TS      | 0.000026        | Ixc W            | F                   | in situ |
| 429 | 0.0159| 0     | BEA, BEC, BN, Iz | 0.006393 | Ixc W            | G                   | in situ |
| 430 | 0     | 0     | BEA, BEM    | 0.000179        | Ixc W            | G                   | in situ |
| 431 | 0     | 0     | Iz, Me      | 0.000179        | Ixc W            | G                   | in situ |
| 432 | 0     | 0     | Bal, Sol, TS | 0.001376 | Ixc W            | G                   | in situ |
| 433 | 0     | 0     | BG, BN      | 0.001376        | Ixc W            | G                   | in situ |
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|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| 435 | 0 | 0 | 0 | BEA | 0 | bxc | W |
| 436 | 0 | 0 | 0 | Paz | 0 | bxc | W |
| 437 | 0 | 0 | 0 | BEA | 0 | bxc | W | G | in situ |
| 438 | 0 | 0 | 0 | Me | 0 | bxc | W | F | in situ |
| 439 | 0 | 0 | 0 | VR | 0 | bxc | W |
| 440 | 0.0263 | -0.2314 | 0 | 0 | BEA | 0 | bxc | W | G, Prp | in situ |
| 441 | 0.0068 | 0 | 0 | Pal, Sol, TS | 0.000281 | TCV | D | P, Prp, T, Ti | ex situ |
| 442 | 0 | 0 | 0 | CaCe | 0 | bxc | W | F | in situ |
| 443 | 0 | 0 | 0.0151 | -1.4002 | NE, TS | 0.000647 | bxc | W | F, G, T | in situ |
| 444 | 0 | 0 | 0.0151 | -1.164 | BEA, BEC, Iz, SB, TS | 0.014436 | bxc | W | F, G, T | in situ |
| 445 | 0 | 0 | 0.0151 | -1.2108 | Bal, Sol | 0 | bxc | W | F, G, T | in situ |
| 446 | 0 | 0 | 0 | BEA | 0 | bxc | W | F | in situ |
| 447 | 0 | 0 | 0 | BEA, Pal | 0 | bxc | W | T | in situ |
| 448 | 0 | -1.3613 | 0 | 0 | BEA, BEC, BG, BN, Me | 0.005148 | bxc | W | F | in situ |
| 449 | 0 | 0 | 0 | Me | 0 | bxc | W |
| 450 | 0 | 0 | 0 | CaMy | 0 | bxc | W |
| 451 | 0 | 0 | 0 | BEA, Iz | 0 | bxc | W | F | in situ |
| 452 | 0 | 0 | 0 | BN | 0 | bxc | W | F | in situ |
| 453 | 0 | 0 | 0 | Paz | 0 | bxc | W | F | in situ |
| 454 | 0 | 0 | 0 | BEA, BEC, Me | 0.010922 | bxc | W | F | in situ |
| 455 | 0 | 0 | 0 | BN, Palm | 0 | bxc | W | F, G | in situ |
| 456 | 0 | 0 | 0 | VR | 0 | bxc | W |
| 457 | 0 | 0 | 0 | Me | 0 | bxc | W |
| 458 | 0 | 0 | 0 | BG, Iz, Me, TS | 0 | bxc | W | F, G, T, Ur | in situ |
| 459 | 0 | 0 | 0 | VR | 0 | bxc | W |
| 460 | 0 | 0 | 0 | BN, Iz, Palm | 0.002394 | bxc | W | F, G | in situ |
| 461 | 0 | 0 | 0 | Iz | 0 | bxc | W | F | in situ |
| 462 | 0 | -1.382 | 0 | 0 | Me | 0.000310 | bxc | W | G | in situ |
| 463 | 0 | 0 | 0 | BN, VR | 0 | bxc | W |
| 464 | 0 | -1.1696 | 0 | 0 | Iz | 0 | bxc | W | F, G | in situ |
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| Code | X | Y | Z | Common Names | EIVI | Region | Type | Management Practices | Management Site |
|------|---|---|---|--------------|------|--------|------|----------------------|-----------------|
| 466  | 0 | 0 | 0 | BEA, BG, BN, Me, Palm, Paz | 0.014139 | Ixc | W | F, T, Ur | in situ |
| 467  | 0 | 0 | 0 | BEA, Iz, Me | 0.000993 | Ixc | W | F | in situ |
| 468  | 0 | 0 | 0 | Me | 0 | Ixc | R-W, W | F, G | in situ |
| 469  | 0.0015 | 0 | 0 | Sol | 0.000026 | Mex | W | F, P, Prp | ex situ |
| 470  | 0 | 0 | 0.0155 | -0.3836 | BG, Iz, Me, Palm, Sol | 0.001263 | Ixc | R-W, W | F, G, T | in situ |
| 471  | 0 | 0 | 0 | Iz, Me | 0.000616 | Ixc | R-W, W | F | in situ |
| 472  | 0 | 0 | 0 | Iz | 0 | Ixc | R-W, W | | |
| 473  | 0 | 0 | 0 | BEA, BEC, BG, BN, Me, Palm | 0.009509 | Ixc | R-W, W | F | in situ |
| 474  | 0.0066 | 0 | 0 | Sol | 0.000026 | EAAA | D | P, T | ex situ |
| 475  | 0.0716 | 0 | 0.0134 | AA, Sol | 0.000409 | TCV | D | G, P, Prp, T, Ti | ex situ |
| 476  | 0 | 0 | 0 | Sol | 0.000205 | TCV | D | P, Prp, T, Ti | ex situ |
| 477  | 0 | -1.3842 | 0 | BEA | 0 | Ixc | W | G | in situ |
| 478  | 0 | 0 | 0 | BG, Palm, Paz | 0.000841 | Ixc | W | F | in situ |
| 479  | 0 | 0 | 0 | BEA, BN, Palm, Paz | 0.000846 | Ixc | W | F | in situ |
| 480  | 0 | 0 | 0 | Sol | 0 | Nat-EAAA | R-W | F | ex situ |
| 481  | 0 | 0 | 0 | Sol | 0 | EAAA | W | F | ex situ |
| 482  | 0 | 0 | 0 | Sol | 0 | Nat-EAAA | W | F | ex situ |
| 483  | 0 | 0 | 0 | Palm, TS | 0 | Ixc | W | T | in situ |
| 484  | 0 | 0 | 0 | Sol | 0 | Ixc | W | G, T | in situ |
| 485  | 0 | 0 | 0 | Palm, TS | 0 | Ixc | W | T, Ur | in situ |
| 486  | 0 | 0 | 0 | CaCe | 0 | Ixc | W | | |
| 487  | 0 | 0 | 0 | Sol | 0.000051 | TCV | D | P, Prp | ex situ |
| 488  | 0 | 0 | 0 | Sol, TS | 0.000230 | TCV | D | P, Prp, T | ex situ |
| 489  | 0 | 0 | 0 | BEA | 0 | Ixc | W | F | in situ |
| 490  | 0 | 0 | 0 | Palm, TS | 0 | Ixc | W | T, Ur | in situ |
| 491  | 0 | 0 | 0 | BEA | 0 | Ixc | W | G | in situ |
| 492  | 0 | -1.1696 | 0 | Sol | 0 | EAAA | D | P, T | ex situ |
| 493  | 0 | 0 | 0 | Sol | 0 | EAAA | D | P, T | ex situ |
| 494  | 0 | 0 | 0 | SB | 0 | Ixc | W | G | in situ |
| 495  | 0.0219 | 0 | 0 | Sol | 0 | EAAA | D | P, T | ex situ |
| 496  | 0.0016 | -0.6126 | 0 | Pal, SB, Sol | 0.000051 | Ixc | W | F, G, T | in situ |
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| No. | $S$ | $P$ | $EIVI$ | Species, Common Names | Ecological Status | Management Practices | Management Site |
|-----|-----|-----|--------|-----------------------|------------------|---------------------|-----------------|
| 497 | 0   | 0   | 0      | BEA, Iz                | W                | F                   | in situ          |
| 498 | 0   | 0   | 0      | BN, Palm              | W                | F                   | in situ          |
| 499 | 0   | 0   | -1.1062| Iz                    | W                | F, G                | in situ          |
| 500 | 0   | 0   | 0      | BEA, Iz, Sol          | R-W, W           | F, T                | in situ          |
| 501 | 0   | 0   | 0      | BEA, Me               | W                |                      |                 |
| 502 | 0   | 0   | 0      | BEA                   | Nat-Uk           | W, F, G             | ex situ          |
| 503 | 0.0243 | 0   | 0      | Sol, TS               | EAAA             | D                   | ex situ          |
| 504 | 0   | 0   | 0      | Paz                   | W                |                      |                 |
| 505 | 0.0026 | 0   | -1.0672| BEA, BEM, Iz         | W                | F, G                | in situ          |
| 506 | 0   | 0   | 0      | SB                    | W                | F                   | in situ          |
| 507 | 0   | 0   | 0      | CaCe                  | W                |                      |                 |
| 508 | 0   | 0   | 0      | Me                    | W                |                      |                 |
| 509 | 0   | 0   | 0      | Me                    | W                |                      |                 |
| 510 | 0   | 0   | 0      | BEA                   | W                | F                   | in situ          |
| 511 | 0   | 0   | 0      | Sol                   | W                | Ti                  | ex situ, in situ |
| 512 | 0   | 0   | 0      | CaCe                  | W                |                      |                 |
| 513 | 0   | 0   | 0      | CaCe                  | W                |                      |                 |
| 514 | 0   | 0   | 0      | CaCe                  | W                |                      |                 |
| 515 | 0   | 0   | 0      | CaMy                  | W                |                      |                 |
| 516 | 0   | 0   | 0      | SB                    | W                | F, G                | in situ          |
| 517 | 0   | 0   | 0      | BG, Me, Palm          | W                |                      |                 |
| 518 | 0   | 0   | 0      | Me                    | W                |                      |                 |
| 519 | 0   | 0   | 0      | Palm, TS              | W                | F, G, T, Ur          | in situ          |
| 520 | 0   | 0   | 0      | Bal, BEA, BG          | W                | G, T, Ur             | in situ          |
| 521 | 0   | 0   | 0      | CaMy, Sol, TS         | W                | Ur                  | in situ          |
| 522 | 0   | 0   | -0.8814| Me, Sol, Palm, TS    | W                | F, G, T, Ur          | in situ          |
| 523 | 0   | 0   | -1.4276| BN, Palm, Sol         | W                | G                   | in situ          |
| 524 | 0   | 0   | -1.563 | BEA, BN, Paz          | W                | G                   | in situ          |
| 525 | 0.0129 | 0   | 0      | Sol                   | EAAA             | E, P, Prp, T, Ti    | ex situ          |
| 526 | 0   | 0   | -1.0654| Sol                   | W                | G, T                | in situ          |
| 527 | 0   | 0   | 0      | CaCe                  | W                |                      |                 |
| Species | Spanish common names | Number of uses | Percentage of families that consume it | Cognitive prominence values expressed as S = Sutrop relative prominence index² | Biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations | (Continued) |
|---------|----------------------|----------------|-----------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------|
| 527     | 0                    | 0              | SB                                      | 0 xic W                                                                           |                                                                           |                  |
| 528     | 0                    | 0              | -1.3063                                 | BEA, BEC, Iz, Me, Palm                                                            | 0.002876 xic W F, G                                                       | in situ |
| 529     | 0                    | 0              | Iz                                      | 0 xic W                                                                           |                                                                           |                  |
| 530     | 0                    | 0              | CaCe                                    | 0 xic W                                                                           |                                                                           |                  |
| 531     | 0                    | 0              | Me, Palm, TS                            | 0.001293 xic W F, G, T                                                          |                                                                           |                  |
| 532     | 0                    | 0              | Sol                                     | 0.000128 EAAA D P, Prp                                                          |                                                                           |                  |
| 533     | 0.0117               | -0.4905        | Bal, BEA, Pal, Sol, TS                  | 0.0000026 xic R-W F, G, T, Ur                                                     |                                                                           |                  |
| 534     | 0                    | 0              | Sol                                     | 0 TCV D P, Prp                                                                    |                                                                           |                  |
| 535     | 0                    | 0              | Me                                      | 0 xic W                                                                           |                                                                           |                  |
| 536     | 0                    | 0              | Sol                                     | 0 EAAA W P, Ti                                                                   |                                                                           |                  |
| 537     | 0                    | 0              | Bal, Sol, TS                            | 0.000025 Nat-EAAA R-W F, G, T, Ur                                                |                                                                           |                  |
| 538     | 0                    | 0              | Sol                                     | 0.000051 EAAA W P, Prp, Ti                                                        |                                                                           |                  |
| 539     | 0                    | 0              | Bal, Sol                                | 0 xic W                                                                           |                                                                           |                  |
| 540     | 0.0038               | -1.148         | Bal, Palm, Sol, TS                      | 0.000026 xic W G, T                                                              |                                                                           |                  |
| 541     | 0                    | 0              | Sol                                     | 0.000077 Mex W P, Ti                                                            |                                                                           |                  |
| 542     | 0                    | 0              | Sol                                     | 0.000026 EAAA W P, Ti                                                            |                                                                           |                  |
| 543     | 0                    | 0              | BEA, BM, Sol                            | 0 xic W                                                                           |                                                                           |                  |
| 544     | 0                    | 0              | Sol                                     | 0 EAAA W P, Ti                                                                   |                                                                           |                  |
| 545     | 0.0219               |                | Sol                                     | 0.000179 EAAA D P, Prp, Ti                                                        |                                                                           |                  |
| 546     | 0                    | -0.8491        | Sol                                     | 0.000026 xic W G, T                                                             |                                                                           |                  |
| 547     | 0                    | 0              | Sol                                     | 0.000077 EAAA W P, Ti                                                            |                                                                           |                  |
| 548     | 0                    | 0              | BG                                      | 0.001066 xic W                                                                   |                                                                           |                  |
| 549     | 0.0096               | 0.3611         | AA, Sol                                 | 0.000384 xic W P, T                                                              |                                                                           |                  |
| 550     | 0.0132               |                | Sol                                     | 0.000051 EAAA D P, Ti                                                            |                                                                           |                  |
| 551     | 0                    | 0              | Pal                                     | 0 EAAA W Ti                                                                       |                                                                           |                  |
| 552     | 0.0263               |                | BG                                      | 0 Mex D T                                                                         |                                                                           |                  |
| 553     | 0                    | 0              | Bal, BEA, Me, Pal, Palm, Sol, TS        | 0.000241 xic R-W, W F, G, T, Ur                                                  |                                                                           |                  |
| 554     | 0                    | 0              | Sol                                     | 0.000077 AC D P, Prp, Ti                                                         |                                                                           |                  |
| 555     | 0                    | 0              | Bal, BG, Sol                            | 0.000128 xic R-W F, G, T, Ur                                                     |                                                                           |                  |
| 556     | 0                    | 0              | BG, Me, TS                              | 0.001730 xic W F, G, T                                                           |                                                                           |                  |

(Continued)
Table 5  Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = $ Sutrop relative prominence index$^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIV )); specie origin region, ecological status, management practices and management site with respect to species wild populations  (Continued)

| Species, Spanish common names | Number of uses | Percentage of families | Cognitive prominence values | Biocultural importance values | Ecological status | Management site |
|-------------------------------|----------------|-----------------------|----------------------------|--------------------------------|------------------|-----------------|
| BEM, Me                       | 0              | 0.0137                | -1.0373                    |                                |                  |                 |
| BEA                           | 0              | 0                     |                             |                                |                  |                 |
| Sol                           | 0              | 0                     | 0.000077                   |                                |                  |                 |
| Bal, Sol                      | 0              | 0                     | 0.00026                    |                                |                  |                 |
| Bal, Sol, TS                  | 0              | 0                     | 0.006657                   |                                |                  |                 |
| Bal, BEA, Me, Sol             | 0              | 0                     | 0.000025                   |                                |                  |                 |
| Bal, Sol                      | 0              | 0                     | 0.000025                   |                                |                  |                 |
| CaMy                          | 0              | 0.05508               | 0                          |                                |                  |                 |
| Iz                            | 0              | 0                     | 0                          |                                |                  |                 |
| Me                            | 0              | 0                     | 0.000077                   |                                |                  |                 |
| BEA, Iz, Palm                 | 0              | 0                     | 0                          |                                |                  |                 |
| BEA, Sol                      | 0              | 0                     | 0.000025                   |                                |                  |                 |
| BEA, Pal                      | 0              | 0                     | 0.000025                   |                                |                  |                 |
| BEA, BEM, Pal, Sol            | 0              | 0                     | 0.000051                   |                                |                  |                 |
| BEA, Pal, Sol                 | 0              | 0                     | 0.000025                   |                                |                  |                 |
| AA, Pal, Sol                  | 0              | 0                     | 0.000053                   |                                |                  |                 |
| BEA                           | 0              | 0                     | 0                          |                                |                  |                 |
| BEA, BEM, Pal, Sol            | 0              | 0                     | 0.000025                   |                                |                  |                 |
| BEA, Iz, Palm                 | 0              | 0                     | 0                          |                                |                  |                 |
| BEA, Sol                      | 0              | 0                     | 0.000025                   |                                |                  |                 |
| BEA, Me, Pal                  | 0              | 0                     | 0.000025                   |                                |                  |                 |
| BEA, Me, Pal                  | 0              | 0                     | 0.000025                   |                                |                  |                 |
| NE, Sol                       | 0              | 0                     | 0.000025                   |                                |                  |                 |
|   |   |   |   |   | Species, Spanish common names | Number of uses | Cognitive prominence values expressed as $S = S_{sutrop}$ relative prominence index$^2$ | Biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIVI); species origin region, ecological status, management practices and management site with respect to species wild populations (Continued) |
|---|---|---|---|---|---|---|---|
| 719 | 0 | 0 | 0 | Iz | 0 | lxc | W |
| 720 | 0 | 0 | -1.0665 | 0 | BEA, BN, Me, Palm | 0.003728 | lxc | R-W, W | F, G | in situ |
| 591 | 0 | 0 | 0 | BEA, Pal | 0 | lxc | W | F | in situ |
| 722 | 0 | 0 | -1.1735 | 0 | BEA, BEC, BEM, Me | 0 | lxc | R-W, W | G | in situ |
| 723 | 0 | 0 | -1.4246 | 0 | Iz, Pal, Palm | 0.000396 | lxc | R-W, W | G, T | in situ |
| 594 | 0 | 0 | 0 | Bal, Sol | 0 | lxc | R-W | T | in situ |
| 592 | 0 | 0 | -0.0837 | 0 | Iz, Me, Sol, TS | 0.038091 | lxc | W | F, P, T | in situ |
| 593 | 0.0066 | 1.1688 | 0 | 0 | Iz, Sol | 0.000026 | lxc | W | F, G, P, Prp | ex situ, in situ |
| 595 | 0 | 0 | -0.7869 | 0 | BEA, BEC, BN, Me | 0.026267 | lxc | W | F, G | in situ |
| 596 | 0 | 0 | -0.0909 | 0 | Bal, Pal, Sol, TS | 0.001314 | lxc | R-W | G, T, Ur | in situ |
| 597 | 0 | 0 | -0.7604 | 0 | Sol | 0 | lxc | W | G, P, T | in situ |
| 598 | 0 | 0 | 0 | Sol | 0 | lxc | W | G, T | in situ |
| 761 | 0 | 1.1156 | 0 | 0 | CaCe, SB, Sol | 0 | lxc | W | G, P, Ti | ex situ, in situ |
| 721 | 0 | 0 | 0 | Iz | 0 | lxc | W | F | in situ |
| 599 | 0 | 0 | 0 | Iz | 0 | lxc | R-W | G | in situ |
| 600 | 0 | 0 | 0 | Palm, Sol | 0.000205 | Mex | W | P, Ti | ex situ |
| 601 | 0.00697 | 1.3422 | 0 | 0 | BEM | 0 | lxc | W | G, P, Ti | ex situ, in situ |
| 602 | 0 | 0 | 0 | BEA | 0 | lxc | W | F | in situ |
| 603 | 0.0103 | 0 | 0 | Pal, Sol | 0.000102 | Mex | W | P, Prp, Ti | ex situ |
| 717 | 0 | 0 | 0 | Sol | 0.000051 | EAAA | D | P, Prp | ex situ |
| 718 | 0.0096 | -0.9247 | 0 | 0 | Paz, VR | 0.000458 | lxc | W | F, G | in situ |
| 724 | 0 | 0 | 0 | Sol | 0.000077 | lxc | R-W, W | T | in situ |
| 725 | 0 | 0 | -1.4068 | 0 | BEA, Palm | 0.000385 | lxc | R-W, W | G | in situ |
| 726 | 0 | 0 | 0 | BEA | 0 | lxc | R-W, W | F | in situ |
| 604 | 0 | 0 | 0 | BG, VR | 0 | Nat-EAAA | W | |
| 727 | 0 | 0 | 0 | BEA, BG, BN, Me | 0.003738 | lxc | R-W, W | G | in situ |
| 728 | 0 | 0 | 0 | Sol | 0 | EAAA | W | P, Prp | ex situ |
| 729 | 0 | 0 | 0 | BEA | 0 | lxc | W | G | in situ |
| 605 | 0 | 0 | 0 | BG, Pal | 0 | lxc | R-W | T, Ur | in situ |
| 606 | 0 | 0 | 0 | Bal | 0 | lxc | W | F, G, T, Ur | in situ |
| 607 | 0 | 0 | 0 | BN, Iz, Me | 0.001851 | Nat-EAAA | W | F, G | ex situ |
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|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| 608 | 0 | 0 | 0 | BEA | 0 | EAAA | W | F | in situ |
| 609 | 0 | 0 | 0 | BEA, BEC, BN, Me, Palm, Paz, TS | 0.059386 | EAAA | W | F, T, Ur | in situ |
| 610 | 0 | 0 | 0 | BG, Pal, Sol, VR | 0.001636 | Nat-EAAA | W | F, P, Prp | ex situ |
| 611 | 0 | 0 | 0 | Bal, Sol, TS | 0 | Nat-EAAA | D | F, P, Prp, T, Ur | ex situ |
| 612 | 0 | 0 | 0 | Bal, Iz, Sol | 0 | EAAA | W | F, G, T, Ur | in situ |
| 614 | 0 | 0 | 0 | Bal | 0 | EAAA | W | F, G, T, Ur | in situ |
| 615 | 0 | 0 | 0 | Bal | 0 | EAAA | W | F, G, T, Ur | in situ |
| 613 | 0 | 0 | 0 | Paz | 0.004938 | EAAA | W | F | in situ |
| 616 | 0 | 0 | 0 | Sol | 0.000051 | EAAA | W | P, Prp | ex situ |
| 617 | 0 | 0 | 0 | Bal | 0 | Nat-EAAA | R-W | F | ex situ |
| 618 | 0 | 0 | 0 | Paz | 0.000709 | Nat-EAAA | R-W | F | ex situ |
| 620 | 0 | 0 | 0 | Paz, TS | 0.005333 | EAAA | W | F, G, T, Ur | in situ |
| 621 | 0 | 0 | 0 | Bal | 0 | EAAA | W | F, G, T, Ur | in situ |
| 619 | 0 | 0 | 0 | Bal | 0 | EAAA | W | F, G, T, Ur | in situ |
| 622 | 0 | 0 | 0 | Iz | 0 | EAAA | W | F | in situ |
| 623 | 0 | 0 | 0 | Iz | 0 | EAAA | W | F | in situ |
| 624 | 0 | 0 | 0 | BN, Palm, Paz | 0.002708 | EAAA | W | F | in situ |
| 625 | 0 | 0 | 0 | Sol, TS | 0.000026 | EAAA | D | F, Prp, T | ex situ |
| 626 | 0 | 0 | 0 | Me | 0 | EAAA | W | F | in situ |
| 627 | 0 | 0 | 0 | Paz | 0.003002 | EAAA | W | F | in situ |
| 628 | 0 | 0 | 0 | Iz | 0.001189 | EAAA | W | G | in situ |
| 629 | 0 | 0 | 0 | BEA, BG | 0.003568 | EAAA | W | G | in situ |
| 630 | 0 | 0 | 0 | Iz | 0 | EAAA | W | F | in situ |
| 631 | 0 | 0 | 0 | Sol | 0.000026 | EAAA | D | E, P | ex situ |
| 632 | 0 | 0 | 0 | Iz | 0 | EAAA | W | G | in situ |
| 633 | 0 | 0 | 0 | Paz | 0 | Nat-EAAA | R-W | F | ex situ |
| 634 | 0 | 0 | 0 | Sol | 0.000026 | EAAA | D | F, Prp | ex situ |
| 635 | 0 | 0 | 0 | BEA, BG, Me, Paz | 0.003708 | EAAA | W | F, G | in situ |
| 636 | 0 | 0 | 0 | Iz, Palm, Paz | 0.002422 | EAAA | W | F, G | in situ |
| 637 | 0.0344 | 0 | 0 | Sol, TS | 0 | EAAA | D | F, Prp | ex situ |
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| No. | S    | U   | C   | Sutrop Relative Prominence Index | Mex | Ind | P | Prp | T | W | F | G | Ur | R = W | G-T |
|-----|------|-----|-----|----------------------------------|-----|-----|---|----|---|---|---|---|----|------|-----|
| 639 | 0.0376 | 0   | 0   | 0.0000230                        | Mex | D   | F, P, Prp, T | ex situ |
| 640 | 0    | 0   | 0   | 0.0039567                        | bxc | W   | F, G | in situ |
| 641 | 0    | 0   | 0   | 0.0087644                        | bxc | W   | F   | in situ |
| 642 | 0    | 0   | 0   | 0.020134                         | bxc | W   | F   | in situ |
| 643 | 0    | 0   | 0   | 0.001316                         | bxc | W   | F   | in situ |
| 644 | 0    | 0   | 0   | 0.000872                         | bxc | W   | F   | in situ |
| 645 | 0    | 0   | 0   | 0.011792                         | bxc | W   | F, G, T, Ur | in situ |
| 646 | 0    | 0   | 0   | 0.007838                         | bxc | W   | F   | in situ |
| 647 | 0    | 0   | 0   | 0.0030644                        | bxc | W   | F   | ex situ |
| 648 | 0    | 0   | 0   | 0.00000051                       | bxc | W   | F   | ex situ |
| 649 | 0    | 0   | 0   | 0.0030644                        | bxc | W   | F   | ex situ |
| 650 | 0    | 0   | 0   | 0.0030644                        | bxc | W   | F, G | in situ |
| 651 | 0    | 0   | 0   | 0.005929                         | bxc | W   | F, G | in situ |
| 652 | 0    | 0   | 0   | 0.000872                         | bxc | W   | F   | in situ |
| 653 | 0    | 0   | 0   | 0.00000051                       | bxc | W   | F   | ex situ |
| 654 | 0    | 0   | 0   | 0.00000051                       | bxc | W   | F   | ex situ |
| 655 | 0    | 0   | 0   | 0.00000051                       | bxc | W   | F   | ex situ |
| 656 | 0    | 0   | 0   | 0.00000051                       | bxc | W   | F   | ex situ |
| 658 | 0    | 0   | 0   | 0.00000051                       | bxc | W   | F   | ex situ |
| 659 | 0    | 0   | 0   | 0.00000051                       | bxc | W   | F   | ex situ |
| 660 | 0    | 0   | 0   | 0.00000051                       | bxc | W   | F   | ex situ |
| 661 | 0.00066 | 0   | 0   | 0.002474                         | Nat-EAAA | R-W | G, T | ex situ |
| 759 | 0    | 0   | 0   | 0.002474                         | Nat-EAAA | R-W | G, T | ex situ |
| 662 | 0    | 0   | 0   | 0.00000051                       | EAAA | W   | P, Ti | ex situ |
| 663 | 0    | 0   | 0   | 0.00000051                       | EAAA | W   | P, Ti | ex situ |
| 664 | 0    | 0   | 0   | 0.0048886                        | bxc | W   | G   | in situ |
| 665 | 0    | 0   | 0   | 0.0048886                        | bxc | W   | G   | in situ |
| 666 | 0    | 0   | 0   | 0.0048886                        | bxc | W   | G   | in situ |
| 667 | 0    | 0   | 0   | 0.0048886                        | bxc | W   | G   | in situ |
| 668 | 0    | 0   | 0   | 0.0048886                        | bxc | W   | G   | in situ |
| 669 | 0    | 0   | 0   | 0.0048886                        | bxc | W   | G   | in situ |
| 670 | 0    | 0   | 0   | 0.0048886                        | bxc | W   | G   | in situ |
| 671 | 0    | 0   | 0   | 0.0048886                        | bxc | W   | G   | in situ |
Table 5 Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = Sutrop$ relative prominence index $^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental; distribution on vegetal types, importance ecological index value (EIV); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| #  | 0  | 0     | 0       | Me, Paz | 0 | Ixc | W       |          |
|----|----|-------|---------|---------|----|-----|---------|----------|
| 673 | 0  | 0     | 0       | Sol     | 0  | EAAA | W       | E, P, Prp, ex situ |
| 674 | 0  | 0     | -1.5677 | BEA     | 0  | Ixc | W       | G        |
| 675 | 0  | 0     | 0       | Pal, Sol| 0  | Ixc | W       | G        |
| 676 | 0  | 0     | 0       | CaCe    | 0  | Ixc | W       | G        |
| 677 | 0  | 0     | 0       | Me      | 0  | Ixc | W       | G        |
| 678 | 0  | 0     | 0       | Paz, TS | 0  | Ixc | D       | G, Prp, T, in situ |
| 679 | 0  | 0     | 0       | Sol     | 0  | EAAA | D       | E, P, Prp, Ti, ex situ |
| 680 | 0  | 0     | 0       | Me, SB  | 0  | Ixc | W       | G        |
| 681 | 0  | 0     | 0       | BEA, Bec, BN, Is, Me, Palm, TS | 0.045749 | Ixc | W       | F, G, T |
| 682 | 0  | 0.0147 | -1.3761 | Sol     | 0  | EAAA | D       | P, Ti    |
| 683 | 0  | 0     | 0       | BEA, Bec, Me, Palm, Paz, TS | 0.001181 | Ixc | W       | G        |
| 684 | 0  | 0     | 0       | Pal, Sol| 0  | Ixc | D       | G, Prp, T, ex situ |
| 685 | 0  | 0     | 0       | Paz, TS | 0  | TCV  | D       | G, Prp, T, ex situ |
| 686 | 0  | 0.0150 |       | Sol     | 0  | EAAA | D       | P, Ti    |
| 687 | 0  | 0.0095 |       | Sol     | 0  | EAAA | D       | Prp, Ti, ex situ |
| 688 | 0  | 0     | 0       | Sol     | 0  | EAAA | D       | P, Ti    |
| 689 | 0  | 0     | 0       | Me      | 0  | Ixc | W       |         |
| 690 | 0  | 0.0058 | -1.6222 | Me      | 0  | Ixc | W       | G        |
| 691 | 0  | 0     | 0.0018 | BEA, Bec, Me, Palm, Paz, TS | 0.001181 | Ixc | W       | F, G, T, Ur |
| 692 | 0  | 0     | 0.0061 | CaCe, Me, Sol | 0.000291 | Ixc | W       | G, P, Ti, ex situ, in situ |
| 693 | 0  | 0     | 1.7204 | Iz      | 0  | Ixc | W       |         |
| 694 | 0  | 0     | 0       | BEA, Me, Palm | 0 | Ixc | W       |         |
| 695 | 0  | 0     | -1.6375 | Me, Palm | 0  | Ixc | W       | G        |
| 696 | 0  | 0     | 0       | BEA, Bec | 0.005571 | Ixc | W       |         |
| 697 | 0  | 0     | 0       | BEA, Me, Palm, Palm | 0.003340 | Ixc | W       | G        |
| 698 | 0  | 0     | 0       | BEA, Pal, VR | 0 | Ixc | W       | G        |
| 699 | 0  | 0     | 0       | CaCe    | 0  | Ixc | W       |         |
| 700 | 0  | 0     | 0.0095 | Sol     | 0.000153 | TCV  | D       | E, P, Prp, T, ex situ |
| 701 | 0  | 0     | 0       | Sol     | 0.000307 | EAAA | D       | E, P, T, Ti, ex situ |
| 702 | 0  | 0     | 0       | Sol     | 0.000026 | EAAA | D       | P, Ti, ex situ |
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| Code | No. | No. | Species | Use Type | Cognitive Prominence | BI Component | Management Practices | Site Type |
|------|-----|-----|---------|----------|----------------------|--------------|----------------------|----------|
| 703  | 0   | 0   | Sol     |          | 0.000051 EAAA D     | P, T, Ti     | ex situ              |
| 705  | 0   | 0   | Sol     |          | 0.000051 EAAA D     | P, T, Ti     | ex situ              |
| 702  | 0   | 0   | Sol     |          | 0.000026 EAAA D     | P, Ti        | ex situ              |
| 706  | 0   | 0   | Sol     |          | 0.007574 bxc W      | G, T         | in situ              |
| 707  | 0   | 0   | Sol     |          | 0.002300 EAAA W     | P, Prp       | ex situ              |
| 708  | 0   | 0   | Iz, SB  |          | 0.00678 bxc W       |             |                      |
| 709  | 0   | 0   | BEA     |          | 0 bxc W             | G            | in situ              |
| 710  | 0   | 0   | CaCe    |          | 0 bxc W             | G            | in situ              |
| 394  | 0   | 0   | Me      |          | 0.000118 bxc W      |             |                      |
| 711  | 0   | 0   | Pal     |          | 0 TCV W             | Ti           | ex situ              |
| 779  | 0   | 0   | CaMy, BE, Iz | | 0 bxc W | Ur | in situ |
| 780  | 0   | 0   | Me, Sol |          | 0.000051 bxc W      | Ur           | in situ              |
| 781  | 0   | 0   | Iz, Me  |          | 0 bxc W             | G, Ur        | in situ              |
| 712  | 0   | 0   | BEA, BEC, BN, Iz, Me, Palm, Sol, TS | | 0.021155 bxc W | G, T | in situ |
| 713  | 0   | 0   | SB      |          | 0 bxc W             |             |                      |
| 715  | 0.0132 | 0   | Sol     |          | 0.000051 TCV D      | P, Prp, T    | ex situ              |
| 716  | 0   | 0   | Iz      |          | 0 bxc W             | F            | in situ              |
| 714  | 0   | 0   | AA      |          | 0 bxc W             |             |                      |
| 730  | 0   | 0   | BEA, Me |          | 0 bxc W             | G            | in situ              |
| 731  | 0   | 0   | SB      |          | 0 bxc W             |             |                      |
| 732  | 0   | 0   | BEA     |          | 0 bxc W             |             |                      |
| 733  | 0   | 0.0139 | Sol     |          | 0.000051 AC D      | P, Prp       | ex situ              |
| 734  | 0.0065  | 4.5368 | 0   | SB, Sol | 0.000153 bxc D, W | E, G, P, Prp, T, Ti | ex situ, in situ |
| 735  | 0.0020 | 0   | Sol     |          | 0.000077 AC D      | E, P, Prp, T, Ti | ex situ |
| 736  | 0   | 0   | Me      |          | 0 bxc W             | G            | in situ              |
| 737  | 0   | 0   | BEA, Pal, VR | | 0 bxc W | F | in situ |
| 738  | 0   | 0   | Pal     |          | 0 bxc R-W, W        | T            | in situ              |
| 739  | 0   | -1.0133 | 0   | Palm, Sol | 0 bxc R-W, W | G, T | in situ |
| 740  | 0.0020 | -0.9978 | 0   | BEA, BG, Pal, Palm, Sol | 0 bxc R-W, W | G, T | in situ |
| 741  | 0   | 0   | 0.0069 Bal, Pal, Sol, TS | 0.000026 Nat-AC R-W | G, T | ex situ |
| 742  | 0   | 0   | Sol     |          | 0.000077 Mex D     | G, T         | ex situ              |
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| Species | Spanish common names | Number of uses | Percentage of families consuming it | Cognitive prominence values | Biocultural importance values | Distribution on vegetal types | Importance ecological index value (EIVI) | Specie origin region, ecological status, management practices and management site |
|---------|----------------------|----------------|------------------------------------|-----------------------------|-------------------------------|-----------------------------|------------------------------------------|----------------------------------------------------------------------------------|
| Sol, Ts | 0.01383 | 0.9152 | 0 | 0 | Sol, Ts | 0.01383 | LxC | D, R-W, E, P, Prp, T, Ti | in situ |
| Sol    | 0.000026 | 0.9152 | 0 | 0 | Sol | 0.000026 | LxC | R-W, G, T | in situ |
| Sol    | 0.000026 | 0.9152 | 0 | 0 | Sol | 0.000026 | LxC | R-W, W, G, T | in situ |
| BEA, BEC, BG, Palm, Sol | 0.005064 | 0.9152 | 0 | 0 | BEA, BEC, BG, Palm, Sol | 0.005064 | LxC | R-W, W, G, T | in situ |
| Paz    | 0 | 0.9152 | 0 | 0 | Paz | 0 | LxC | W, G | in situ |
| Pal, Sol | 0.00205 | 0.9152 | 0 | 0 | Pal, Sol | 0.00205 | TCV | D, E, P, Prp, T, Ti | ex situ |
| BEA    | 0 | 0.9152 | 0 | 0 | BEA | 0 | LxC | R-W, G | in situ |
| Sol, BEA, BEC, Me, Pal, Paz | 0 | 0.9152 | 0 | 0 | Sol, BEA, BEC, Me, Pal, Paz | 0 | LxC | R-W, W, G | in situ |
| CaCe   | 0 | 0.9152 | 0 | 0 | CaCe | 0 | LxC | R-W | in situ |
| Sol, TS | 0 | 0.9152 | 0 | 0 | Sol, TS | 0 | LxC | D, P, Prp | ex situ |
| Bal    | 0 | 0.9152 | 0 | 0 | Bal | 0 | LxC | R-W, T | in situ |
| CaCe   | 0 | 0.9152 | 0 | 0 | CaCe | 0 | LxC | W | in situ |
| BG     | 0.001995 | 0.9152 | 0 | 0 | BG | 0.001995 | LxC | W, F | in situ |
| Palm   | 0 | 0.9152 | 0 | 0 | Palm | 0 | LxC | W | in situ |
| BEA, Iz, Pal | 0.00658 | 0.9152 | 0 | 0 | BEA, Iz, Pal | 0.00658 | LxC | W, G | in situ |
| Sol    | 0.000077 | 0.9152 | 0 | 0 | Sol | 0.000077 | Nat-AC | R-W, P, Prp, T | ex situ |
| VR     | 0 | 0.9152 | 0 | 0 | VR | 0 | LxC | W | in situ |
| BEA, Pal, Sol, VR | 0.000026 | 0.9152 | 0 | 0 | BEA, Pal, Sol, VR | 0.000026 | LxC | W, G, T | in situ |
| BEA, Me, Sol | 0.000026 | 0.9152 | 0 | 0 | BEA, Me, Sol | 0.000026 | LxC | W, P, Prp | ex situ, in situ |
| Sol    | 0 | 0.9152 | 0 | 0 | Sol | 0 | LxC | W, G, T | in situ |
| SB     | 0 | 0.9152 | 0 | 0 | SB | 0 | LxC | W | in situ |
| Palm   | 0 | 0.9152 | 0 | 0 | Palm | 0 | LxC | W | in situ |
| Bal, BEA, BN, Sol | 0.001928 | 0.9152 | 0 | 0 | Bal, BEA, BN, Sol | 0.001928 | LxC | R-W, G | in situ |
| BEA, BN, Me, Pal, Palm | 0.000747 | 0.9152 | 0 | 0 | BEA, BN, Me, Pal, Palm | 0.000747 | LxC | R-W, F, G, T, Ur | in situ |
| BEA, BEC, BN, CaCe, Iz, Me, Palm, Sol | 0.003620 | 0.9152 | 0 | 0 | BEA, BEC, BN, CaCe, Iz, Me, Palm, Sol | 0.003620 | LxC | R-W, F, G, P, Ti | ex situ, in situ |
| BEA, BEC, BN, Iz, Me, Pal, Palm, Sol | 0.010387 | 0.9152 | 0 | 0 | BEA, BEC, BN, Iz, Me, Pal, Palm, Sol | 0.010387 | LxC | R-W, G, T, Ti | ex situ, in situ |
| CaCe, Me, Pal | 0 | 0.9152 | 0 | 0 | CaCe, Me, Pal | 0 | LxC | W, F, G | in situ |
| Me, Sol | 0 | 0.9152 | 0 | 0 | Me, Sol | 0 | LxC | W, G, P, Ti | ex situ, in situ |
| BEA    | 0 | 0.9152 | 0 | 0 | BEA | 0 | LxC | R-W | in situ |
| SB     | 0 | 0.9152 | 0 | 0 | SB | 0 | LxC | R-W | in situ |
Table 5 Species, Spanish common names, number of uses, percentage of families that consume it; cognitive prominence values expressed as $S = Sutrop$ relative prominence index$^2$ and biocultural importance expressed as first component value of the principal component analysis by use type (edible, medicinal, firewood, fodder, ceremonial and ornamental); distribution on vegetal types, importance ecological index value (EIVI); specie origin region, ecological status, management practices and management site with respect to species wild populations (Continued)

| ID | Uses | Percentage of Families | Spanish Common Name | EIVI | Management Practices | Management Site |
|----|------|------------------------|---------------------|------|----------------------|----------------|
| 778 | 0 | 0 | BEA, Sol | 0 | lx | R-W | T | in situ |
| 782 | 0 | 0 | CaCe, Sol, TS | 0 | lx | R-W | T, Ur | in situ |
| 783 | 0 | 0 | Sol | 0 | EAAA | D | P, Ti | ex situ |
| 27 | 0 | 0 | Sol | 0.000025 | EAAA | D, R-W | P, Prp, Ti | ex situ |
| 82 | 0 | 0 | BEM, Pz, Sol | 0.0000026 | Nat-EAAA | W | P, T, Ti, Ur | ex situ |
| 83 | 0 | 0 | Sol | 0.000102 | EAAA | W | P, Prp | ex situ |
| 784 | 0 | 0 | CaCe | 0 | lx | W | | |
| 785 | 0 | 0.025 | -1.433 | BEM | 0 | lx | W | G | in situ |
Table 6 Santa María Ixcatlán participants and activities in which collaborated

| ID | Sex | Age | Language | Main activities                  | Participants type | Guide in trials | Homegarden² | Agricultural field² | Surveys to estimate agricultural production and consumption | Free lists |
|----|-----|-----|----------|----------------------------------|-------------------|-----------------|--------------|---------------------|-------------------------------------------------------------|------------|
| 1  | Male| 23  | SPA      | Mescal production               | Key participant   | Yes             |              |                     |                                                             | Yes        |
| 2  | Male| 48  | SPA      | Agriculture, mescal production  | Key participant   | Yes             | 1            | 16                  |                                                             |            |
| 3  | Male| 70  | SPA, IXC | Agriculture, palm weaver        |                   |                 | 6            | 11                  |                                                             |            |
| 4  | Male| 64  | SPA      | Agriculture, palm weaver        |                   |                 |              |                     |                                                             |            |
| 5  | Male| 44  | SPA      | Agriculture, palm weaver        | Key participant   | Yes             | 2            |                     |                                                             | Yes        |
| 6  | Female| 42 | SPA     | Domestic chores, palm weaver    | Occasional participant | 8             | 3            | 15                  |                                                             |            |
| 7  | Female| 64 | SPA     | Domestic chores, palm weaver    |                   |                 |              |                     |                                                             |            |
| 8  | Male| SPA  | Agriculture, palm weaver        |                   |                 | 21             |              |                     |                                                             |            |
| 9  | Male| SPA  | Agriculture, palm weaver        |                   |                 | 21             |              |                     |                                                             |            |
| 10 | Male| 46  | SPA      | Agriculture, commerce          | Key participant   | Yes             | 1            |                     |                                                             | Yes        |
| 11 | Male| 60  | SPA      | Agriculture, mescal production  | Key participant   | Yes             | 10           |                     |                                                             |            |
| 12 | Male| 33  | SPA      | Agriculture, mescal production, palm weaver |                     | 13             |              |                     |                                                             |            |
| 13 | Male| SPA  | Agriculture, palm weaver        |                   |                 | 13             |              |                     |                                                             |            |
| 14 | Male| 65  | SPA      | Agriculture, palm weaver        |                   |                 |              |                     |                                                             |            |
| 15 | Female| 20 | SPA     | Palm weaver                      |                   |                 |              |                     |                                                             |            |

Fig. 6 Rarefaction curves of the Sutrop Index S.
Table 6  Santa María Ixcatlán participants and activities in which collaborated (Continued)

|   | Gender | Age  | Occupation | Activity | Collaboration | Participant Type |
|---|--------|------|------------|----------|---------------|------------------|
| 16 | Male   | 71   | SPA        | Agriculture, mescal production, palm weaver | Yes           |                  |
| 17 | Female | SPA  | Student    |          |               |                  |
| 18 | Female | 58   | SPA        | Domestic chores, palm weaver | Occasional participant | 13, 2          |
| 19 | Female | 33   | SPA        | Domestic chores, palm weaver |               |                  |
| 20 | Female | 60   | SPA        | Domestic chores, palm weaver | Key participant | 15, 7         |
| 21 | Male   | 88   | SPA        | Domestic chores, palm weaver |               | 7               |
| 22 | Male   | 70   | SPA        | Agriculture, palm weaver |               | 20              |
| 23 | Male   | 68   | SPA        | Agriculture, palm weaver | Occasional participant | 3            |
| 24 | Male   | 49   | SPA        | Agriculture, mescal production, palm weaver |               | 17, 5           |
| 25 | Male   | 80   | SPA, IXC   | Agriculture, palm weaver | Key participant | Yes, 4         |
| 26 | Male   | SPA  | Shepherd   |          | Key participant | Yes             |
| 27 | Female | 75   | SPA        | Domestic chores, palm weaver |               | 19              |
| 28 | Male   | 46   | SPA        | Domestic chores, palm weaver |               | 17, 5           |
| 29 | Female | 64   | SPA        | Domestic chores, palm weaver |               |                  |
| 30 | Male   | 57   | SPA        | Agriculture, mescal production, palm weaver | Occasional participant | Yes         |
| 31 | Male   | SPA  | Shepherd   |          | Key participant | Yes             |
| 32 | Male   | 97   | SPA, IXC   | Palm weaver | Key participant |                 |
| 33 | Female | 75   | SPA        | Domestic chores, palm weaver |               | 19              |
| 34 | Female | 46   | SPA        | Domestic chores, palm weaver |               | 17, 5           |
| 35 | Male   | SPA  | Student    |          |               | Yes             |
| 36 | Female | 68   | SPA        | Domestic chores, palm weaver | Occasional participant | 7           |
| 37 | Female | SPA  | Commerce, domestic chores |          |               | Yes             |
| 38 | Female | 16   | SPA        | Student   | Occasional participant |               |
| 39 | Female | SPA  | Domestic chores, palm weaver |          | Occasional participant | 20, Yes |
| 40 | Female | 66   | SPA        | Domestic chores, palm weaver |               | 10              |
| 41 | Female | 32   | SPA        | Domestic chores, palm weaver |               | Yes             |
| 42 | Female | 62   | SPA, IXC   | Domestic chores, palm weaver | Key participant | 17, 12, Yes   |
| 43 | Male   | SPA  | Agriculture, mescal production, palm weaver |          | Occasional participant | Yes     |
| 44 | Male   | SPA  | Agriculture, construction worker |          | Occasional participant | Yes     |
| 45 | Male   | 78   | SPA        | Agriculture, palm weaver |               | 7               |
| 46 | Male   | 52   | SPA        | Agriculture, palm weaver |               | 3, 15          |
| 47 | Female | SPA | Domestic chores, palm weaver | Occasional participant | 10 |
| 48 | Female | SPA | Domestic chores, palm weaver | Occasional participant | 12 |
| 49 | Male | SPA | Commerce | Occasional participant | Yes |
| 50 | Female | 39 | SPA | Commerce, domestic chores | Yes |
| 51 | Female | 33 | SPA | Domestic chores, palm weaver | 6 |
| 52 | Male | 74 | SPA, IXC | Agriculture, palm weaver | Key participant | Yes | 16 | 9 | Yes |
| 53 | Male | SPA | Agriculture, palm weaver | Occasional participant | 12 |
| 54 | Female | 43 | SPA | Commerce, domestic chores | Occasional participant | 6 |
| 55 | Male | 30 | SPA | Agriculture, construction worker, palm weaver | Yes |
| 56 | Female | 73 | SPA | Domestic chores, palm weaver | 4 |
| 57 | Female | SPA | Domestic chores, palm weaver | Occasional participant | 9 |
| 58 | Female | 39 | SPA | Domestic chores, palm weaver | Key participant | Yes | 16 | 9 | Yes |
| 59 | Male | 36 | SPA | Agriculture, palm weaver | Yes |
| 60 | Female | 81 | SPA | Domestic chores, palm weaver | 11 |
| 61 | Female | 86 | SPA, IXC | Domestic chores, palm weaver | Occasional participant | Yes | 9 | 2 |
| 62 | Male | 30 | SPA | Blacksmith | Occasional participant |
| 63 | Female | 57 | SPA | Domestic chores, palm weaver | Occasional participant | 7 | 1 |
| 64 | Male | SPA | Agriculture, mescal production, palm weaver, shepherd | Occasional participant | Yes |
| 65 | Male | 71 | SPA | Agriculture, palm weaver | Key participant | Yes | 9 | 2 | Yes |
| 66 | Female | 49 | SPA, IXC | Domestic chores, palm weaver | Occasional participant | 2 |
| 67 | Male | 18 | SPA | Agriculture, palm weaver | Yes |
| 68 | Male | 59 | SPA | Agriculture, palm weaver | Key participant | Yes | 18 |
| 69 | Male | SPA | Student | Occasional participant | Yes |
| 70 | Female | 69 | SPA, IXC | Domestic chores, palm weaver | Occasional participant | 4 | 18 | Yes |
| 71 | Male | 46 | SPA | Painter | Occasional participant |
| 72 | Male | 84 | SPA | Agriculture, palm weaver | Key participant | Yes | 11 |
| 73 | Female | 80 | SPA, IXC | Domestic chores, palm weaver | Key participant | 5 |
| 74 | Male | 36 | SPA | Agriculture, construction worker, palm weaver | Yes |
| 75 | Female | 55 | SPA | Domestic chores, palm weaver | 5 |
| ID | Gender | Age | Location | Activity | Participant Type | Key? | Notes |
|----|--------|-----|----------|----------|------------------|------|-------|
| 76 | Female | 63  | SPA      | Domestic chores, palm weaver | Occasional participant | 3    | Yes   |
| 77 | Male   | 36  | SPA      | Agriculture, palm weaver      | Yes                           |      |       |
| 78 | Female | 38  | SPA      | Domestic chores, palm weaver  |                               | 10   |       |
| 79 | Male   | 57  | SPA      | Agriculture, mescal production, palm weaver | Yes                          | 20   | Yes   |
| 80 | Male   | 68  | SPA      | Agriculture, construction worker, palm weaver | 2                             |      |       |
| 81 | Female |     | SPA      | Domestic chores, palm weaver  | Yes                           |      |       |
| 82 | Female | 60  | SPA      | Domestic chores, palm weaver  | Occasional participant       | 2    |       |
| 83 | Female | 31  | SPA, IXC | Domestic chores, palm weaver  | Yes                           |      |       |
| 84 | Male   | 12  | SPA      | Palm weaver, student          | Key participant               | 6    |       |
| 85 | Male   |     | SPA      | Mescal production, palm weaver | Occasional participant       | 12   |       |
| 86 | Female | 53  | SPA      | Commerce, domestic chores     |                               | 9    |       |
| 87 | Female |     | SPA      | Domestic chores, palm weaver  | Occasional participant       |      |       |
| 88 | Male   | 55  | SPA      | Agriculture, palm weaver      | Yes                           |      |       |
| 89 | Female | 70  | SPA      | Domestic chores, palm weaver  |                               |      |       |
| 90 | Male   | 24  | SPA      | Agriculture, palm weaver      | Occasional participant       | 19   | Yes   |
| 91 | Male   | 78  | SPA      | Agriculture, palm weaver      | Occasional participant       |      |       |
| 92 | Female | 62  | SPA      | Domestic chores, palm weaver  |                               | 13   |       |
| 93 | Female | 64  | SPA, IXC | Domestic chores, palm weaver, shepherdess | Key participant | 1 | 17 | Yes |
| 94 | Male   | 73  | SPA      | Agriculture, palm weaver      | Occasional participant       | 5    |       |
| 95 | Male   | 62  | SPA      | Agriculture, mescal production, palm weaver | Key participant | 7 | Yes |
| 96 | Female | 72  | SPA      | Domestic chores, palm weaver  |                               | 18   |       |
| 97 | Female | 77  | SPA, IXC | Domestic chores, palm weaver  | Key participant               | 11   | 14    |
| 98 | Male   | 86  | SPA, IXC | Palm weaver                   | Key participant               | 14   | 3     |
| 99 | Male   |     | SPA      | Baker                        | Occasional participant       | 4    |       |
| 100| Female | 82  | SPA, IXC | Domestic chores, palm weaver  | Key participant               | 8    | 4     |
| 101| Female | 92  | SPA, IXC | Domestic chores, palm weaver  |                               | 14   |       |
| 102| Female | 31  | SPA      | Domestic chores, palm weaver  |                               |      |       |
| 103| Male   | 23  | SPA      | Agriculture, shepherd        | Key participant               | 15   | Yes   |
| 104| Female | 37  | SPA      | Domestic chores, palm weaver  | Occasional participant       | 1    |       |
Table 6: Santa María Ixcatlán participants and activities in which collaborated (Continued)

| No. | Gender | Age | Activity | Role | Notes |
|-----|--------|-----|---------|------|-------|
| 105 | Female | 53  | SPA     | Domestic chores, palm weaver | Occasional participant |
| 106 | Male   | SPA | Agriculture, mescal production, palm weaver | Yes |
| 107 | Female | 30  | SPA     | Domestic chores, palm weaver | Occasional participant | Yes |
| 108 | Female | SPA | Nurse assistant | Occasional participant | Yes |
| 109 | Female | SPA | Nurse | Occasional participant | Yes |
| 110 | Female | SPA | Domestic chores, palm weaver | Yes |
| 111 | Female | SPA | Domestic chores, palm weaver | Yes |
| 112 | Female | SPA | Domestic chores, palm weaver | Yes |
| 113 | Female | SPA | Domestic chores, palm weaver | Yes |

Note: The data provided make reference to the assigned number to the homegarden and agricultural field, since interview could be made to 1 or more household integrants. In the same case for surveys in which one or two of the householders could provide information about productive activities and consumption of vegetable resources by the household.

Abbreviations
TEK, traditional ecological knowledge; UNAM, Universidad Nacional Autónoma de México; USA, United States of America.

Authors' contributions
SRL main author, involved in the study design, field work, analysis of data, wrote the first draft and concluded the final version of this paper. AC main coordinator-supervisor of the research project; participated in data analyses and reviewed several drafts of the manuscript. ERL, MVR and RLF contributed to field work and reviewed final drafts of the manuscript. ITG contributed to data analyses and reviewed the final drafts of the manuscript. All authors read and approved the final manuscript.

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Competing interests
The authors declare that they have no competing interests.

Consent for publication
Not applicable.

Ethics approval and consent to participate
Permits for conducting our investigation were obtained in the two phases of field work, with Federal agencies (SEMARNAT and Tehuacán-Cuicatlán Biosphere Reserve-CONANP), local authorities (municipal and land tenure) and Communitarian Assembly to realize the investigation and collect voucher plants in communal lands. Prior oral informed consent was obtained from all participants to realize the interview, survey, free lists and audio-visual recording or visit and gather plants in their homegardens or agricultural fields. Reports of activities and preliminary investigation outcomes have been doing via oral and written reports to the authorities and public presentations to the community of Ixcatlán.
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