Floristic, vegetational and geographic characteristics of the Sierra de Chiconquiaco, Veracruz, Mexico

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Abstract

Background: Explored botanically from the 19th century, the Sierra de Chiconquiaco is recognized for its large vegetal and topographical heterogeneity. However, the available floristic information is sparse and its geographic characteristics remain undefined. The objective of this study was therefore to integrate floristic, vegetal and geographic information in order to identify areas that have experienced floristic exploration as well as potential sites for conservation.

Question: Under which criteria can the Sierra be geographically delimited? What kind of floristic and vegetational studies have been carried out? How many species of plants have been registered? Which sites have been more widely explored? Which of them have conservation and research potentials?

Study site and years of study: Sierra de Chiconquiaco, Veracruz, Mexico, 2010-2014.

Methods: A bibliographical and records review of the XAL and MEXU herbariums, works and field survey were carried out. Through analysis of geomorphological attributes in a geographic information system, the boundaries of the Sierra were established, revealing an area of 3,632 km^2, featuring 22 municipalities and an altitudinal range of 50 to 3,000 m a.s.l.

Results: Seven vegetation types were described, as well as a floristic list of 3,016 species, including 72 type localities, 36 endemics, 57 registered in the NOM-059, 2010 and 195 in the CITES.

Conclusions: Nine potential areas for conservation of flora were detected, as well as six that were scarcely documented in the herbaria. This study provides a relevant contribution to the knowledge, use and conservation of the vegetal resources of Mexico.

Key words: floristic inventory, vegetational, botanic collections, geographic delineation, conservation zones.

Florística, vegetación y características geográficas de la Sierra de Chiconquiaco, Veracruz, México

Resumen

Antecedentes: Explorada botánicamente desde el siglo XIX, la Sierra de Chiconquiaco destaca por su amplia heterogeneidad vegetal y topográfica. Sin embargo, la información florística disponible era dispersa y sus características geográficas indefinidas. Por este motivo, el objetivo de este estudio fue llevar a cabo una síntesis geográfica, florística y de vegetación, con el fin de identificar áreas exploradas florísticamente y sitios con potencial para la conservación.

Preguntas: ¿Bajo qué criterios se delimita geográficamente a la Sierra? ¿Qué estudios florísticos y de vegetación se han llevado cabo? ¿Cuántas especies de plantas se registran? ¿Cuáles sitios son más explorados?

Sitio de estudio y fechas: Sierra de Chiconquiaco, Veracruz, Mexico, 2010-2014.

Métodos: Registros de los herbarios XAL y MEXU, trabajos de campo. Mediante el análisis de atributos geomorfológicos en un sistema de información geográfica, se establecieron los límites de la Sierra, que abarca una extensión de 3,632 km^2, 22 municipios y un intervalo altitudinal de 50 a 3,000 m s.n.m.

Resultados: Siete tipos de vegetación, una lista florística de 3,016 especies, que incluye 72 localidades tipo, 36 endémicas, 57 registradas en la NOM-059, 2010 y 195 en CITES.

Conclusiones: Se detectaron nueve áreas potenciales para la conservación de la flora y seis escasamente documentadas en los herbarios. Este estudio contribuye al conocimiento, uso y conservación de los recursos vegetales del país.

Palabras clave: inventario florístico, vegetación, colecciones botánicas, delimitación geográfica, zonas de conservación.

Floristic inventories and studies of vegetation are necessary in order to evaluate the plant diversity of a region, formulate actions of restoration, determine the risk category status of species and provide data pertaining to land use, conservation, environmental impact and fragmentation (Prance 1977, Bojórquez-Tapia *et al*. 1994, Norris *et al*. 2001, Villaseñor 2003, Jayakumar *et al*. 2011).

The Sierra de Chiconquiaco, also known as the Sierra de Misantla or Sierra de Naolinco, is a region in Mexico where the information generated by the botanic collections, floristic inventories and vegetation studies since the 19th century, has never been effectively integrated. This is despite the fact that, from a biogeographic perspective, it is a critical zone in terms of the distribution of many tropical tree genera, particularly in the lowlands (Gómez-Pompa 1966). There have been two important floristic and vegetation studies carried out in the Sierra. One was presented by Gómez-Pompa (1966), who describes the area as a "region of 1,500 km^2, artificially circumscribed to the north by the Martínez de la Torre to Nautla road, parallel to the Nautla river, to the east by the Gulf of Mexico, to the west by the Martínez de la Torre to Misantla road and to the south by the Sierra de Chiconquiaco. This author describes the following vegetation types and plant associations: deciduous forest, tropical sub-perennial high forest (including forests of species of Lauraceae, *Pseudolmedia glabrata* (Liebm.) C.C. Berg. and *Brosimum alicastrum* Sw. and riparian forest); oak forests (several types) and mangroves. Similarly, the author conducted a taxonomic and ecological analysis of the trees and shrubs, including the most important plant families of that area. The other important reference is by Gutiérrez-Baez (1993), who studied the vegetation in nine municipalities (525 km^2). His work indicates that this region presents topographic heights featuring pine forests (2,100-2,500 m a.s.l.), intermediate areas with deciduous forest (1,100-2,100 m a.s.l.) and lowlands with tropical high sub-evergreen forest (400-1,100 m a.s.l.).

The Sierra de Chiconquiaco is considered a refuge for a wide diversity of plant species, belonging to different communities, including many useful plants (Gómez-Pompa 1966, Gutiérrez-Báez 1994, Zamora-Crescencio & Avendaño-Reyes 1998, Ambrosio-Montoya & Avendaño-Reyes 1999, Lascurain-Rangel *et al*. 2013, López-Acosta et al. 2014). However, according to the data of land use and vegetation of the Serie V (INEGI 2013), pastures occupy increasingly large areas providing clear evidence of land use changes that put conservation of the forest ecosystems at risk (Ellis & Martínez-Bello 2010).

Despite the fact that the Sierra de Chiconquiaco has been mentioned in different studies (López-Infanzón 1991, Gutiérrez-Báez 1993, Ferrari *et al*. 2005), no clear geographic delineation is available, which complicates the location and analysis of the distribution of floristic and vegetal resources present in the area. The first official reference is presented by the Carta Estatal de Regionalización Fisiográfica (INEGI 1988), in which the Subprovince 14 Chiconquiaco is identified and mapped at a scale of 1:1,000,000 as a division of the Province X-Volcanic belt. This subprovince features different landform systems, such as mountains, low hills, plateaus and valleys as the most important. However, its geographic boundary extends towards the south and thus includes the low part and the piedmont of the Cofre de Perote-Pico de Orizaba mountain range, from Xalapa-Actopan to Huatusco, which do not belong to the Sierra de Chiconquiaco.

The general objective of this study was therefore to summarize geographic and floristic information from the vegetation and botanic collections from the Sierra de Chiconquiaco. The specific objectives were: a) to propose its geographical delineation based on landform criteria; b) to integrate the floristic and vegetation studies that have been conducted to date; c) to produce a list of plant species from the records of herbarium databases, including those of type locality, endemics and those registered in the NOM-059 SEMARNAT 2010, d) to identify priority sites with little history of botanic exploration and e) to propose potential sites for conservation and research.

Materials and methods

Study area. The Sierra de Chiconquiaco is a montane massif that traverses the coastal plain of the Gulf of Mexico from west to east, at latitude 19º N. The name Chiconquiaco comes from the Náhuatl *Chikon-kiaho-ko* meaning "in the seven rains", the name given by the indigenous

Author Contributions
Maite Lascurain Rangel analyzed and compiled the data, wrote and reviewed drafts of the paper, floristic inventory.
Sergio Avendaño Reyes floristic inventory, name update, written and reviewed drafts of the paper, analyzed and compiled the data.
Miguel Cházaro Basañez compendium of floristic studies and vegetation, floristic inventory, geographical delimitation, history of explorations.
Daniel Geissert Kientz geographical delimitation, reviewed drafts of the paper.
Rafael Villegas Patraca and César Augusto Gallo Gómez geographic information systems.
Celso Gutiérrez Báez compendium of floristic studies and vegetation, floristic inventory.

Totonac people in honor of the god of the storms. It is also the name of a municipality and settlement, located in the central part of the montane massif. From a biogeographic perspective, its vegetation belongs to the Holarctic realm, to the Mesoamerican Montane region and to the Sierras Meridionales floristic province. The coastal area corresponds to the Neotropical realm, to the Caribbean floristic region and to the province of the Gulf of Mexico coast (Rzedowski 1978), which extends in a continuous strip along the coast of the states of Veracruz and Tabasco, as well as some adjacent low portions of Tamaulipas, San Luis Potosí, Hidalgo, Puebla, Oaxaca, Chiapas and Campeche (Morrone 2005).

Delineation and zonation. Delineation of the Sierra de Chiconquiaco is based on morpho-structural features derived from the state physiographic regionalization (INEGI 1988) and from the geomorphological regionalization of Veracruz (Geissert 1999). In general, it was established delimited to the north by the fluvial plain of the Nautla river, to the northeast, east and southeast by the coastal plain of the Gulf of Mexico, to the south by the tectonic depression of Actopan and to the west by the canyon of the Bobos river. The precise boundary was traced manually on a shaded relief model produced from the DEM "Continuo de Elevaciones Mexicano 3.0" of INEGI (2015). Hydrological characterization was conducted with the information of the Conjunto de Datos Vectorial Hidrológico of INEGI (1999), climatic characterization with the Conjunto de Datos Vectorial Climático of INEGI (2000) and soil characterization with the Conjunto de Datos Vectorial Edafológico of INEGI (2007).

Geomorpho-geological zonation of the Sierra of Chiconquiaco was also conducted from the Continuo de Elevaciones Mexicano 3.0, using ArcGis Desktop 10.2. This continuum of elevations is constantly updated and, unlike other elevation models (SRTM-NASA, ASTER GDEM-METI), its spatial resolution of 15 meters per pixel provides greater detail. The landforms were obtained following Priego *et al*. (2003), based on the vertical dissection of the relief. The values were re-categorized into three landform types: steep mountainous (> 400 m/km^2), gentle mountainous (100-400 m/km^2) and hills and minor elevations (40-100 m/km^2). The map of slopes was derived from the same continuum of elevations and featured four slope classes: low (< 5º), moderate (5-20º), steep to very steep (20-45º) and abrupt (> 45º). The geological information came from the Conjunto de Datos Vectorial Geológico by INEGI (1986). To create the partial maps that led to the final results, the following ArcGis tools were used: *Create Fishnet*, *Dissolve*, *Interpolate to raster*, *Clip*, *Intersect*, *Eliminate*, *Smooth polygon* and *Slope*. For the definitive geomorpho-geological zonation, the minimum mapping unit criterion was applied, which consists of only representing polygons greater than 500 ha. The cartography and inputs were processed in Projection UTM Zone 14 Q.

Floristic and vegetation studies. The type localities, presence of 19th century collectors, floristic and vegetation studies, endemics and species registered in the NOM-059 SEMARNAT (2010) were identified with bibliographic support. Databases of the herbarium XAL and MEXU were chosen to generate a floristic list of species within an altitudinal range of 50 to 3,000 m a.s.l., since they contain information from many collections in the study zone. A raster map of density of points or sites was obtained from the geographic coordinates of the collections, as well as areas that presented the least historical collection effort.

Results and discussion

Geographic characteristics. The polygon of the Sierra of Chiconquiaco presents in its central part a variable length of 70-75 km (east-west) and a width of 50-55 km (north-south) covering an area of 3,632 km^2. The maximum altitude is close to 3,000 m a.s.l. in the central portion, while the minimum is between 35 and 50 m a.s.l. adjacent to the peripheral coastal plain. The municipalities of Acatlán, Chiconquiaco, Coacoatzintla, Colipa, Juchique de Ferrer, Landero y Coss, Miahuatlán, Misantla, Naolinco, Tatatila, Tenochtitlan, Tepetlán, Tlacolulan, Tonayán and Yecuatla, as well as part of the municipalities of Actopan, Alto Lucero, Altotonga, Atzalan, Nautla, Martínez de la Torre and Vega de Alatorre (Figure 1).

Topography of the central-western sector (11 % of the area) comprises steep slopes of 20 to ≥

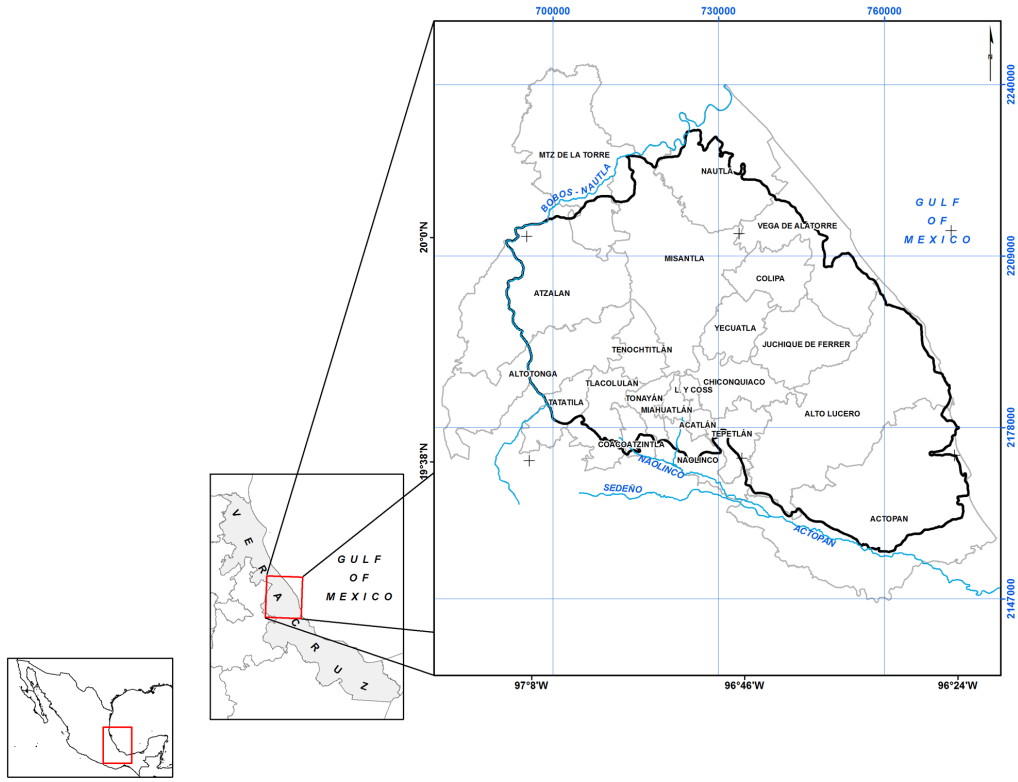

Figure 1. Map of the Sierra de Chiconquiaco and municipalities.

45º with relative heights of over 600 m (Figure 2). This is the result of destruction by Pliocene-Quaternary fluvial erosion of upper Tertiary age andesitic and basaltic lava flows and pyroclastic flows (breccia). As a result, deep ravines were excavated in the northern mountainside, while the Quaternary lava flows on the southern side protected the topography from fluvial dissection (Geissert-Kientz 1999).

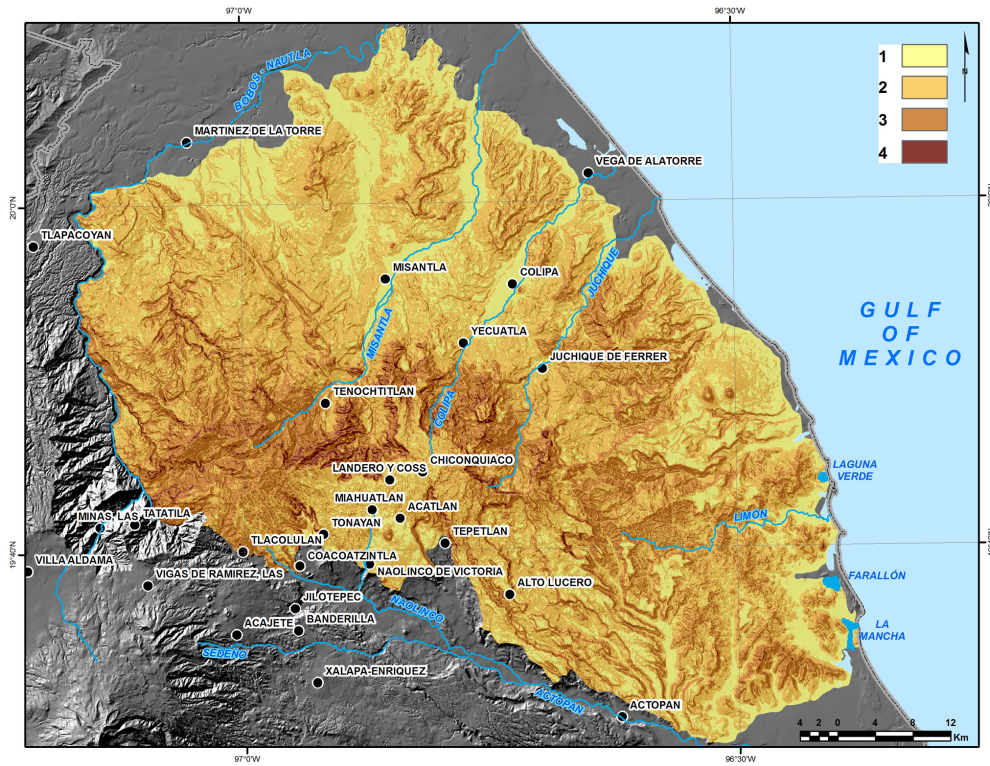

Figure 2. Slope gradient in the Sierra of Chiconquiaco. 1) Low < 5 °; 2) Moderate 5-20°; 3) Steep 20-45°; 4) Abrupt > 45°.

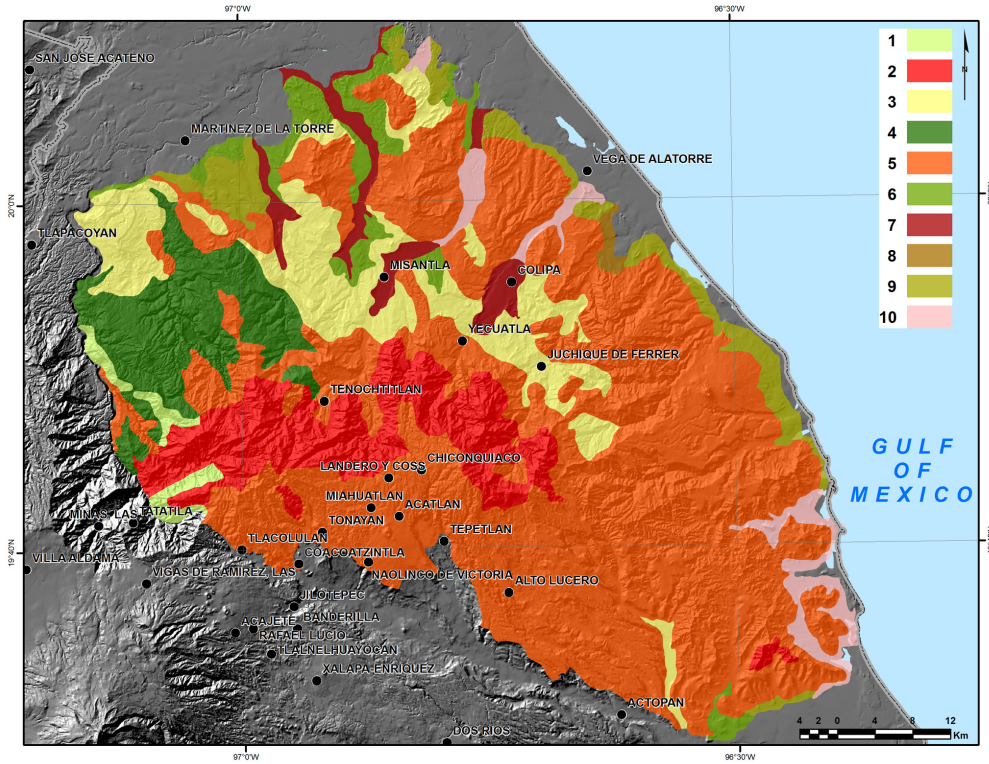

Figure 3. Landforms and geology of the slopes, sedimentary rocks, limestone; 2 Steep slopes, igneous extrusive rocks; 3 Moderate slopes, sedimentary rocks, sandstone; 4 Moderate slopes, sedimentary rocks, limestone; 5 Moderate slopes, igneous extrusive rocks; 6 Hills and minor elevations, sedimentary rocks, limestone; 7 Hills and minor elevations, sedimentary rocks, limestone- alluvial plain; 8 Hills and minor elevations, sedimentary rocks, conglomerate; 9 Hills and minor elevations, igneous extrusive rocks and 10 Hills and minor elevations, igneous extrusive rocks- alluvial plain.

Landforms of moderate (5-20°) and steep slopes (20-45°) occupy most of the Sierra of Chiconquiaco (76 % of the area), overwhelming sedimentary rocks (limestone and sandstone) on the northern mountainside and igneous extrusive rocks on the southern side. The rest of the area is covered by hills and minor elevations, with slopes of less than 20º, over different geological substrates, mainly on the northern side (Figure 3).

The first stage of structural deformation began with the tectonic uplift of the Paleozoic geological basement along a dominant east-west direction (López-Infanzón 1991). This basement was subsequently covered by marine formations that produced the Jurassic and Cretaceous limestone and limestone-lutite, forming the geological structure of the Sierra Madre Oriental. Finally, the products of Cenozoic igneous activity covered the previous formations and, in its central part, a basaltic plateau formed between the Miocene and lower Pliocene (Ferrari *et al.* 2005). Quaternary lava flows, associated with volcanic monogenetic cones, occurred in the vicinity of Naolinco to the southwest, Chiconquiaco in the center and between Plan de las Hayas and Candelaria to the east, in the direction of Palma Sola.

The summits of the central part of this area constitute the divide of the "Nautla river and others" watershed that belongs to Hydrologic Region 27 (Tuxpan-Nautla) towards the north, and the "Río Jamapa and others" watershed of the Hydrologic Region 28 (Papaloapan) towards the south. Within the Sierra de Chiconquiaco, all of the main rivers (Bobos, Misantla, Colipa, Sedeño, Naolinco) and their tributaries are montane in character and flow quickly through ravines of variable depths.

According to Köppen's system modified by García (1988), the following climatic groups are distinguished from north to south: warm humid with abundant summer rains (type Am(f)) in the northern and northeastern sectors, at elevations below 250 m a.s.l.; warm humid with rains throughout the year (type Af(m)) in a northern strip between 250 and 400 m a.s.l.; semi-warm with rains throughout the year (type (A)C(fm)) up to around 1000 m a.s.l. in the southwest sector and up to 1,800 m a.s.l. in the central and central-eastern sectors. Above these altitudes, the climate changes to temperate humid with rains throughout the year (type C(fm)) or temperate humid with summer rains (C(m)). Descending the southeast sector, the climate becomes semi-warm with abundant summer rains (type (A)C(m)) and, finally, warm subhumid with summer rains (type $Aw_1(w)$) at altitudes below approximately 400 m a.s.l. towards Actopan and Mozomboa.

The representative soil types are: a) on the northern mountainside, Luvisols on landforms below approximately 1,000 m a.s.l., over both sedimentary and igneous materials; Andosols on slopes above 1,000 m a.s.l. (central and western sectors, between Chiconquiaco and Altotonga), exclusively over volcanic ash deposits; Phaeozems on the upper valley fluvial plains and Vertisols on the lower fluvial and coastal plains (from Martínez de la Torre to Vega de Alatorre); b) on the southern mountainside, Andosols extend in the central-western (Altotonga-Las Vigas) and central-southern (Naolinco-Alto Lucero) sectors; Phaeozems in the eastern sector (Plan de las Hayas/Alto Lucero towards the coast) and Vertisols at the bottom of the valleys and on the narrow coastal plains to the south of Emilio Carranza.

Collectors, floristic and vegetation studies. Collections began in 1829 with the German botanists Christian Julius Wilhelm Schiede and Ferdinand Deppe. Franz Leonhard von Schlechtendal and Adelbert von Chamisso subsequently described various species. Schiede and Deppe visited this region in order to search for roots of the Xalapa Jalapa (*Ipomoea purga* Wender., and wild vanilla (*Vanilla* spp.). They travelled from Xalapa to El Espinal, Almolonga and Paso del Toro (Malpaís de Naolinco), Naolinco, via Cuesta Grande de Chiconquiaco to Acatlán and to Misantla by Cumbre del Obispo and Papantla. They returned to Xalapa via Hueytamalco, Puebla and Cuesta Grande de Jalacingo and Valle de Perote.

From 1841 to 1843, the Danish botanist Michael Frederick Liebmann conducted intensive collections in Mexico, most of which took place in Veracruz, Puebla and Oaxaca, and produced 8,000 records (Rzedowski *et al*. 2009). The main interest of this author was ferns and he published a book in 1849 about this group of plants in Mexico. Liebmann left Veracruz in 1841 accompanied by the Russian botanist Wilhelm Friedrich von Karwinski (1780-1855) and both travelled to Papantla, Colipa, Yecuatla, Misantla, Tlapacoyan and Teziutlán. Karwinski separated from Liebmann at El Pital (close to San Rafael) and travelled to Papantla.

In 1905, the German botanist Karl Albert Purpus (1851-1941) established himself in the Hacienda de El Mirador, in the municipality of Totutla (Veracruz state), and travelled from there to different regions of the country to collect plant specimens. On various occasions, he crossed the entire Sierra de Chiconquiaco from Naolinco (Sousa 1969).

Gómez-Pompa (1966) mentioned Ludwig Hahn, George Lewis Fisher and Carl August Ehrenberg, who collected specimens in this Sierra, without recording the exact dates. Between 1950 and 1970, Isabel Kelly and Ladislao Paray also collected specimens. In 1962, the Instituto Nacional de Investigaciones Forestales (INIF), through the Comisión de Estudios Sobre la Ecología de las Dioscóreas, sampled the vegetation of certain areas of the Sierra. Manuel Martínez collected a notable 700 specimens, from 1960 to 1965, and Gómez-Pompa obtained more than 2,000 records, almost always accompanied by Ramón Riba (Gómez-Pompa 1966). From 1970 up to the early 1990s, Francisco Ventura Aburto collected around 1900 specimens for the herbarium of the Escuela Nacional de Ciencias Biológicas. The work of Celso Gutiérrez between 1980 and 1988 is both for the number of specimens collected and the broad range of sites visited, and comprises more than 1,200 records. Roberto Acosta Pérez collected more than 700 specimens in the Sierra Manuel Díaz, located to the southeast of the Sierra de Chiconquiaco, close to the lagoon of La Mancha (Acosta 1986). Miguel Cházaro and his students Luis Robles, Pedro Padilla, Juan Márquez, Apolonia Hernández and Patricia Hernández, collected specimens intermittently from 1981 to the present in locations such as the volcano of Acatlán, Planta del Pié, Barranca de Rincón Grande, Monte de Oro, Cerro de La Magdalena and Las Magdalenitas, Malpaís de Almolonga-Tepetlán, Monte Real, Moxillon, among others, collecting around 500 records. Collectors with more than 100 records in different sites of this Sierra include: Antonio Lot Helgueras, Armando Rincón Gallardo, Carlos Vázquez Yanes, Fructuoso Vázquez Blanco, Mario Vázquez Torres, Gonzalo Castillo Campos, Juan Alba Landa, Javier Chabelas Polito, Jesús Dorantes López, Juan Ismael Calzada, Lorin I. Nevling, Mirna Ambrosio Montoya, Michael Nee, Ma. Teresa Mejía-Saulés and Roberto Ortega Ortiz.

A further result of the different explorations conducted in the Sierra of Chiconquiaco is that 72 species have been recorded with the type locality, 35 of which were early described by D.F. von Schlechtendal and/or F. von Chamisso (Table 1). In recent decades, the studies undertaken became more diverse and featured different approaches. Acosta (1986) produced an inventory

Table 1. Species with the locality type of the Sierra de Chiconquiaco. Described by D.F von Schlechtendal and/or F. von Chamisso and other authors. DF (Deciduous Forest); THSEF (Tropical High Sub-Evergreen Forest); OF (Oak Forest); TMEF (Tropical Medium Evergreen Forest); TLDF (Tropical Low Deciduous Forest).

Species/Publication year	Family	Vegetation
Aspidosperma megalocarpon Müll. Arg. 1859-1861	Apocynaceae	THSEF
Bactris mexicana Mart.1844	Arecaceae	THSEF
Bartlettina sordida (Less.) R.M. King & H. Rob. 1971 1831	Asteraceae	DF
Begonia multistaminea Burt-Utley 1983	Begoniaceae	DF
B. nelumbonifolia Schldl. & Cham. 1830	Begoniaceae	DF
Centradenia grandifolia (Schltdl.) Endl. 1843	Melastomataceae	DF
C. inaequilateralis G. Don. 1832	Melastomataceae	DF
Centropogon grandidentatus (Schltdl.) Zahlbr. 1891	Campanulaceae	DF
Ceratozamia morettii Vázq. Torres & Vovides 1998	Zamiaceae	DF
Cestrum endlicheri Miers 1846	Solanaceae	DF
C. fasciculatum Miers 1846	Solanaceae	DF
Chusquea enigmatica Ruiz-Sánchez, Mejía-Saulés & L. G. Clark. 2014	Poaceae	DF
Clidemia petiolaris Triana. 1872 1830	Melastomataceae	THSEF
Columnea schiedeana Schldl. 1833	Gesneriaceae	THSEF
Croton schiedeanus Schltdl. 1846	Euphorbiaceae	THSEF
Cuphea calaminthifolia Schltdl. 1838	Lythraceae	DF
C. salicifolia Cham. & Schltdl 1830	Lythraceae	DF
Deppea purpusii Standl. 1921	Rubiaceae	DF
Desmodium plicatum Cham. & Schltdl. 1830	Fabaceae	DF
D. psilophyllum Schltdl. 1838	Fabaceae	OF
Desmopsis galeottiana Saff., 1916	Annonaceae	TMEF
Didymaea alsinoides (Schltdl. & Cham.) Standl. 1938 1831	Rubiaceae	DF
Diospyros riojae Gómez-Pompa. 1964	Ebenaceae	OF
Epidendrum tuxtlense Hágsater, García-Cruz & L. Sánchez.1999	Orchidaceae	DF
Equisetum myriochaetum Schldl. & Cham. 1830	Equisetaceae	THSEF
Eugenia mozomboensis P.E. Sánchez. 1986	Myrtaceae	TLDF
Eupatorium araliifolium Less. 1831	Asteraceae	THSEF
Euphorbia lancifolia Schldl. 1832	Euphorbiaceae	THSEF
Ficus lapathifolia Miq. 1867	Moraceae	THSEF
Goeppertia misantlensis (Lascur.) Borchs. & S. Suárez. 1996 2012	Marantaceae	DF
Gunnera mexicana Brandegee. 1922	Gunneraceae	DF
Heterocentron elegans Kuntze, 1891	Melastomataceae	DF
Hydrangea nebulicola Nevling & Gómez Pompa. 1968	Hydrangeaceae	DF
Ipomoea purga Wender. 1833	Convolvulaceae	DF
Leandra cornoides Cogn. 1886	Melastomataceae	OF
Lepidonia mexicana (Less.) H. Rob. & V.A. Funk. 1987 1831	Asteraceae	DF
Leucaena pulverulenta Benth. 1842	Mimosaceae	TLDF
Licaria misantlae (Brandegee) Kosterm. 1937	Lauraceae	THSEF
Lysiloma auritum (Schltdl.) Benth. 1844	Fabaceae	THSEF, OF
Magnolia schiedeana Schlecht. 1864	Magnoliaceae	DF, OF
Mahonia russellii N.P. Taylor. 1989	Berberidaceae	DF
Monstera florescanoana Croat, T. Krömer & Acebey. 2010	Araceae	DF
Nama linearis D.L. Nash. 1979	Boraginaceae	OF
Nelsonianthus tapianus (B.L. Turner) C. Jeffrey. 1992 1989	Asteraceae	DF
Odontonema callistachyum Kuntze. 1891	Acanthaceae	THSEF
Oecopetalum mexicanum Greenm. & C.H. Thomps. 1914	Icacinaceae	THSEF
Persea schiedeana Nees. 1836	Lauraceae	THSEF
Perymenium gymnolomoides (Less.) DC. 1836	Asteraceae	TMEF, OF
Piper misantlense C. DC. 1869	Piperaceae	THSEF
P. schiedeanum Steud. 1841	Piperaceae	TLDF
Pleopeltis fallax (Schltdl. & Cham.) Mickel & Beitel. 1830 1987	Polypodiaceae	THSEF
Protium copal (Schltdl. & Cham.) Engl. 1883	Burseraceae	THSEF
Prunus tetradenia Koehne 1915	Rosaceae	THSEF, DF
Pteris pulchra Schltdl. & Cham. 1830	Pteridaceae	THSEF
Quetzalia schiedeana (Loes.) Lundell. 1970 1900	Celastraceae	DF

Table 1. Continuation.

Species/Publication year	Family	Vegetation
Rhynchoglossum azureum (Schltdl.) B.L. Burtt 1962 1833	Gesneriaceae	DF
Rhynchosia erythrinoides Schltdl. & Cham. 1830	Fabaceae	THSEF
Ruellia jussieuoides Schltdl. 1831	Acanthaceae	THSEF
Salvia chazaroana B.L.Turner. 2009	Lamiaceae	DF
Saurauia leucocarpa Schltdl. 1836	Actinidiaceae	DF
Sinclairia andromachioides (Less.) Sch. Bip. ex Hemsl. Rydb. 1879-1888	Asteraceae	THSEF
Stenostephanus haematodes (Schltdl.) T.F. Daniel. 1999 1832	Acanthaceae	DF
Tibouchina purpusii Brandegee. 1913	Melastomataceae	DF
T. schiedeana Cogn. 1891	Melastomataceae	THSEF
Tilia mexicana Schltdl. 1837	Malvaceae	DF
Vaccinium leucanthum Schltdl. 1834 1833	Ericaceae	DF
Vernonia arctioides Less. 1831	Asteraceae	DF
Wimmeria concolor Schltdl. & Cham. 1831	Celastraceae	TMEF, DF
Xylopia trunciflora Cham. & Schltdl. 1831	Annonaceae	THSEF
Zamia inermis Vovides, J.D. Rees & Vázq. Torres. 1983	Zamiaceae	TLDF
Zanthoxylum elegantissimum P. Wilson. 1910	Rutaceae	DF
Zygia cognata (Schltdl.) Britton & Rose. 1928 1838	Fabaceae	THSEF

of the flora of the Sierra Manuel Díaz; Ortega-Ortiz (1981) observed the edge effect on tree densities in fragments of tropical montane cloud forest in Coacoatzintla; Pavón-Hernández (1992) studied the spatial distribution of *Tilia mexicana* Schltdl. in Naolinco; Bravo-Navarro (1993) conducted an ethnobotanical study in the municipality of Naolinco; Álvarez-Aquino (1997) carried out a population study of *Fagus grandifolia* subsp. *mexicana* (Martínez) A.E. Murray in Acatlán; Zamora-Crescencio & Avendaño-Reyes (1998) studied the vegetation of the municipality of Yecuatla; Ambrosio-Montoya & Avendaño-Reyes (1999) recorded the useful plants of the municipality of Misantla; Williams-Linera *et al*. (1996) studied the tropical montane cloud forest across an altitudinal gradient in central Veracruz; Godínez-Ibarra & López-Mata (2002) recorded the northern limit of distribution of the tropical medium sub-evergreen forest in Santa Gertrudis, in the municipality of Vega de Alatorre; Torres-Cantú (2009) produced an inventory of bromeliads, and Cortés-Flores (2009) of orchids, in the watersheds of the Nautla, Misantla and Colipa rivers; Casildo (2004) produced a floristic inventory in the region Cerro de los Muertos, in the municipality of Altotonga; Gómez-Ortega (2010) contributed to the knowledge of the vegetation and flora of the municipality of Acatlán. Ethnobotanic and management systems of *Oecopetalum mexicanum* Greenm. & C.H. Thomps., were studied by Lascurain-Rangel *et al*. (2013) and López-Acosta *et al*. (2014). Finally, Carbajal-Hernández *et al*. (2014) recorded 81 species of ferns in the region.

Vegetation types of the Sierra de Chiconquiaco. Based on the studies of Gómez-Pompa (1966) and Gutiérrez-Báez (1993), and with the aim of standardizing the terminology, the vegetation classification by Miranda & Hernández X. (1963) was applied. Seven vegetation types were thereby identified (Table 2):

Bosque de pino-encino (Oak-Pine forest).- This type of forest is found on the northern mountainside from 2,100 to 3,000 m a.s.l., comprising communities of *Pinus pseudostrobus* Lindl., *Cupressus lusitanica* Mill., *Fagus grandifolia* subsp. *mexicana* and *Hamamelis virginiana* L. (Gutiérrez-Báez 1993). According to observations made by the present authors on the mountains of La Magdalena and Las Magdalenitas (municipalities of Tlacolulan and Tonayan) on the southern mountainside between 2,400 and 2,900 m a.s.l., the Oak-Pine forest is dominated by *Pinus patula* Schiede & Deppe ex Schltdl., associated with *Quercus glabrescens* Benth., *Q. crassifolia* Bonpl. and *Q. rugosa* Née. This vegetation type is located on steep and moderate slopes over extrusive igneous rock.

Bosque caducifolio (Deciduous forest).- This vegetation type covers the majority of the area (Table 2) and is located between 1,100 and 2,100 m a.s.l., from the middle to the summits of

Table 2. Vegetation types, area and cover percentage on the Sierra de Chiconquiaco. (Source: INEGI 2013. Set of vectorial data of land use and vegetation, scale 1:250,000, Series V. Instituto Nacional de Estadística, Geografía e Informática. México).

Vegetation type	km²	Percentage of total
Oak – pine forest	22.29	0.61
Deciduous forest	210.62	5.80
Sub-evergreen tropical forest; medium sub-evergreen tropical forest	73.92	2.04
Tropical low deciduous forest	71.13	1.96
Riparian vegetation	14.68	0.40
Oak forest	7.86	0.22
Secondary vegetation	534.71	14.72
Other vegetation types	3.70	0.10
Pasture	1,829.09	50.37
Agriculture	849.53	23.39
Bodies of water	5.75	0.16
Urban areas	8.49	0.23

both the northern and southern sides (Gutiérrez-Báez 1993). The dominant arboreal species are: *Alchornea latifolia* Sw., *Alnus acuminata* subsp. *arguta* (Schltdl.) Furlow, *Bejaria aestuans* Loefl, *Capparidastrum quiriguense* (Standl.) Cornejo & Iltis, *Clethra mexicana* DC., *Cupressus lusitanica* Mill., *Diospyros riojae* Gómez-Pompa, *Drypetes lateriflora* (Sw.) Krug & Urb., *Fagus grandifolia* subsp. *mexicana*, *Guarea glabra* Vahl, *Hamamelis virginiana*, *Juglans pyriformis* Muhl., *Liquidambar styraciflua* L., *Matudaea trinervia* Lundell, *Osmanthus americanus* (L.) Benth. Hook. f. ex A. Gray, *Podocarpus matudae* Lundell, *Quercus affinis* M. Martens & Galeotti, *Q. castanea* Née, *Q. ghiesbreghtii* M. Martens & Galeotti, *Q. lancifolia* Schltdl. & Cham., *Q. laurina* Bonpl., *Q. germana* Schltdl. & Cham., *Q. polymorpha* Schltdl. & Cham., *Q. rugosa* Née, *Q. salicifolia* Née, *Q. sartorii* Liebm., *Q. xalapensis* Bonpl., *Symplocos coccinea* Humb. & Bonpl., *S. limoncillo* Bonpl. and *Taxus globosa* Schltdl. (Gómez-Pompa 1966, Gutiérrez-Báez 1993, Zamora-Crescencio & Avendaño-Reyes 1998). In one of the highest sites (2,250 m a.s.l.), known locally as Planta del Pié (municipality of Chiconquiaco), Williams-Linera *et al*. (1996) identified the most notable arboreal species as: *Ageratina ligustrina* (DC.) R.M. King & H. Rob., *Alnus acuminata* subsp. arguta, *Clethra mexicana*, *Cleyera theaeoides* (Sw.) Chosy, *Drimys winteri* J.R. Forst. & G. Forst., *Ilex discolor* var. *tolucana* (Hemsl.) Edwin ex T.R.Dudley, *Osmanthus americanus*, *Ocotea helicterifolia* (Meisn.) Hemsl., *Quercus salicifolia*, *Saurauia leucocarpa* Schltdl., *Ternstroemia sylvatica* Cham. & Schltdl., *Viburnum rhombifolium* Hemsl., and *Weinmannia pinnata* L. Other species described as new are also found: *Ardisia liebmannii* Oerst., *Bactris mexicana* Mart., *Begonia multinervia* Liebm., *Goeppertia misantlensis* (Lascur.) Borchs. & S. Suárez, *Centradenia grandifolia* (Schltdl.) Endl., *Chamaedorea pinnatifrons* Oerst., *Cuphea calaminthifolia* Schltdl., *Deppea purpusii* Standl., *Diospyros riojae*, *Epidendrum tuxtlense* Hágsater, García-Cruz & L. Sánchez, *Gunnera mexicana* Brandegee, *Hydrangea nebulicola* Nevling & Gómez Pompa, *Magnolia schiedeana* Schlecht., *Oecopetalum mexicanum*, *Persea schiedeana* Nees, *Prunus tetradenia* Koehne, *Rumex obtusifolius* L., *Saurauia leucocarpa*, *Tibouchina purpusii* Brandegee, *Tilia mexicana*, *Vaccinium leucanthum* Schltdl. and *Vernonanthura patens* (Kunth) H. Rob. The deciduous forest is randomly distributed on steep and moderate slopes over extrusive igneous rocks, steep slopes with limestone, moderate slopes upon sandstone and limestone.

Selva alta subperennfolia (Tropical high sub-evergreen forest).- This vegetation type is found the lowlands, between 400 and 850 m a.s.l., on low hills with low slopes. It was called “tropical Lauraceae forest” by Gómez-Pompa (1966) due to the predominance of species of this family. It is possible to find fragments of this vegetation type in the riparian zones of the streams, with trees of between 20 and 30 m in height. The physiognomically important species include: *Alchornea latifolia*, *Beilschmiedia anay* (S.F. Blake) Kosterm., *B. mexicana* (Mez) Kosterm., *Brosimum alicastrum*, *Calatola costaricensis* Standl., *C. mollis* Standl., *Cymbopetalum pendu-*

liflorum Baill., *Dendropanax arboreus* (L.) Decne & Planch., *Drypetes lateriflora*, *Ficus microcarpa* L.f., *Guarea grandifolia* DC., *Ocotea* sp., *Oecopetalum mexicanum*, *Persea schiedeana*, *Protium copal* (Schltdl. & Cham.) Engl., *Quercus oleoides* Schltdl. & Cham., and *Tapirira mexicana* Marchand, among others. The tropical high sub-evergreen forest is located on moderate slopes with different geological (extrusive igneous, sandstone and limestone), hills and minor elevations over extrusive igneous rock and on alluvial plains and minor elevation hills over sandstone.

The ecotone of deciduous forest and tropical high sub-evergreen forest, indicated by Gutiérrez-Báez (1993), corresponds to a transition between both vegetation types on wet soils between 850 and 1,100 m a.s.l. The typical species of this association are: *Calatola mollis*, *Coccoloba hirtella* Lundell, *Drypetes laterifolia*, *Ficus aurea* Nutt, *Meliosma alba* Walp., *Nectandra* sp., *Oecopetalum mexicanum*, *Platanus mexicana* Moric., *Protium copal*, *Pseudolmedia glabrata*, *Talauma mexicana* G. Don, *Tapirira mexicana* and *Ulmus mexicana* Planch.

Selva mediana subperennifolia (Tropical sub-evergreen forest).- Godínez-Ibarra & López-Mata (2002) reported this vegetation type in Santa Gertrudis (municipality of Vega de Alatorre) at an altitude of between 400 and 651 m a.s.l. The canopy is greater than 20 m in height and the following floristic components are representative: *Psychotria* L. spp., *Brosimum alicastrum*, *Ficus* L. spp. *Cojoba arborea* (L.) Britton & Rose, *Leucaena leucocephala* (Lam.) de Wit, *Bursera simaruba* (L.) Sarg., *Trophis racemosa* (L.) Urb., *Manilkara zapota* (L.) P. Royen, *Aphananthe monoica* (Hemsl.) J.-F. Leroy, *Dendropanax arboreus*, *Cedrela odorata* L., *Pleuranthodendron lindenii* (Turcz.) Sleumer and *Nectandra ambigens* (S.F. Blake) C.K. Allen. As with the tropical high sub-evergreen forest, the medium sub-evergreen forest is located on moderate slopes with extrusive igneous rocks, sandstone and limestone, on hills and minor elevations over extrusive igneous rock and sandstone, and on alluvial plains.

Selva baja caducifolia (Tropical low deciduous forest, secundary vegetation).- Acosta (1986) described this vegetation type in the Sierra Manuel Díaz (municipality of Actopan) with the following notable floristic components: *Tabebuia chrysantha* (Jacq.) G. Nicholson, *Cochlospermum vitifolium* Spreng., *Ipomoea wolcottiana* Rose, *Plumeria rubra* L., *Bursera simaruba*, *Ceiba aesculifolia* (Kunth) Breitten & Baker f. and *Lysiloma divaricatum* (Jacq.) Benth.. This vegetation type covers the slopes of the mountain close to the Gulf of Mexico coast, up to 900 m a.s.l. Dorantes & Acosta (1975) also described the tropical low deciduous forest near Farallón (municipality of Actopan) as presenting the following principal woody components: *Annona globiflora* Schltdl., *Bursera simaruba*, *Caesalpinia cacalaco* Bonpl., *Cochlospermum vitifolium*, *Cordia dentata* Poir., *Diospyros verae-crucis* Standl., *Ehretia tinifolia* L., *Enterolobium cyclocarpum* (Jacq.) Griseb., *Euphorbia schlechtendalii* Boiss., *Luehea candida* Mart., *Lysiloma acapulcense* (Kunth) Benth., *Tabebuia chrysantha* and *T. rosea* DC. This vegetation type is distributed on steep slopes with extrusive igneous rocks, moderate slopes with extrusive igneous rocks and sandstone and on hills and minor elevations with extrusive igneous rock and sandstone.

Encinares (Oak).- This vegetation type is found between 300 and 400 m a.s.l. and, according to Zamora-Crescencio & Avendaño-Reyes (1998), on flat areas on the northern mountainside over clay soils. The arboreal stratum does not exceed 10 m in height and is dominated by *Quercus oleoides*, accompanied by *Piscidia piscipula* (L.) Sarg., *Dendropanax arboreus*, *Guazuma ulmifolia* Lam., *Bursera simaruba*, *Mimosa albida* Humb. & Bonpl. ex Willd., among other species. According to Gómez-Pompa (1977), the oak forests can be divided into the temperate and warm climatic groups. The temperate oak forests, or those of medium height, are found between 1,000 and 1,300 m a.s.l., in duripan soils (locally called "tepetate") in Mesa de Guadalupe, Alto de Tío Diego, Alto Lucero and Alto del Tizar (Cházaro-Basáñez 1992). This is an arboreal community of 8-15 m in height, of which the notable floristic components are: *Quercus peduncularis* Née, *Q. polymorpha* Schltdl. & Cham., *Q. sapotifolia* Liebm. and *Zinowiew integerrima* (Turcz.) Turcz. Ortega-Ortiz (1981) also described an oak forest close to El Espinal (municipality of Naolinco), composed of *Quercus polymorpha* and *Quercus castanea* Née. The oak forests of warm regions, or tropical oak forest, are found at an altitude of 10 to 400 m a.s.l., between Colipa and Vega de Alatorre (Gómez-Pompa 1966), as well as in the vicinity of Laguna Verde-Palma Sola (Gómez-Pompa 1972) and on the heights of Los Atlixcos and Topilitos (municipality of Vega de Alatorre) (Cházaro-Bazañez 1992). The landforms on which it is found correspond to

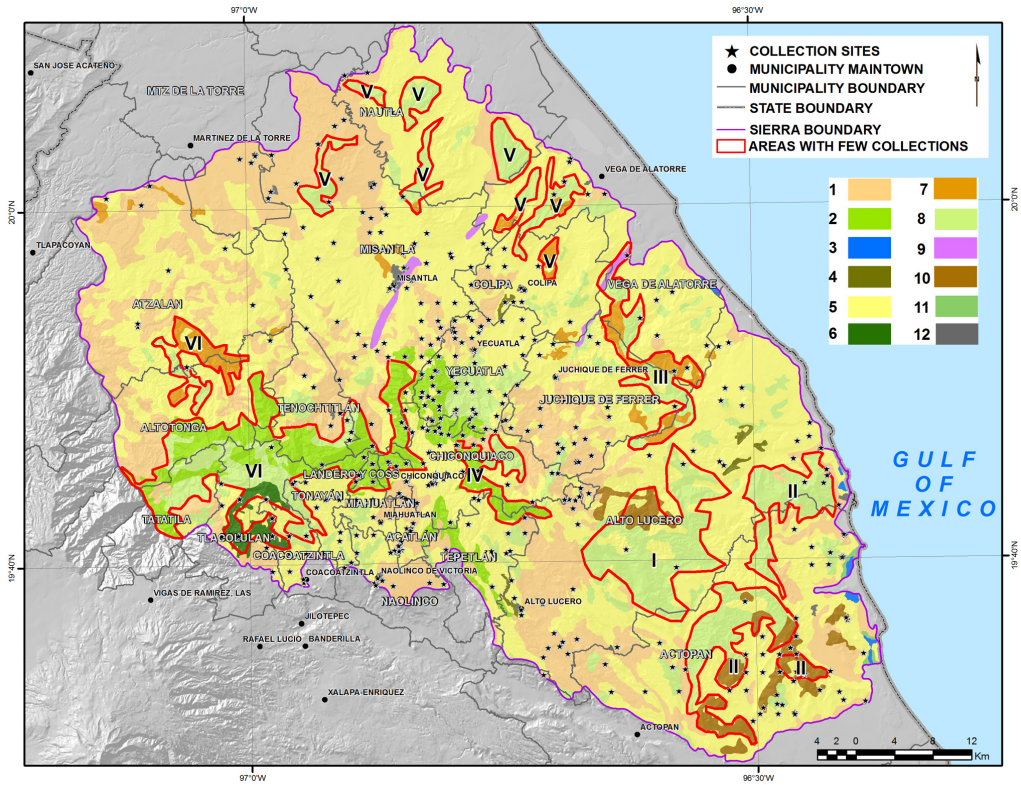

Figure 4. Zones with little history of collection. Zone I, Centro del municipio de Alto Lucero; Zone II, Municipio de Actopan; Zone III, Sierra La Bandera; Zone IV, Barrancas de Chiconquiaco-Tepetlán; Zone V, Laderas bajas del norte de la Sierra de Chiconquiaco y Zone VI, Laderas escarpadas.

moderate slopes with extrusive igneous rocks, hills and minor elevations over sandstone and on alluvial plains.

Riparia (Riparian).- This vegetation type azonal distribution and is found along permanent or temporary streams, brooks and rivers. Its characteristic species are: *Platanus mexicana*, *Salix humboldtiana* Willd., *Salix exigua* Nutt., *Ficus insipida* Willd. and *Syzigium jambos* (L.) Alston, and its accompanying species are: *Baccharis salicifolia* (Ruiz & Pav.) Pers. and *Pithecellobium lanceolatum* Benth. (Zamora-Crescencio & Avendaño-Reyes 1998). Regarding landforms and geology, riparian vegetation has a ubiquitous distribution and can be found on moderate slopes with extrusive igneous rocks and sandstone, on hills and minor elevations with extrusive igneous rocks, sandstone and conglomerate and on the alluvial plains.

Number of species recorded on the Sierra de Chiconquiaco and rarely explored sites. According to the database of the herbarium XAL and MEXU, there were 3,016 species recorded up to correspond to 35 % of the flora of Veracruz (Villaseñor 2016). The taxa exclusively endemic to the Sierra are: *Ceratozamia morettii* Vázq. Torres & Vovides, *Chusquea enigmatica* Ruiz-Sánchez, Mejía-Saulés & L. G. Clark, recently described on the volcano of Acatlán (Ruiz-Sánchez *et al*. 2014), *Eugenia mozomboensis* P.E. Sánchez, *Monstera florescanoana* Croat, T. Krömer & Acebey, *Nama linearis* D.L. Nash, *Piper colipanum* C. DC., *Salvia chazaroana* B.L.Turner, *Zamia inermis* Vovides, J.D. Rees & Vázq. Torres. *Castilleja eggeri* and *Echeveria cuquita*. The latter two species are currently being described.

The floristic information remains incomplete, since the 4,320 (XAL) specimens collected only cover 30 % (1,061 km^2) of the total area. The remaining 70 % (2,570 km^2) has undergone little or no collection. The zones with limited history of collection are described below, labelled as zones I to VI and shown in Figure 4.

Zone I, Centro del municipio de Alto Lucero (126 km^2).- The zone corresponds to tropical low deciduous forest in Mesa de Tigres and El Tabacal, oak forests located in Las Mesitas, Rancho Nuevo, La Cañada and close to Topiltepec (Arroyo de la Peña and Arroyo de los Cedros), Barranca Hernández and Río de la Barranca to the south of Topilito de Zaragoza. The zone is located on moderate slopes with extrusive igneous rock.

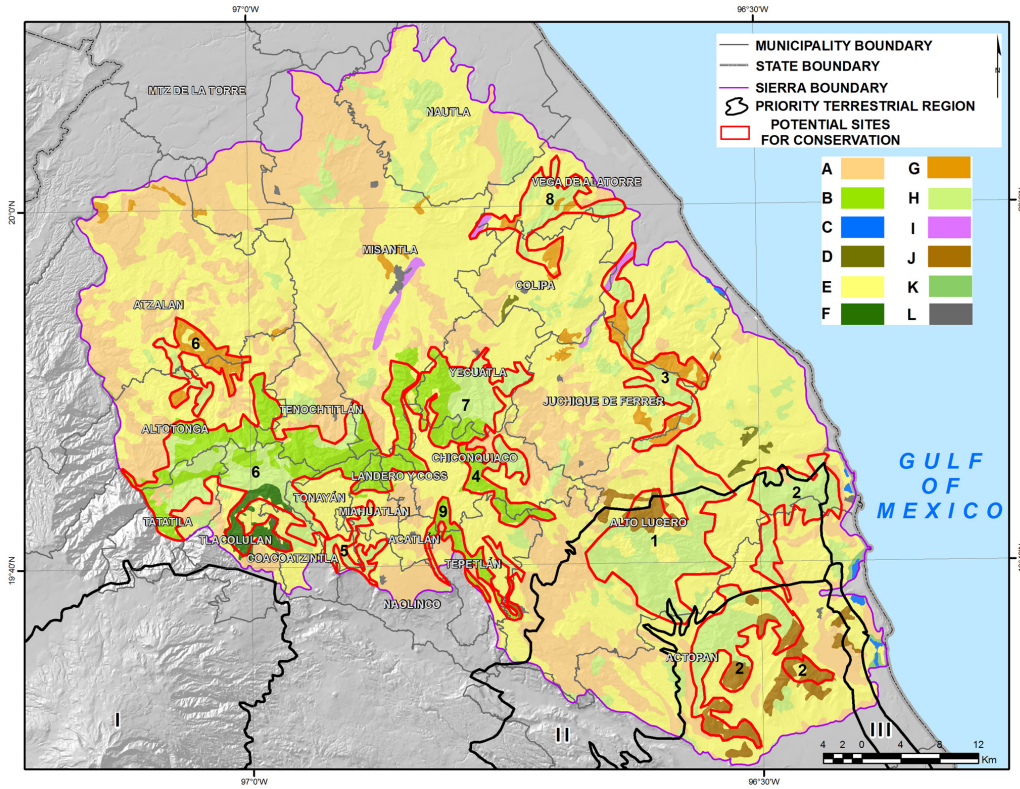

Figure 5. Potential sites for conservation and priority zones for conservation by CONABIO (2004). **1)** Centro del municipio de Alto Lucero; **2)** Municipio de Actopan; **3)** Sierra La Bandera, **4)** Barrancas de Chiconquiaco-Tepetlán; **5)** Laderas escarpadas en general; **6)** Barrancas de Yecuatla; **7)** Barranca Diamante; **8)** Barranca Chapopote and **9)** Laderas al este del cerro Acatlán. I) Pico de Orizaba-Cofre de Perote; II) Dunas costeras del centro de Veracruz and III) Encinares tropicales de la planicie costera Veracruzana.

Zone II, Municipio de Actopan (140 km^2).- The zone is characterized by tropical low deciduous forest located east of San José Pastorías and San José de la Punta, north of Agua Fría and northeast of Llano de Zárate, Cerro de Tres Picos (Sierra Manuel Díaz) and surroundings. In the vicinity of the mountain La Paila (near Monte de Oro) to the extreme southeast of the municipality of Alto Lucero, towards the coast and between the lagoons of Farallón and Laguna Verde, oak forest communities predominate, while in the northern part of the municipality an area of tropical low deciduous forest extends in the localities of Rancho Italia and Cerro de los Metates in the ravines of the Limón river. The zone is of moderate to steep slopes on extrusive igneous rocks, moderate slopes on sandstone, hills and minor elevations upon extrusive igneous rocks associated with alluvial plains, as well as hills and minor elevations built on sandstone.

Zone III, Sierra La Bandera (63 km^2).- The zone corresponds to a tropical medium sub-evergreen forest located in the Sierra La Bandera and to the south of Santa Gertrudis, with the possible presence of secondary vegetation of tropical high evergreen forest. It also includes riparian vegetation along the Juchique river. This zone features moderate slopes with extrusive igneous rocks and sandstone, and hills and minor elevations.

Zone IV, Barrancas de Chiconquiaco-Tepetlán (32 km^2).- The zone comprises deciduous and oak forests at Loma Alta, Vista Hermosa, the gullies of El Huérfano, La Sombra, Cerro Totola and Xucuyul (municipality of Chiconquiaco), and in the north of the municipality of Tepetlán in Colonia Cuauhtémoc and the locality of Ocote. The sites of the Rincón Grande canyon, Tepetlán and "malpaís" de San Lorenzo Tepetlán have had little collection. In general, this is a zone of steep and moderate slopes with extrusive igneous rocks.

Zone V, Laderas bajas del norte de la Sierra de Chiconquiaco (94 km^2).- The zone extends to the north of the municipality of Misantla, south of Nautla, west of Vega de Alatorre and center of Colipa. The secondary vegetation of tropical high and medium sub-evergreen forest is present in Misantla: El Diamante, the mountains Quebrado and Vista Hermosa; in the municipality of Nautla: the mountains Dos Hermanos and Peña Colorada, El Salto and Pilancones; in Vega de Alatorre: Agua Santa and El Tepe; in Colipa, the mountain El Tigre and El Ocotillo. The zone is characterized by moderate slopes on extrusive igneous rocks and sandstone, hills and minor elevations with extrusive igneous rocks, and sandstone, associated with alluvial plains.

Zone VI, Laderas escarpadas (260 km^2).- It corresponds to the most extensive zone (nine municipalities), where no collection has occurred in the remnants of deciduous forest vegetation. The zone forms a strip that traverses the Sierra of Chiconquiaco from east to west and also includes fragments of secondary tropical high and medium subevergreen forest in the south of the municipality of Atzalan, near the mountains Huizozoco, Naranjal, Plan de la Luz and Martinica, as well as in the northeast of the municipality of Altotonga, on the peaks of Relicario, Cerro de los Muertos and Loma del Arco. Likewise, pine-oak and pine vegetation is found on the La Cebollana-Tlacolulan altitudinal gradient in the municipality of Tlacolulan. Steep and moderate slopes, extrusive igneous rocks and limestone characterize the zone.

Zones of interest for conservation and research. The Serie V (INEGI 2013) regarding land use and vegetation indicates that the overall surface covered by vegetation does not exceed 25 % of the total area. Remnants of vegetation presenting different degrees of disturbance only remain on the abrupt slopes. Among these nine zones with potential for conservation and future research were recognized and labelled as ZCR 1 to 9 (Figure 5). Five of them are the zones with less botanical ZCR 1 (corresponds to Zone I), ZCR 2 (Zone II), ZCR 3 (Zone III), ZCR 4 (Zone

Table 3. Endemic species registered in the Sierra de Chiconquiaco. (Adaptaded from Castillo-Campos *et al.* 2005).

Species	Family
Alophia veracruzana Goldblatt & T.M. Howard	Iridaceae
Amphitecna tuxtlensis A.H. Gentry	Bignoniaceae
Aristolochia asclepiadifolia Brandegee	Aristolochiaceae
Begonia multistaminea Burt-Utley	Begoniaceae
Begonia pudica L.B. Sm. & B.G. Schub.	Begoniaceae
Bomarea gloriosa M. Roem.	Alstroemeriaceae
Bursera cinerea Engl.	Burseraceae
Calyptranthes karwinskyana O. Berg	Myrtaceae
Calyptranthes schiedeana O. Berg	Myrtaceae
Calyptranthes schlechtendaliana O. Berg	Myrtaceae
Ceratozamia morettii Vázq. Torres & Vovides	Zamiaceae
Cestrum endlicheri Miers	Solanaceae
Chusquea enigmatica Ruiz-Sánchez, Mejía-Saulés & L. G. Clark	Poaceae
Chusquea mulleri Munro	Poaceae
Costus dirzoi García-Mend. & Ibarra-Manr.	Costaceae
Cuphea nitidula Kunth	Lythraceae
Dioscorea cruzensis R. Knuth	Dioscoreaceae
Dioscorea spiculiflora Hemsl. var. *fasciculocongesta* Sosa & B.G. Schub.	Dioscoreaceae
Eugenia colipensis O. Berg	Myrtaceae
Eugenia mozomboensis P.E. Sánchez	Myrtaceae
Eugenia trunciflora (Schltdl. & Cham.) ex O. Berg	Myrtaceae
Goeppertia misantlensis (Lascur.) Borchs. & S. Suárez	Marantaceae
Hampea integerrima Schltdl.	Malvaceae
Hydrangea nebulicola Nevling & Gómez Pompa	Hydrangeaceae
Maianthemum macrophyllum (M. Martens & Galeotti) La Frankie	Convallariaceae
Mammillaria eriacantha Link & Otto ex Pfeiff.	Cactaceae
Mammillaria sartorii J.A. Purpus	Cactaceae
Monstera florescanoana Croat, T. Krömer & Acebey	Araceae
Nama linearis D.L. Nash	Boraginaceae
Oncidium stramineum Lindl.	Orchidaceae
Physalis greenmanii Waterf.	Solanaceae
Piper colipanum C. DC.	Piperaceae
Salvia chazaroana B.L.Turner	Lamiaceae
Selaginella pulcherrima Liebm.	Selaginellaceae
Tillandsia tricolor Schltdl. & Cham.	Bromeliaceae
Zamia inermis Vovides, J.D. Rees & Vázq. Torres	Zamiaceae

IV), and ZCR 5 (Zone VI). The rest of the zones with interest for conservation a future research are associated with cultivated crops and pastures and correspond to:
ZCR 6. Barrancas de Yecuatla (70 km^2), located between the Zones IV and VI with little history of collection, as a strip of deciduous forest to the southwest of Yecuatla, and the localities of Los Brincos towards the south, Chiconquillo to the east and the mountain Pesmón to the west.
ZCR 7. Barranca Diamante (50 km^2), located to the southeast of Zone V, with little collection and formed by isolated fragments of tropical high and medium sub-evergreen forest, in the localities of La Planilla to the north, El Naranjal to the south, El Mango towards the east and El Tigre to the west. This zone also includes gallery vegetation along the limits of the municipalities of Vega de Alatorre and Misantla.
ZCR 8. Barranca Chapopote (27 km^2), delimited by Rincón Grande to the north, Alto Tío Diego to the south, Las Palomas to the east and Los Cedros to the west, contains sites with deciduous and oak forests that cross the municipality of Tepetlán in a northeast-southeast direction.
ZCR 9. Laderas al este del cerro Acatlán (17 km^2), which mostly comprise deciduous forest and diverse fragments of oak forest to the southeast. In other areas of the Sierra of Chiconquiaco, there are numerous disperse fragments of oak forests in the El Tecuán canyon, oak and tropical medium sub-evergreen forests in Los Atlixcos and gallery vegetation to the east of Misantla, along the river of the same name.

According to CONABIO (2004), three of the Veracruz state priority zones for conservation cover the Sierra de Chiconquiaco and correspond to approximately 13 % of its total area (Figure 5): "Pico de Orizaba-Cofre de Perote", comprising a small area (0.03 km^2), "Coastal dunes of central Veracruz" with 27 km^2 and "Tropical oak forests of the Veracruz coastal plain" which presents the largest area (447 km^2).

According to the NOM-059-SEMARNAT (2010), 57 species at risk are recorded in the flora of this Sierra (Appendix 1). They are mainly related to the genus *Chamaedorea* Willd. and *Tillandsia* L., with four species each. In that same inventory there are 198 species referenced in CITES (2015), there are registered 36 endemic species from Veracruz (Castillo-Campos *et al*. 2005), that can be found there. Among them, it is worth mentioning the genus *Eugenia* L. and *Calyptranthes* Sw. with three species each one (Table 3).

Oncidium stramineum Lindl., *Mammillaria eriacantha* Link & Otto ex Pfeiff. y *M. sartorii* J.A. Purpus are endemic to Veracruz (Castillo-Campos *et al*. 2005) and are registered in CITES (2015) appendix II. *Tillandsia tricolor* Schltdl. & Cham. and *Hydrangea nebulicola* Nevling & Gómez Pompa, are endemic to Veracruz and are also registered in the NOM-059-SEMARNAT (2010); *Zamia inermis* Vovides, J.D. Rees & Vázq. Torres, is in appendix II, endemic to Veracruz and in the NOM-059-SEMARNAT (2010).

Conclusion

Through analysis of geomorphological attributes in a geographic information system, the boundaries of the Sierra of Chiconquiaco were established. Based on a bibliographic review, records of the herbaria, studies and field exploration, seven vegetation types were described, as well as a floristic list of species. Six zones scarcely documented in the herbaria and nine potential areas for conservation and research were detected.

Regarding land use and vegetation of its total area, pastures occupy 50 %, agriculture 23 %, secondary vegetation 19 %, conserved vegetation 7 % and of water and urban zones occupy the remaining 0.7 %. This is an indication that there is still 25 % of land covered by vegetation with different degrees of disturbance in the region. The nine zones of interest for conservation (786 km2) together account for only 22 % of the area. Due to the hitherto scarce exploration, these zones could have the potential for the discovery of new species and endemisms. In this Sierra, different types of arboreal vegetation still exist in an altitudinal range between 800 and 2,500 m a.s.l., where deciduous forest occupies the largest area and extends in a strip towards the municipalities of Hueytamalco, Teziutlán, Zongozotla, Zapotitlán de Méndez, Tlaola and Pahuatlán, among others in the state of Puebla.

Floristic importance of the area. The eight exclusively endemic species have rarely been collected and some are of recent description. It is therefore possible to find them in other sites.

Evaluation of endemism and its distribution and abundance will be crucial in order to formulate and undertake measures for its protection through conservation strategies. This contribution is considered a baseline from which future studies can be conducted in the Sierra of Chiconquiaco related to floristic inventories, quality and estimation of the vegetation cover, land use change, strategies of natural resource management and detection of priority areas for conservation and restoration based on native species and those of traditional use. Floristic and vegetation studies at regional level will continue to be of great importance to the knowledge, use and conservation of biodiversity and to measures for the mitigation of the environmental deterioration of this particular site in Veracruz.

Dedication

The authors dedicate this contribution to Dr. Arturo Gómez-Pompa for his important studies in the Sierra de Chiconquiaco visionary of the conservation and use of biodiversity of Mexico, and professional guidance.

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Appendix 1.

SCIENTIFIC NAME	CITES	NOM- 059
ACANTHACEAE		
Aphelandra schiedeana Cham. & Schltdl.		
Barleria discolor Nees		
Barleria oenotheroides Dum. Cours.		
Blechum brownei Juss.		
Blechum pyramidatum (Lam.) Urb.		
Chileranthemum trifidum Oerst.		
Dicliptera acuminata Juss.		
Dicliptera unguiculata Nees		
Dyschoriste decumbens (A. Gray) Kuntze		
Dyschoriste quadrangularis (Oerst.) Kuntze		
Elytraria bromoides Oerst.		
Elytraria imbricata (Vahl) Pers.		
Glockeria gracilis Nees		
Hansteinia gracilis Oerst.		
Henrya insularis Nees		
Hypoestes lasiostegia var. *sanguinolenta* (Van Houtte) Benoist		
Hypoestes phyllostachya Baker		
Jacobinia paniculata Oerst.		
Justicia fulvicoma Cham. & Schltdl.		
Justicia aurea Schltdl.		
Justicia borrerae Hemsl.		
Justicia breviflora Rusby		
Justicia campechiana Standl.		
Justicia candelariae (Oerst.) Leonard		
Justicia comata (L.) Lam.		
Justicia macrantha Benth.		
Justicia pectoralis Jacq.		
Justicia sessilis Jacq.		
Justicia spicigera Schltdl.		
Odontonema callistachyum Kuntze		
Pseuderanthemum praecox (Benth.) Leonard		
Pseuderanthemum standleyi Leonard in Standl.		
Ruellia coerulea Morong		
Ruellia erythropus Lindau		
Ruellia inundata Kunth		
Ruellia jussieuoides Standl.		
Ruellia spissa Leonard		
Siphonoglossa canbyi (Greenm.) Hilsenb.		
Spathacanthus hahnianus Baill.		
Spathacanthus parviflorus Leonard		
Stenandrium dulce Nees		
Stenostephanus haematodes (Schltdl.) T.F. Daniel		
Tetramerium nervosum Nees		
Tetramerium scorpioides (L.) Hemsl.		
Thunbergia alata Bojer ex Sims		
Thunbergia convolvulifolia Baker		
Thunbergia grandiflora Roxb.		
ACERACEAE		
Acer negundo L.		
ACTINIDIACEAE		
Saurauia cana B.T. Keller & Breedlove		
Saurauia leucocarpa Schltdl.		
Saurauia pedunculata Hook.		
Saurauia scabrida Hemsl.		
Saurauia villosa DC.		
ADOXACEAE		
Sambucus canadensis L.		
Viburnum caudatum Greenm.		
Viburnum ciliatum Greenm.		
Viburnum microcarpum Schltdl. & Cham.		
Viburnum rhombifolium Hemsl.		
Viburnum tiliifolium Hemsl.		
AIZOACEAE		
Trianthema portulacastrum L.		
ALISMATACEAE		
Echinodorus andrieuxii (Hook. & Arn.) Small		
ALLIACEAE		
Nothoscordum bivalve (L.) Britton		
ALSTROEMERIACEAE		
Bomarea acutifolia Herb.		
Bomarea edulis Herb.		
Bomarea gloriosa M. Roem.		
ALTINGIACEAE		
Liquidambar styraciflua Oerst.		
AMARANTHACEAE		
Achyranthes aspera L.		
Alternanthera flavescens Kunth		
Alternanthera gracilis Loes.		
Alternanthera lanceolata Schinz		
Amaranthus scariosus Benth.		
Amaranthus spinosus L.		
Blutaparon vermiculare (L.) Mears		
Celosia argentea L.		
Celosia nitida Vahl		
Chamissoa altissima Kunth		
Chenopodium ambrosioides L.		
Chenopodium graveolens Willd.		
Chenopodium murale L.		
Cyathula achyranthoides Moq.		
Froelichia floridana (Nutt.) Moq.		
Gomphrena nana Standl.		
Gomphrena pilosa Moq.		
Gomphrena serrata L.		
Hebanthe grandiflora (Hook.) Borsch & Pedersen		
Iresine arbuscula Uline & W.L. Bray		
Iresine diffusa Humb. & Bonpl. ex Willd.		
Iresine hebanthoides Suess.		
Iresine herbstii Hook.		
Iresine herrerae Conz. & S.F. Blake		
Iresine interrupta Benth.		
Iresine latifolia Moq.		
Iresine nigra Uline & W.L. Bray		
Pleuropetalum sprucei Standl.		
AMARYLLIDACEAE		
Allium glandulosum Link & Otto		
Crinum americanum L.		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Crinum x powellii hort. ex Baker		
Manfreda scabra (Ortega) McVaugh		
Zephyranthes carinata Herb.		
ANACARDIACEAE		
Astronium graveolens Jacq.		◊
Comocladia engleriana Loes.		
Pistacia mexicana Kunth		
Rhus terebinthifolia Schltdl. & Cham.		
Spondias mombin L.		
Tapirira mexicana Marchand		
Toxicodendron radicans (L.) Kuntze		
ANEMIACEAE		
Anemia phyllitidis (L.) Sw.		
Anemia tomentosa (Sav.) Sw.		
ANNONACEAE		
Annona cherimola Miller		
Annona globiflora Schltdl.		
Annona longiflora S. Watson		
Annona muricata L.		
Annona purpurea Moc. & Sessé ex Dunal		
Cymbopetalum baillonii R.E. Fr.		
Cymbopetalum penduliflorum Baill.		
Desmopsis galeottiana Saff.		
Desmopsis trunciflora (Schltdl. & Cham.) G.E. Schatz		
Guatteria amplifolia Triana & Planch.		
Mosannona depressa (Baill.) Chatrou		
Rollinia mucosa (Jacq.) Baill.		
Tridimeris hahniana Baill.		
Xylopia trunciflora Schltdl. & Cham.		
APIACEAE		
Ammi majus L.		
Angelica nelsonii J.M. Coult. & Rose		
Apium leptophyllum (Pers.) F. Muell. ex Benth.		
Arracacia aegopodioides J.M. Coult. & Rose		
Arracacia nelsonii J.M. Coult. & Rose		
Arracacia rigida J.M. Coult. & Rose		
Berula erecta (Huds.) Coville		
Cicuta maculata var. *maculata* L.		
Coriandrum sativum L.		
Cyclospermum leptophyllum (Pers.) Sprague ex Britton & P. Wilson		
Daucus montanus Humb. & Bonpl. ex Spreng.		
Eryngium carlinae F. Delaroche		
Eryngium deppeanum Schltdl. & Cham.		
Eryngium foetidum L.		
Eryngium nasturtiifolium Juss. ex F. Delaroche		
Foeniculum vulgare Hill		
Micropleura renifolia Lag.		
Prionosciadium thapsoides (DC.) Mathias		
Sanicula liberta Cham. & Schltdl.		
Spananthe paniculata Jacq.		
Tauschia nudicaulis Schltdl.		

SCIENTIFIC NAME	CITES	NOM- 059
APOCYNACEAE		
Allamanda cathartica L.		
Alstonia longifolia (A. DC.) Pichon		
Apocynum cannabinum L.		
Asclepias curassavica L.		
Asclepias similis Hemsl.		
Asclepias woodsoniana Standl. & Steyerm.		
Aspidosperma megalocarpon Müll. Arg.		
Blepharodon mucronatum (Schltdl.) Decne.		
Catharanthus roseus (L.) G. Don		
Cryptostegia grandiflora R. Br.		
Cynanchum mexicanum Brandegee		
Echites microcalyx A. DC.		
Fernaldia pandurata (A. DC.) Woodson		
Forsteronia myriantha Donn. Sm.		
Forsteronia spicata G. Mey.		
Funastrum clausum Schltr.		
Gomphocarpus physocarpus E. Mey.		
Gonolobus chloranthus Schltdl.		
Gonolobus erianthus Decne.		
Gonolobus niger (Cav.) R. Br. ex Schult.		
Gonolobus uniflorus Kunth		
Mandevilla acutiloba (A. DC.) Woodson		
Mandevilla subsagittata (Ruiz & Pav.) Woodson		
Mandevilla torosa (Jacq.) Woodson		
Marsdenia macrophylla E. Fourn.		
Matelea nigrescens (Schltdl.) Woodson		
Matelea sugillata W.D. Stevens		
Matelea velutina (Schltdl.) Woodson		
Mesechites trifidus Müll. Arg.		
Metastelma barbigerum Scheele		
Metastelma latifolium Rose		
Metastelma pringlei A. Gray		
Metastelma schlechtendalii Decne.		
Oxypetalum cordifolium (Vent.) Schltr.		
Pentalinon andrieuxii (Müll. Arg.) B.F. Hansen & Wunderlin		
Plumeria rubra L.		
Polystemma viridiflorum Decne.		
Prosthecidiscus guatemalensis Donn. Sm.		
Rauvolfia tetraphylla L.		
Rhabdadenia biflora Müll. Arg.		
Sarcostemma clausum Schult.		
Sarcostemma elegans Decne.		
Sarcostemma pannosum Decne.		
Stemmadenia donnell-smithii (Rose) Woodson		
Stemmadenia litoralis (Kunth) L. Allorge		
Tabernaemontana alba Mill.		
Thevetia ahouai (L.) A. DC.		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059	SCIENTIFIC NAME	CITES	NOM- 059
Thevetia peruviana K. Schum.			*Bactris trichophylla* Burret		
Tintinnabularia gratissima J.F. Morales			*Chamaedorea concolor* Mart.		
Tonduzia longifolia (DC.) Markgr.			*Chamaedorea elatior* Mart.		◊
Trachelospermum difforme (Walter) A. Gray			*Chamaedorea elegans* Mart.		
Vinca major L.			*Chamaedorea klotzschiana* H. Wendl.		◊
AQUIFOLIACEAE			*Chamaedorea monostachys* Burret		
Ilex discolor Hemsl. var. *tolucana* (Hemsl.) Edwin ex T.R. Dudley			*Chamaedorea oblongata* Mart.		
Ilex pringlei Standl.			*Chamaedorea oreophila* Mart.		◊
ARACEAE			*Chamaedorea pinnatifrons* Oerst.		◊
Alocasia macrorrhizos (L.) G. Don			*Chamaedorea sartorii* Liebm.		◊
Anthurium andicola Liebm.			*Sabal mexicana* Mart.		
Anthurium crassinervium (Jacq.) Schott			ARISTOLOCHIACEAE		
Anthurium harrisii G. Don			*Aristolochia asclepiadifolia* Brandegee		
Anthurium pentaphyllum G. Don			*Aristolochia pentandra* Jacq.		
Anthurium podophyllum Kunth		◊	ASPARAGACEAE		
Anthurium scandens (Aubl.) Engl.			*Agave angustifolia* Haw.		
Anthurium schlechtendalii Kunth			*Agave applanata* Koch		
Anthurium umbrosum Liebm.			*Agave filifera* Salm-Dyck		
Arisaema dracontium (L.) Schott			*Agave obscura* Schiede		
Arisaema macrospathum Benth.			*Agave pendula* Schnittsp.		
Dieffenbachia oerstedii Schott			*Agave polyacantha* Haw.		
Monstera acuminata K. Koch			*Agave univittata* Haw.		
Monstera florescanoana Croat, T. Kromer & Acebey			*Agave xalapensis* Roezl ex Jacobi		
Monstera lechleriana Schott			*Beaucarnea recurvata* Lem.		◊
Philodendron advena Schott			*Beschorneria calcicola* García-Mend.		◊
Philodendron guttiferum Kunth			*Beschorneria yuccoides* subsp. *dekosteriana* (K. Koch) García-Mend.		
Philodendron inaequilaterum subsp. *Inaequilaterum* Liebm.			*Cordyline fruticosa* (L.) A. Chev.		
Philodendron jacquinii Schott			*Echeandia longipedicellata* Cruden		
Philodendron radiatum Schott			*Echeandia parviflora* Baker		
Philodendron sagittifolium Liebm.			*Maianthemum macrophyllum* (M. Martens & Galeotti) La Frankie		
Philodendron seguine subsp. *lingua-bovis* Grayum			*Maianthemum paniculatum* (M. Martens & Galeotti) La Frankie		
Syngonium neglectum Schott			*Maianthemum scilloideum* (M. Martens & Galeotti) LaFrankie		
Syngonium podophyllum Schott			*Nolina humilis* S. Watson		
Xanthosoma mexicanum Liebm.			*Yucca guatemalensis* Baker		
Xanthosoma robustum Schott			ASPLENIACEAE		
Zantedeschia aethiopica Spreng.			*Asplenium achilleifolium* (M. Martens & Galeotti) Liebm.		
ARALIACEAE			*Asplenium alatum* Humb. & Bonpl. ex Willd.		
Dendropanax arboreus (L.) Decne & Planch.			*Asplenium auriculatum* Sw.		
Hydrocotyle mexicana Cham. & Schltdl.			*Asplenium auritum* Sw.		◊
Hydrocotyle umbellata L.			*Asplenium blepharodes* D.C. Eaton		
Hydrocotyle verticillata Thunb.			*Asplenium cristatum* Lam.		
Oreopanax capitatus (Jacq.) Decne. & Planch.			*Asplenium cuspidatum* Lam.		
Oreopanax echinops Decne. & Planch.			*Asplenium formosum* Willd.		
Oreopanax flaccidus Marchal			*Asplenium hastatum* Klotzsch ex Kunze		
Oreopanax liebmannii Marchal			*Asplenium miradorense* Liebm.		
Oreopanax peltatus Linden			*Asplenium monanthes* L.		
Oreopanax xalapensis Decne. & Planch.			*Asplenium pumilum* Sw.		
ARECACEAE			*Asplenium repandulum* Kunze		
Acrocomia aculeata Lodd. ex Mart.			*Asplenium resiliens* Kunze		
Bactris mexicana Mart.			*Asplenium salicifolium* L.		
			Asplenium scolopendrium L.		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059	SCIENTIFIC NAME	CITES	NOM- 059
Asplenium serra Langsd. & Fisch.			*Aster subulatus* Michx.		
Asplenium sessilifolium Desv.			*Astranthium xanthocomoides* (Less.) Larsen		
Asplenium sphaerosporum A.R. Sm.			*Baccharis conferta* Kunth		
ASTERACEAE			*Baccharis rhexioides* Kunth		
Achillea lanulosa Nutt.			*Baccharis salicifolia* (Ruiz & Pav.) Pers.		
Achillea millefolium L.			*Baccharis serratifolia* Kunth		
Acmella oppositifolia (Lam.) R.K. Jansen			*Baccharis serrifolia* DC.		
Acourtia veracruzana B.L. Turner			*Baccharis thesioides* Kunth		
Ageratina aschenborniana (S. Schauer) R.M. King & H. Rob.			*Baccharis trinervis* Pers.		
Ageratina bellidifolia (Benth.) R.M. King & H. Rob.			*Baltimora geminata* (Brandegee) Stuessy		
Ageratina chiapensis (B.L. Rob.) R.M. King & H. Rob.			*Barkleyanthus salicifolius* (Kunth) H. Rob. & Brettell		
Ageratina choricephala (B.L. Rob.) R.M. King & H. Rob.			*Bartlettina karwinskiana* (DC.) R.M. King & H. Rob.		
Ageratina crassiramea (B.L. Rob.) R.M. King & H. Rob.			*Bartlettina oresbia* (B.L. Rob.) R.M. King & H. Rob.		
Ageratina enixa (B.L. Rob.) R.M. King & H. Rob.			*Bartlettina sordida* (Less.) R.M. King & H. Rob.		
Ageratina havanensis (Kunth) R.M. King & H. Rob.			*Bartlettina tuerckheimii* (Klatt) R.M. King & H. Rob.		
Ageratina ligustrina (DC.) R.M. King & H. Rob.			*Bartlettina xalapana* (B.L. Turner) B.L. Turner		
Ageratina mairetiana (DC.) R.M. King & H. Rob.			*Bidens aurea* (Aiton) Sherff		
Ageratina petiolaris (Moc. & Sessé ex DC.) R.M. King & H. Rob.			*Bidens triplinervia* Kunth		
Ageratina pichichensis (Kunth) R.M. King & H. Rob.			*Brickellia diffusa* (Vahl) A. Gray		
Ageratina vernalis (Vatke & Kurtz) R.M. King & Rob.			*Brickellia pacayensis* J.M. Coult.		
Ageratina wrightii (A. Gray) R.M. King & H. Rob			*Brickellia paniculata* (Mill.) B.L. Rob.		
Ageratum conyzoides L.			*Calea ternifolia* Kunth		
Ageratum corymbosum Zuccagni			*Calea urticifolia* DC.		
Ageratum houstonianum Mill.			*Calendula officinalis* L.		
Aldama dentata La Llave			*Calyptocarpus vialis* Less.		
Alloispermum integrifolium (DC.) H. Rob.			*Chaptalia nutans* (L.) Pol.		
Alloispermum scabrum (Lag.) H. Rob.			*Chromolaena odorata* (L.) R.M. King & H. Rob.		
Alomia echioides (Less.) B.L. Rob.			*Chrysanthemum parthenium* Bernh.		
Ambrosia peruviana All.			*Cirsium conspicuum* Sch. Bip.		
Archibaccharis asperifolia S.F. Blake			*Cirsium lappoides* Sch. Bip.		
Archibaccharis hirtella (DC.) Heering			*Cirsium mexicanum* DC.		
Archibaccharis intermedia (S.F. Blake) B.L. Turner			*Cirsium pinetorum* Greenm.		
Archibaccharis schiedeana (Benth.) J.D. Jacks.			*Clibadium surinamense* L.		
Archibaccharis serratifolia S.F. Blake			*Conyza bonariensis* (L) Cronquist		
Archibaccharis sescenticeps (S.F. Blake) S.F. Blake			*Conyza canadensis* (L.) Cronquist		
Artemisia ludoviciana Nutt.			*Conyza coronopifolia* Kunth		
Artemisia mexicana Willd. ex Spreng.			*Conyza laevigata* (Rich.) Pruski		
Aster exilis Elliott			*Critonia daleoides* DC.		
Aster schaffneri Sch. Bip. ex S.D. Sundb. & A.G. Jones			*Critonia hospitalis* (B.L. Rob.) R.M. King & H. Rob.		
			Critonia morifolia (Mill.) R.M. King & H. Rob.		
			Critoniadelphus nubigenus (Benth.) R.M. King & H. Rob.		
			Critoniopsis triflosculosa (Kunth) Rob		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059	SCIENTIFIC NAME	CITES	NOM- 059
Dahlia coccinea Cav.			*Koanophyllon solidaginoides* (Kunth) R.M. King & H. Rob.		
Decachaeta perornata (Klatt) R.M. King & H. Rob.			*Lactuca graminifolia* Michx.		
Delilia berteroi Spreng.			*Lactuca ludoviciana* (Nutt.) Riddell		
Dyssodia aurantia (L.) B.L. Rob.			*Laennecia schiedeana* (Less.) G.L. Nesom		
Dyssodia porophyllum (Cav.) Cav.			*Lagascea helianthifolia* Kunth		
Dyssodia tagetiflora Lag.			*Lagascea mollis* Cav.		
Eclipta prostrata (L.) L.			*Lapsana communis* L.		
Egletes liebmannii Sch. Bip.			*Launaea intybacea* Beauverd		
Elephantopus mollis Kunth			*Leiboldia serrata* Gleason		
Epaltes mexicana Less.			*Lepidaploa salzmannii* (DC.) H. Rob.		
Erechtites hieracifolia Raf.			*Lepidaploa tortuosa* (L.) H. Rob.		
Erechtites valerianifolia Less			*Lepidonia mexicana* (Less.) H. Rob. & V.A. Funk.		
Erigeron karvinskianus DC.			*Leucanthemum vulgare* Lam		
Erigeron longipes DC.			*Liabum bourgeaui* Hieron.		
Erigeron procumbens (Houst. ex Mill.) G.L. Nesom			*Loxothysanus sinuatus* (Less.) B.L. Rob.		
Erigeron scaberrimus Gardner			*Matricaria chamomilla* L.		
Erigeron veracruzensis G.L. Nesom			*Melampodium americanum* L.		
Eupatorium albicaule Sch. Bip. ex Klatt			*Melampodium divaricatum* DC.		
Eupatorium araliifolium Less			*Melampodium gracile* Less.		
Eupatorium collinum DC.			*Melampodium microcephalum* Less.		
Eupatorium leucocephalum Benth.			*Melampodium perfoliatum* Kunth		
Eupatorium schultzii Schnittsp.			*Melanthera angustifolia* A. Rich.		
Fleischmannia capillipes (Benth. ex Oerst.) R.M. King & H. Rob.			*Melanthera aspera* Steud.		
Fleischmannia pycnocephala (Less.) R.M. King & H. Rob.			*Melanthera nivea* (L.) Small		
Florestina liebmannii Sch.Bip. ex Greenm.			*Mikania houstoniana* B.L. Rob.		
Galeana pratensis Rydb.			*Mikania pyramidata* Donn. Sm.		
Galinsoga parviflora Cav.			*Milleria quinqueflora* L.		
Galinsoga quadriradiata Ruiz & Pav.			*Montanoa grandiflora* DC.		
Gnaphalium attenuatum DC.			*Montanoa tomentosa* Cerv.		
Gnaphalium berlandieri DC.			*Nelsonianthus tapianus* (B.L. Turner) C. Jeffrey		
Gnaphalium canescens DC.			*Neomirandea araliifolia* (Less.) R.M. King & H. Rob.		
Gnaphalium leucocephalum A. Gray			*Neurolaena lobata* R. Br.		
Gnaphalium obtusifolium L.			*Neurolaena macrophylla* Greenm.		
Gnaphalium oxyphyllum DC.			*Neurolaena venturana* B.L. Turner		
Gnaphalium purpureum L.			*Otopappus curviflorus* Hemsl.		
Gynura aurantiaca DC.			*Oxylobus adscendens* B.L. Rob. & Greenm.		
Helenium quadridentatum Labill.			*Packera coahuilensis* (Greenm.) C. Jeffrey		
Helianthus annuus L.			*Packera sanguisorbae* (DC.) C. Jeffrey		
Heliopsis buphthalmoides Dunal			*Packera tampicana* (DC.) C. Jeffrey		
Heterosperma pinnatum Cav.			*Palafoxia lindenii* A. Gray		
Heterotheca inuloides Cass.			*Parthenium fruticosum* Less.		
Hidalgoa ternata La Llave			*Pectis prostrata* Cav.		
Hieracium abscissum Less.			*Pentacalia parasitica* (Hemsl.) H. Rob. & Cuatrec.		
Hieracium pringlei A. Gray			*Perymeniopsis ovalifolia* (A. Gray) H. rob.		
Hymenostephium guatemalense S.F. Blake					
Isocarpha oppositifolia (L.) Cass.					
Iva asperifolia Less.					
Jaegeria hirta (Lag.) Less.					
Jaegeria macrocephala Less.					

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Perymenium gymnolomoides (Less.) DC.		
Pinaropappus roseus (Less.)		
Piqueria trinervia Cav.		
Pluchea carolinensis (Jacq.) D. Don.		
Pluchea salicifolia S.F. Blake		
Podachaenium eminens Baill.		
Porophyllum ruderale (Jacq.) Cass.		
Pseudelephantopus spicatus (Juss. ex Aubl.) C.F. Baker		
Pseudognaphalium brachypterum (DC.) Anderb.		
Pseudognaphalium roseum (Kunth) Anderb.		
Pseudogynoxys chenopodioides (Kunth) Cabrera		
Roldana angulifolia (DC.) H. Rob. & Brettell		
Roldana aschenborniana (S. Schauer) H. Rob. & Brettell		
Roldana barba-johannis (DC.) H. Rob. & Brettell		
Roldana hartwegii (Benth.) H. Rob. & Brettell		
Roldana marquezii (B.L. Turner) C. Jeffrey		
Roldana oaxacana (Hemsl.) H. Rob. & Brettell		
Roldana petasitis (Sims) H. Rob. & Brettel		
Roldana schaffneri (Sch. Bip. ex Klatt) H. Rob. & Brettell		
Roldana sinuata B.L. Turner		
Sabazia sarmentosa Less.		
Sanvitalia procumbens Lam.		
Schistocarpha bicolor Less.		
Schistocarpha eupatorioides (Fenzl) Kuntze		
Schistocarpha pedicellata Klatt		
Schkuhria pinnata (Lam.) Kuntze ex Thell.		
Sclerocarpus uniserialis Benth. & Hook. f.		
Senecio callosus Sch. Bip.		
Senecio deppeanus Hemsl.		
Senecio runcinatus Less.		
Senecio vulgaris L.		
Sigesbeckia agrestis Poepp.		
Sigesbeckia jorullensis Kunth		
Simsia amplexicaulis Pers.		
Simsia calva A. Gray		
Sinclairia andromachioides Sch. Bip. ex Hemsl.		
Sinclairia discolor Hook. & Arn.		
Sinclairia klattii (B.L. Rob. & Greenm.) H. Rob & Brettell		
Smallanthus maculatus (Cav.) H. Rob.		
Solidago altissima L.		
Solidago velutina DC.		
Soliva sessilis Ruiz & Pav.		
Sonchus asper (L.) Hill		
Sonchus oleraceus L.		
Spilanthes repens (Walter) Michx.		
Stevia jorullensis Kunth		
Stevia monardifolia Kunth		
Stevia origanoides Kunth		
Stevia ovata Willd.		
Stevia pilosa Lag.		
Stevia serrata Cav.		
Symphyotrichum expansum (Poepp. & Spreng.) G.L. Nesom		
Symphyotrichum moranense (Kunth) G.L. Nesom		
Symphyotrichum novi-belgii (L.) G.L. Nesom		
Symphyotrichum schaffneri (S.D. Sundb. & A.G. Jones) G.L. Nesom		
Tagetes erecta L.		
Tagetes filifolia Lag.		
Tagetes foetidissima DC.		
Tagetes lucida Cav.		
Taraxacum mexicanum DC.		
Taraxacum officinale F.H. Wigg.		
Telanthophora grandifolia (Less.) H. Rob. & Brettell		
Telanthophora uspantanensis (J.M. Coult.) H. Rob. & Brettell		
Tetrachyron manicatum Schltdl.		
Tithonia diversifolia A. Gray		
Tithonia longiradiata (Bertol.) S.F. Blake		
Tithonia rotundifolia (Mill.) S.F. Blake		
Tithonia tubiformis (Jacq.) Cass.		
Tragoceros schiedeanum Less.		
Tridax purpusii Brandegee		
Trigonospermum adenostemmoides Less.		
Trigonospermum annuum McVaugh & Lask.		
Verbesina angustifolia S.F. Blake		
Verbesina crocata (Cav.) Less.		
Verbesina encelioides (Cav.) Benth. & Hook. f. ex A. Gray		
Verbesina hypoglauca Sch. Bip. ex Klatt		
Verbesina myriocephala Sch. Bip. ex Klatt		
Verbesina ovatifolia A. Gray ex Hemsl.		
Verbesina persicifolia DC.		
Verbesina perymenioides Sch. Bip. ex Klatt		
Verbesina turbacensis Kunth		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059	SCIENTIFIC NAME	CITES	NOM- 059
Vernonanthura patens (Kunth) H. Rob.			*Alnus jorullensis* Kunth		
Vernonia arctioides Less.			*Carpinus caroliniana* Walter		◊
Viguiera cordata (Hook. & Arn.) D'Arcy			*Ostrya virginiana* Koch		◊
Viguiera grammatoglossa DC.			BIGNONIACEAE		
Wedelia acapulcensis Kunth			*Amphilophium molle* Schltdl. & Cham.		
Xanthium strumarium L.			*Amphitecna apiculata* A.H. Gentry		
Youngia japonica (L.) DC.			*Amphitecna latifolia* (Mill.) A.H. Gentry		
Zinnia americana (Mill.) Olorode & A.M. Torres			*Amphitecna tuxtlensis* A.H. Gentry		
Zinnia peruviana (L.) L.			*Anemopaegma puberulum* (Seibert) Miranda		
ATHYRIACEAE			*Arrabidaea blanchetii* A. DC.		
Diplazium cristatum Alston			*Arrabidaea inaequalis* Baill.		
Diplazium donnell-smithii Christ			*Bignonia alliacea* Lam.		
Diplazium franconis Liebm.			*Crescentia alata* Kunth		
Diplazium grandifolium Sw.			*Crescentia cujete* L.		
Diplazium plantaginifolium (L.) Urb.			*Cydista potosina* (K. Schum. & Loes.) Loes.		
Diplazium striatum (L.) Presl			*Dolichandra quadrivalvis* (Jacq.) L.G. Lohmann		
Diplazium ternatum Liebm.			*Jacaranda mimosifolia* D. Don		
Diplazium urticifolium Christ			*Macfadyena unguis-cati* (L.) A.H. Gentry		
BALSAMINACEAE			*Mansoa verrucifera* (Schltdl.) A.H. Gentry		
Impatiens walleriana Hook. f.			*Parmentiera aculeata* (Kunth) Seem.		
BASELLACEAE			*Pithecoctenium crucigerum* (L.) A.H. Gentry		
Anredera cordifolia (Ten.) Steenis			*Podranea ricasoliana* Sprague		
Anredera vesicaria (Lam.) C.F. Gaertn.			*Tabebuia chrysantha* (Jacq.) G. Nicholson		◊
BATACEAE			*Tabebuia ochracea* (Cham.) Standl.		
Batis maritima L.			*Tabebuia rosea* DC.		
BEGONIACEAE			BIXACEAE		
Begonia barkeri Knowles & Westc.			*Amoreuxia wrightii* A. Gray		◊
Begonia cucullata Willd.			*Bixa orellana* L.		
Begonia fischeri Schrank			BLECHNACEAE		
Begonia fusca Liebm.			*Blechnum asplenioides* Sw.		
Begonia glabra Aubl.			*Blechnum ensiforme* (Liebm.) C. Chr.		
Begonia gracilis Kunth			*Blechnum falciforme* (Liebm.) C. Chr.		
Begonia heracleifolia Cham. & Schltdl.			*Blechnum lehmannii* Hieron.		
Begonia incarnata Link & Otto			*Blechnum occidentale* L.		
Begonia ludicra A. DC.			*Blechnum polypodioides* Raddi		
Begonia maculata Raddi			*Blechnum pteropus* (Kuntze) Mett.		
Begonia manicata Brongn. Cels ex Vis.			*Blechnum schiedeanum* (Pr.) Hieron.		
Begonia multinervia Liebm.			*Blechnum stoloniferum* Mett.		
Begonia multistaminea Burt-Utley			*Blechnum varians* (Fourn.) C. Chr.		
Begonia nelumbonifolia Schltdl. & Cham.			*Woodwardia martinezii* Maxon ex Weath.		
Begonia oaxacana A. DC.			*Woodwardia spinulosa* M. Martens & Galeotti		
Begonia pudica L.B. Sm. & B.G. Schub.			*Woodwardia* × *semicordata* Mickel & Beitel		
BERBERIDACEAE					
Berberis lanceolata Benth.					
Berberis tenuifolia Lindl.					
Mahonia russellii N.P. Taylor					
BETULACEAE					
Alnus acuminata subsp. *arguta* (Schltdl.) Furlow					

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
BOMBACACEAE		
Pseudobombax ellipticum (Kunth) Dugand		
Quararibea funebris (La Llave) Vischer		
BORAGINACEAE		
Borago officinalis L.		
Cordia dentata Poir.		
Cordia dodecandra DC.		
Cordia foliosa M. Martens & Galeotti		
Cordia inermis (Mill.) I.M. Johnst.		
Cordia linnaei Stearn		
Cordia macrocephala (Desv.) Kunth		
Cordia spinescens L.		
Cynoglossum amabile Stapf & J.R. Drumm.		
Ehretia tinifolia L.		
Hackelia mexicana I.M. Johnst.		
Heliotropium angiospermum Murray		
Nama biflora Choisy		
Nama linearis D.L. Nash		
Tournefortia acutiflora M. Martens & Galeotti		
Tournefortia bicolor Sw.		
Tournefortia glabra L.		
Tournefortia mutabilis Vent.		
Wigandia urens Kunth		
BRASSICACEAE		
Brassica juncea (L.) Czern.		
Brassica rapa L.		
Capsella bursa-pastoris (L.) Medik.		
Cardamine bonariensis Pers.		
Cardamine fulcrata Greene		
Descurainia pinnata (Walter) Britton		
Lepidium schaffneri Thell.		
Lepidium virginicum L.		
Lobularia maritima (L.) Desv.		
Nasturtium officinale W.T. Aiton		
Raphanus raphanistrum L.		
Rorippa indica (L.) Hiern		
Sisymbrium irio L.		
BROMELIACEAE		
Aechmea bracteata Griseb.		
Aechmea lueddemanniana (K. Koch) Brongn. ex Mez		
Aechmea nudicaulis (L.) Griseb.		
Catopsis hahnii Baker		
Catopsis morreniana Mez		
Catopsis nutans Griseb.		
Catopsis paniculata E. Morren		
Catopsis sessiliflora Mez		
Catopsis wangerinii Mez & Wercklé		
Greigia oaxacana L.B. Sm.		
Hechtia schottii Baker		
Hechtia stenopetala Klotzsch		
Pitcairnia densiflora Brongn.		
Pitcairnia heterophylla (Lindl.) Beer		
Pitcairnia imbricata (Brongn.) Regel		
Pitcairnia karwinskyana Schult. & Schult. f.		
Pitcairnia ringens Link, Klotzsch & Otto		
Pitcairnia schiedeana Baker		
Racinaea ghiesbreghtii (Baker) M.A. Spencer & L.B. Sm.		
Tillandsia balbisiana Schult. f.		
Tillandsia belloensis W. Weber		
Tillandsia brachycaulos Schltdl.		
Tillandsia butzii Mez		
Tillandsia caput-medusae E. Morren		
Tillandsia chaetophylla Mez		
Tillandsia concolor L.B. Sm.		◊
Tillandsia fasciculata Sw.		
Tillandsia filifolia Schltdl. & Cham.		
Tillandsia flexuosa Sw.		◊
Tillandsia grandis Schltdl.		
Tillandsia gymnobotrya Baker		
Tillandsia heterophylla E. Morren		
Tillandsia imperialis E. Morren ex Roezl		◊
Tillandsia juncea Poir.		
Tillandsia kirchhoffiana Wittm.		
Tillandsia leiboldiana Schltdl.		
Tillandsia lucida E. Morren ex Baker		
Tillandsia macrochlamys Baker		
Tillandsia multicaulis Steud.		
Tillandsia nolleriana Ehlers		
Tillandsia polystachia (L.) L.		
Tillandsia pseudobaileyi C.S. Gardner		
Tillandsia punctulata Schltdl. & Cham.		
Tillandsia recurvata (L.) L.		
Tillandsia rubra Ruiz & Pav.		
Tillandsia schiedeana Steud.		
Tillandsia streptophylla Scheidw.		
Tillandsia tenuifolia L.		
Tillandsia tricolor Schltdl. & Cham.		◊
Tillandsia usneoides (L.) L.		
Tillandsia utriculata L.		
Tillandsia variabilis Schltdl.		
Tillandsia viridiflora Baker		
BRUNELLIACEAE		
Brunellia mexicana Standl.		
BURMANNIACEAE		
Apteria aphylla Small		
Dictyostega orobanchoides (Hook.) Miers		
BURSERACEAE		
Bursera arborea L. Riley		◊
Bursera cinerea Engl.		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Bursera grandifolia Engl.		
Bursera graveolens Triana & Planch.		
Bursera simaruba (L.) Sarg.		
Protium copal (Schltdl. & Cham.) Engl.		
CACTACEAE		
Acanthocereus tetragonus (L.) Hummelinck	Appendix II	
Aporocactus flagelliformis Lem.	Appendix II	◊
Aporocactus martianus Britton & Rose	Appendix II	
Cylindropuntia imbricata (Haw.) F.M. Knuth	Appendix II	
Disocactus ackermannii (Lindl.) Barthlott	Appendix II	
Disocactus phyllanthoides (DC.) Barthlott	Appendix II	◊
Epiphyllum caudatum Britton & Rose	Appendix II	
Epiphyllum crenatum (Lindl.) G. Don	Appendix II	
Epiphyllum oxypetalum Haw.	Appendix II	
Epiphyllum hookeri Haw.	Appendix II	
Hylocereus undatus (Haw.) Britton & Rose	Appendix II	
Mammillaria eriacantha Link & Otto ex Pfeiff.	Appendix II	
Mammillaria sartorii J.A. Purpus	Appendix II	
Neobuxbaumia euphorbioides (Haw.) Buxb.	Appendix II	
Nopalxochia phyllanthoides (DC.) Britton & Rose	Appendix II	
Opuntia decumbens Salm-Dyck	Appendix II	
Opuntia stricta (Haw.) Haw.	Appendix II	
Pereskiopsis kellermanii Rose		
Pilosocereus leucocephalus (Poselger) Byles & G.D. Rowley	Appendix II	
Pterocereus gaumeri (Britton & Rose) Th. MacDougall & Miranda	Appendix II	◊
Rhipsalis baccifera (Sol.) Stearn	Appendix II	
Selenicereus grandiflorus (L.) Britton & Rose	Appendix II	
Selenicereus hamatus (Scheidw.) Britton & Rose	Appendix II	
Selenicereus testudo (Karw. ex Zucc.) Buxb.	Appendix II	
Stenocereus griseus (Haw.) Buxb.	Appendix II	
Stenocereus pruinosus (Otto ex Pfeiff.) Buxb.	Appendix II	
CALCEOLARIACEAE		
Calceolaria mexicana Benth.		
Calceolaria tripartita Ruiz & Pav.		
CAMPANULACEAE		
Centropogon grandidentatus (Schltdl.) Zahlbr.		
Diastatea micrantha (Kunth) McVaugh		
Hippobroma longiflora (L.) G. Don		
Lobelia cardinalis L.		
Lobelia laxiflora subsp. *laxiflora* Kunth		
Lobelia picta B.L. Rob. & Seaton		
Lobelia sartorii Vatke		
Lobelia tarsophora Seaton ex Green		
Lobelia xalapensis Kunth		
Triodanis perfoliata subsp. *perfoliata* (L.) Nieuwl.		
CANNABACEAE		
Aphananthe monoica (Hemsl.) J.-F. Leroy		
Celtis iguanaea (Jacq.) Sarg.		
Lozanella enantiophylla (Donn. Sm.) Killip & C.V. Morton		
Trema micrantha (L.) Blume		
CANNACEAE		
Canna generalis L.H. Bailey & E.Z. Bailey		
Canna indica L.		
CAPPARACEAE		
Capparidastrum discolor (Donn. Sm.) Cornejo & Iltis		
Capparidastrum mollicellum (Standl.) Cornejo & Iltis		
Capparidastrum quiriguense (Standl.) Cornejo & Iltis		
Capparis flexuosa (L.) L.		
Crateva tapia L.		
Morisonia americana L.		
Quadrella incana (Kunth) Iltis & Cornejo		
Quadrella pringlei (Briq.) Iltis & Cornejo		
CAPRIFOLIACEAE		
Abelia floribunda Decne.		
Lonicera japonica Thunb.		
Valeriana clematitis Kunth		
Valeriana scandens Loefl.		
Valeriana urticifolia var. *scorpioides* (DC.) Barrie		
CARICACEAE		
Carica cauliflora Jacq.		
Carica papaya L.		
Jacaratia mexicana A. DC.		
CARYOPHYLLACEAE		
Arenaria decussata D.F.K. Schltdl. ex D.F.K. Schltdl.		
Arenaria lanuginosa (Michx.) Rohrb.		
Arenaria lycopodioides Willd. ex D.F.K. Schltdl.		
Arenaria reptans Hemsl.		
Cerastium glomeratum Thuill.		
Drymaria cordata (L.) Willd. ex Roem. & Schult.		
Drymaria glandulosa Bartl.		
Drymaria gracilis Cham. & Schltdl.		
Drymaria villosa Cham. & Schltdl.		
Stellaria media (L.) Vill.		
Stellaria nemorum L.		
Stellaria ovata Willd. ex D.F.K. Schltdl.		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
CASUARINACEAE		
Casuarina equisetifolia L.		
CELASTRACEAE		
Casearia aculeata Jacq.		
Celastrus pringlei Rose		
Elaeodendron trichotomum (Turcz.) Lundell		
Euonymus benthamii Lundell		
Euonymus occidentalis Nutt. Ex Torr.		
Hippocratea volubilis L.		
Maytenus texana Lundell		
Perrottetia longistylis Rose		
Perrottetia ovata Hemsl.		
Pristimera celastroides (Kunth) A.C. Sm.		
Quetzalia schiedeana (Loes.) Lundell		
Quetzalia stipitata (Lundell) Lundell		
Wimmeria bartlettii Lundell		
Wimmeria concolor Schltdl. & Cham.		
Wimmeria persicifolia Radlk.		
Zinowiewia integerrima Turcz.		
CERATOPHYLLACEAE		
Ceratophyllum demersum L.		
CHLORANTHACEAE		
Hedyosmum mexicanum C. Cordem.		
CHRYSOBALANACEAE		
Couepia polyandra Rose		
Hirtella triandra Sw.		
Licania platypus Fritsch		
CIBOTIACEAE		
Cibotium schiedei Schltdl. & Cham.		
CISTACEAE		
Helianthemum coulteri S. Watson		
CLEOMACEAE		
Andinocleome magnifica (Briq.) Iltis & Cochrane		
Cleome aculeata L.		
Cleome gigantea L.		
Cleome guianensis Aubl.		
Cleome gynandra L.		
Cleome speciosa Raf.		
Cleome spinosa Jacq.		
Cleome viscosa L.		
Tarenaya hassleriana (Chodat) Iltis		
CLETHRACEAE		
Clethra lanata M. Martens & Galeotti		
Clethra macrophylla M. Martens & Galeotti		
Clethra mexicana DC.		
Clethra pringlei S. Watson		
CLUSIACEAE		
Clusia guatemalensis Hemsl.		
Clusia lundellii Standl.		
Clusia quadrangula Bartlett		
Garcinia intermedia (Pittier)		
Hamel Mammea americana L.		

SCIENTIFIC NAME	CITES	NOM- 059
COCHLOSPERMACEAE		
Cochlospermum vitifolium (Willd.) Spreng.		
COMBRETACEAE		
Combretum farinosum Kunth		
Combretum fruticosum (Loefl.) Stuntz		
COMMELINACEAE		
Aneilema geniculatum (Jacq.) Woodson		
Callisia fragrans (Lindl.) Woodson		
Callisia multiflora (M. Martens & Galeotti) Standl.		
Callisia repens L.		
Campelia zanonia (L.) Kunth		
Commelina diffusa Burm. f.		
Commelina rufipes var. *glabrata* (D.R. Hunt) Faden & D.R. Hunt		
Commelina tuberosa L.		
Gibasis geniculata (Jacq.) Rohweder		
Gibasis oaxacana D.R. Hunt		
Gibasis pellucida (M. Martens & Galeotti) D.R. Hunt		
Phaeosphaerion leiocarpum Hassk. ex C.B. Clarke		
Tinantia erecta (Jacq.) Fenzl		
Tinantia standleyi Steyerm.		
Tradescantia commelinoides Schult. & Schult. f.		
Tradescantia pallida (Rose) D.R. Hunt		
Tradescantia spathacea Sw.		
Tradescantia zanonia (L.) Sw.		
Tradescantia zebrina Bosse		
Tripogandra disgrega (Kunth) Woodson		
Tripogandra purpurascens (S. Schauer) Handlos		
Tripogandra serrulata (Vahl) Handlos		
CONNARACEAE		
Rourea glabra Kunth		
CONVOLVULACEAE		
Convolvulus nodiflorus Desr.		
Cuscuta boldinghii Urb.		
Cuscuta jalapensis Schltdl.		
Cuscuta mitriformis Engelm. ex Hemsl.		
Dichondra argentea Humb. & Bonpl. ex Willd.		
Dichondra sericea Sw.		
Evolvulus alsinoides L.		
Ipomoea affinis M. Martens & Galeotti		
Ipomoea arborescens (Humb. & Bonpl. ex Willd.) G. Don		
Ipomoea batatas (L.) Lam.		
Ipomoea batatoides Choisy		
Ipomoea carnea Jacq. subsp. *fistulosa* (Mart. ex Choisy) D.F. Austin		
Ipomoea cholulensis Kunth		
Ipomoea costellata Torr.		
Ipomoea dumosa (Benth.) L.O. Williams		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Ipomoea hastigera Kunth		
Ipomoea hederifolia L.		
Ipomoea imperati (Vahl) Griseb.		
Ipomoea indica (Burm.) Merr.		
Ipomoea jalapa (L.) Pursh		
Ipomoea lindenii M. Martens & Galeotti		
Ipomoea mairetii Choisy		
Ipomoea neei (Spreng.) O'Donell		
Ipomoea nil (L.) Roth		
Ipomoea pauciflora M. Martens & Galeotti		
Ipomoea purga Hayne		
Ipomoea purpurea (L.) Roth		
Ipomoea setosa Ker Gawl.		
Ipomoea wolcottiana Rose		
Jacquemontia oaxacana (Meisn.) Hallier f.		
Jacquemontia sphaerostigma Rusby		
Jacquemontia tamnifolia (L.) Griseb.		
Merremia dissecta Hallier f.		
Merremia quinquefolia Hallier f.		
Merremia umbellata (L.) Hallier f.		
Turbina corymbosa (L.) Raf.		
CORNACEAE		
Cornus disciflora Moc. & Sessé ex DC.		
Cornus excelsa Kunth		
Costus dirzoi García-Mend. & Ibarra-Manr.		
Costus pictus D. Don ex Lindl.		
Costus pulverulentus C. Presl		
CRASSULACEAE		
Bryophyllum delagoensis (Eckl. & Zeyh.) Schinz		
Echeveria amoena D. Smet ex E. Morren		
Echeveria atropurpurea (Baker) É. Morren		
Echeveria microcalyx Britton & Rose		
Echeveria racemosa var. *citrina* Kimnach		
Echeveria rosea Lindl.		
Kalanchoe pinnata Pers.		
Sedum adolphi Raym.-Hamet		
Sedum botterii Hemsl.		
Sedum confusum Hemsl.		
Sedum dendroideum Moc. & Sessé ex DC.		
Sedum goldmanii (Rose) Moran		
Sedum hemsleyanum Rose		
Sedum hultenii Fröd.		
Sedum moranense Kunth		
Sedum nussbaumerianum Bitter		
Sedum palmeri S. Watson		
Villadia jurgensenii (Hemsl.) Jacobsen		
Villadia mexicana (Schltdl.) H. Jacobsen		
CUCURBITACEAE		
Cucumis anguria L.		
Cucumis sativus L.		
Cucurbita ficifolia Bouché		
Cucurbita martinezii L.H. Bailey		
Cucurbita maxima Duchesne		
Cyclanthera dissecta (Torr. & A. Gray) Arn.		
Cyclanthera explodens Naudin		
Cyclanthera langaei Cogn.		
Cyclanthera ribiflora Cogn.		
Cyclanthera tamnoides Cogn.		
Doyerea emetocathartica Grosourdy		
Hanburia mexicana Seem.		
Lagenaria siceraria (Molina) Standl.		
Luffa cylindrica M. Roem.		
Melothria pendula L.		
Microsechium palmatum Cogn.		
Momordica charantia L.		
Sechium edule Sw.		
Sicydium schiedeanum Schltdl.		
Sicyos longisepalus Cogn.		
Sicyos microphyllus Kunth		
Vaseyanthus insularis Rose		
CUNONIACEAE		
Weinmannia balbisiana Kunth		
Weinmannia pinnata L.		
CUPRESSACEAE		
Cupressus lindleyi Klotzsch ex Endl.		
Cupressus lusitanica Mill.		◊
Taxodium mucronatum Ten.		
CYATHEACEAE		
Cyathea bicrenata Liebm.	Appendix II	
Cyathea divergens Kunze		◊
Cyathea divergens var. *tuerckheimii* (Maxon) R.M. Tryon	Appendix II	
Cyathea fulva Fée	Appendix II	◊
Nephelea mexicana (Schltdl. & Cham.) R.M. Tryon		◊
Sphaeropteris horrida (Liebm.) R.M. Tryon		◊
Trichipteris schiedeana (C. Presl) R.M. Tryon		
CYCLANTHACEAE		
Asplundia labela (R.E. Schult.) Harling		
Asplundia liebmanniii Harling		
CYPERACEAE		
Bulbostylis capillaris (L.) Kunth ex C.B. Clarke		
Bulbostylis juncoides (Vahl) Kük. ex Osten		
Carex chordalis Liebm.		
Carex longii Mack.		
Carex lurida Wahlenb.		
Carex melanosperma Liebm.		
Carex perlonga Fernald		
Carex physorhyncha Liebm. ex Steud.		
Carex polystachya Sw. ex Wahlenb.		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Carex standleyana Steyerm.		
Carex vulpinoidea Michx.		
Cyperus aggregatus Endl.		
Cyperus digitatus Roxb.		
Cyperus filiculmis Vahl		
Cyperus flavus J. Presl & C. Presl		
Cyperus haspan L.		
Cyperus hermaphroditus Standl.		
Cyperus involucratus Rottb.		
Cyperus laxus Lam.		
Cyperus luzulae (L.) Rottb. ex Retz.		
Cyperus mutisii Andersson		
Cyperus odoratus L.		
Cyperus spectabilis Link		
Cyperus tenuis Sw.		
Cyperus thyrsiflorus Jungh.		
Cyperus virens Michx.		
Eleocharis geniculata (L.) Roem. & Schult.		
Eleocharis minima Kunth		
Eleocharis montana Roem. & Schult.		
Eleocharis nervata Svenson		
Fimbristylis autumnalis Roem. & Schult.		
Kyllinga brevifolia Rottb.		
Kyllinga odorata Vahl		
Kyllinga pumila Michx.		
Rhynchospora nervosa Boeckeler		
Rhynchospora aristata Boeckeler		
Rhynchospora corymbosa (L.) Britton		
Rhynchospora dives Standl.		
Rhynchospora polyphylla (Vahl) Vahl		
Rhynchospora radicans subsp. *radicans* (Schltdl. & Cham.) H. Pfeiff.		
Rhynchospora schiedeana Kunth		
Rhynchospora scutellata Griseb.		
Scleria bracteata Cav.		
Scleria macrophylla J. Presl & C. Presl		
Scleria melaleuca Rchb. ex Schltdl. & Cham.		
Scleria oligantha Michx.		
Uncinia hamata Urb.		
CYTINACEAE		
Bdallophytum americanum (R. Br.) Harms		
DAVALLIACEAE		
Nephrolepis exaltata (L.) Schott		
DENNSTAEDTIACEAE		
Dennstaedtia bipinnata (Cav.) Maxon		
Dennstaedtia dissecta (Sw.) T. Moore		
Hypolepis blepharochlaena Mickel & Beitel		
Pteridium caudatum (L.) Maxon		
DICKSONIACEAE		
Dicksonia sellowiana Hook.	Appendix II	◊
Lophosoria quadripinnata (J.F. Gmel.) C. Chr.		
DILLENIACEAE		
Tetracera erecta Sessé & Moc. ex DC.		
DIOSCOREACEAE		
Dioscorea composita Hemsl.		
Dioscorea convolvulacea Cham. & Schltdl.		
Dioscorea cruzensis R. Knuth		
Dioscorea floribunda M. Martens & Galeotti		
Dioscorea mexicana Scheidw.		
Dioscorea pallens Schltdl.		
Dioscorea polygonoides Humb. & Bonpl. ex Willd.		
Dioscorea spiculiflora var. *fasciculocongesta* V. Sosa & B.G.		
DRYOPTERIDACEAE		
Arachniodes denticulata (Sw.) Ching		
Bolbitis hastata (E. Fourn.) Hennipman		
Bolbitis semipinnatifida (Fée) Alston		
Ctenitis equestris var. *equestris* (Kunze) Ching		
Ctenitis melanosticta (Kunze) Copel.		
Cystopteris fragilis (L.) Bernh.		
Didymochlaena truncatula (Sw.) J. Sm.		
Dryopteris filix-mas (L.) Schott		
Dryopteris maxonii Underw. & C. Chr.		
Dryopteris patula (Sw.) Underw.		
Dryopteris wallichiana (Spreng.) Hyl.		
Elaphoglossum davidsei Mickel		
Elaphoglossum guatemalense (Klotzsch) T. Moore		
Elaphoglossum mesoamericanum A. Rojas		
Elaphoglossum obovatum Mickel		
Elaphoglossum petiolatum (Sw.) Urb.		
Elaphoglossum seminudum Mickel		
Elaphoglossum vestitum (Schltdl. & Cham.) T. Moore		
Lastreopsis effusa (Sw.) Tindale		
Megalastrum subincisum (Willd.) A.R. Sm. & R.C. Moran		
Phanerophlebia gastonyi Yatsk.		
Phanerophlebia macrosora (Baker) Underw.		
Phanerophlebia nobilis var. *remotispora* (E. Fourn.) Yatsk.		
Phanerophlebia remotispora E. Fourn.		
Polystichum hartwegii (Klotzsch) Hieron.		
Polystichum mickelii A.R. Sm.		
Polystichum muricatum Fée		
Stigmatopteris longicaudata (Liebm.) C. Chr.		
EBENACEAE		
Diospyros riojae Gómez Pompa		◊
Diospyros verae-crucis Standl.		
EQUISETACEAE		
Equisetum giganteum L.		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059	SCIENTIFIC NAME	CITES	NOM- 059
Equisetum hyemale L.			*Cnidoscolus aconitifolius* (Mill.) I.M. Johnst.		
Equisetum myriochaetum Schltdl. & Cham.					
ERICACEAE			*Cnidoscolus multilobus* (Pax) I.M. Johnst.		
Agarista mexicana (Hemsl.) Judd					
Andromeda squamulosa D. Don			*Cnidoscolus tubulosus* I.M. Johnst.		
Arbutus xalapensis Kunth			*Codiaeum variegatum* (L.) A. Juss.		
Bejaria aestuans Loefl.			*Croton billbergianus* Müll. Arg.		
Chimaphila maculata (L.) Pursh			*Croton ciliatoglandulifer* Ortega		
Chimaphila umbellata (L.) W.P.C. Barton			*Croton ciliatoglandulosus* Ortega ex Steud.		◊
Comarostaphylis discolor (Hook.) Diggs		◊			
Gaultheria acuminata Cham. & Schltdl.			*Croton discolor* Willd.		
Gaultheria erecta Banks & Sol. Ex Hook. f.			*Croton draco* Schltdl.		
			Croton flavens L.		
Lyonia ferruginea (Walter) Nutt.			*Croton hirtus* L'Hér.		
Lyonia squamulosa M. Martens & Galeotti			*Croton liebmannii* Müll. Arg.		
			Croton lobatus L.		
Monotropa uniflora L.			*Croton miradorensis* Müll. Arg.		
Pernettya prostrata Sleumer			*Croton nitens* Sw.		
Pyrola angustifolia (Alef.) Hemsl.			*Croton niveus* Jacq.		
Vaccinium confertum Kunth			*Croton panamensis* Müll. Arg.		
Vaccinium leucanthum Schltdl.			*Croton punctatus* Retz.		
EUPHORBIACEAE			*Croton reflexifolius* Kunth		
Acalypha adenostachya Müll. Arg.			*Croton repens* Schltdl.		
Acalypha alopecuroidea Jacq.			*Croton schiedeanus* Schltdl.		
Acalypha arvensis Poepp.			*Croton soliman* Cham. & Schltdl.		
Acalypha botteriana Müll. Arg.			*Croton stipulaceus* Kunth		
Acalypha diversifolia Jacq.			*Croton suberosus* Kunth		
Acalypha hispida Burm. f.			*Croton xalapensis* Kunth		
Acalypha indica L.			*Dalechampia scandens* L.		
Acalypha leptopoda Müll. Arg.			*Ditaxis guatemalensis* Pax & K. Hoffm.		
Acalypha longistipularis Müll. Arg.			*Euphorbia prostrata* Aiton	Appendix II	
Acalypha mollis Kunth			*Euphorbia calcarata* (Schltdl.) V.W. Steinm.	Appendix II	
Acalypha neomexicana Müll. Arg.					
Acalypha pohliana Müll. Arg.			*Euphorbia cyathophora* Murray	Appendix II	
Acalypha poiretii Spreng.			*Euphorbia cymosa* Poir.	Appendix II	
Acalypha schiedeana Schltdl.			*Euphorbia delicatula* Boiss.	Appendix II	
Acalypha schlechtendaliana Müll. Arg.			*Euphorbia densiflora* (Klotzsch & Garcke) Klotzsch	Appendix II	
Acalypha schlumbergeri Müll. Arg.					
Acalypha setosa A. Rich.			*Euphorbia dentata* Michx.	Appendix II	
Acalypha subviscida S. Watson			*Euphorbia dioeca* Kunth	Appendix II	
Acalypha villosa Jacq.			*Euphorbia filiformis* (P.R.O. Bally) Bruyns	Appendix II	
Acalypha wilkesiana Müll. Arg.			*Euphorbia finkii* (Boiss.) V.W. Steinm.	Appendix II	◊
Adelia barbinervis Cham. & Schltdl.			*Euphorbia graminea* Jacq.	Appendix II	
Adelia oaxacana Hemsl.			*Euphorbia heterophylla* L.	Appendix II	
Alchornea latifolia Sw.			*Euphorbia hirta* L.	Appendix II	
Argythamnia heterantha (Zucc.) Müll. Arg.			*Euphorbia hypericifolia* L.	Appendix II	
			Euphorbia hyssopifolia L.	Appendix II	
Bernardia dodecandra (Sessé ex Cav.) McVaugh			*Euphorbia ixtlana* Huft	Appendix II	
			Euphorbia lancifolia Schltdl.	Appendix II	
Bernardia macrocarpa A.Cerv. & Flores Olv.			*Euphorbia macropus* Boiss.	Appendix II	
			Euphorbia maculata L.	Appendix II	
Bernardia mexicana Müll. Arg.			*Euphorbia marginata* Pursh	Appendix II	
Caperonia palustris Kunth			*Euphorbia mendezii* Boiss.	Appendix II	
Chamaesyce densiflora (Klotzsch & Garcke) Millsp.			*Euphorbia neriifolia* L.		
			Euphorbia nutans Lag.	Appendix II	
Chamaesyce hirta (L.) Millsp.			*Euphorbia ocymoidea* L.	Appendix II	
Chamaesyce stictospora (Engelm.) Small			*Euphorbia orizabae* Boiss.	Appendix II	

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Euphorbia schlechtendalii Boiss.	Appendix II	
Euphorbia subreniformis S. Watson	Appendix II	
Euphorbia tithymaloides L.	Appendix II	
Euphorbia xalapensis Kunth	Appendix II	
Garcia nutans Rohr		
Gymnanthes actinostemoides Müll. Arg.		
Gymnanthes longipes Müll. Arg.		
Gymnanthes riparia Klotzsch		
Jatropha curcas L.		
Jatropha podagrica Hook.		
Manihot aesculifolia Pohl		
Manihot rhomboidea Mull Arg.		
Pleradenophora tuerckheimiana (Pax & K. Hoffm.) A. L. Melo & Esser		
Plukenetia volubilis L.		
Ricinus communis L.		
Sapium lateriflorum Hemsl.		
Sebastiania pavoniana Müll. Arg.		
Tragia nepetifolia Cav.		
Tragia yucatanensis Millsp.		
FABACEAE		
Abrus precatorius L.		
Acacia angustissima (Mill.) Kuntze		
Acacia berlandieri Benth.		
Acacia glauca (L.) Moench		
Acacia macracantha Humb. & Bonpl. ex Willd.		
Acacia sphaerocephala Cham. & Schltdl.		
Acacia tortuosa (L.) Willd.		
Aeschynomene fascicularis Cham. & Schltdl.		
Aeschynomene purpusii Brandegee		
Albizia tomentosa Standl.		
Amicia zygomeris DC.		
Amphicarpaea bracteata (L.) Fernald		
Andira inermis (W. Wright) DC.		
Arachis hypogaea L.		
Bauhinia divaricata L.		
Bauhinia latifolia Cav.		
Bauhinia mexicana Vogel		
Bauhinia purpurea L.		
Caesalpinia bonduc Roxb.		
Caesalpinia cacalaco Bonpl.		
Caesalpinia pulcherrima (L.) Sw.		
Cajanus cajan (L.) Huth		
Calliandra anomala (Kunth) J.F. Macbr.		
Calliandra capillata Benth.		
Calliandra emarginata (Humb. & Bonpl. ex Willd.) Benth.		
Calliandra houstoniana (Mill.) Standl.		
Calliandra laxa (Willd.) Benth.		
Calliandra palmeri S. Watson		
Calliandra portoricensis (Jacq.) Benth.		
Calliandra rubescens (M. Martens & Galeotti) Standl.		
Calliandra rupestris Brandegee		
*Calliandra sprague*i (Britton & Rose) Lundell		
Calliandra tergemina (L.) Benth.		
Calopogonium mucunoides Desv.		
Canavalia brasiliensis Mart. ex Benth.		
Cassia grandis L. f.		
Centrosema pascuorum Mart. ex Benth.		
Centrosema plumieri Benth.		
Centrosema virginianum (L.) Benth.		
Chamaecrista diphylla (L.) Greene		
Chamaecrista glandulosa Greene		
Chamaecrista hispidula (Vahl) H.S. Irwin & Barneby		
Chamaecrista kunthiana (Schltdl.) & Cham.) H.S. Irwin & Barneby		
Chamaecrista rufa Britton & Rose		
Chloroleucon mangense (Jacq.) Britton & Rose		
Clitoria falcata Lam.		
Clitoria mexicana Link		
Cojoba arborea (L.) Britton & Rose		
Cologania broussonetii DC.		
Cologania hirta Rose		
Coursetia caribaea var. *caribaea* (Jacq.) Lavin		
Crotalaria bupleurifolia Schltdl. & Cham.		
Crotalaria incana L.		
Crotalaria maypurensis Kunth		
Crotalaria micans Link		
Crotalaria nitens Kunth		
Crotalaria pumila Ortega		
Crotalaria quercetorum Brandegee		
Crotalaria rotundifolia (Walter) J.F. Gmel.		
Crotalaria rzedowskii J. Espinosa		
Crotalaria sagittalis L.		
Dalbergia monetaria L.f.		
Dalea carthagenensis (Jacq.) J.F. Macbr.		
Dalea foliolosa (Aiton) Barneby var. *citrina* (Rydb.) Barneby		
Dalea leporina (Aiton) Bullock		
Dalea scandens var. *scandens* (Mill.) R.T. Clausen		
Desmanthus virgatus (L.) Willd.		
Desmodium adscendens (Sw.) DC.		
Desmodium affine Schltdl.		
Desmodium angustifolium (Kunth) DC.		
Desmodium axillare DC.		
Desmodium caripense (Kunth) G. Don		
Desmodium distortum (Aubl.) J.F. Macbr.		
Desmodium glutinosum (Muhl. ex Willd.) Wood		
Desmodium grahamii A. Gray		
Desmodium helleri Peyr.		
Desmodium incanum (G.Mey.) DC.		
Desmodium infractum DC.		
Desmodium intortum (Mill.) Urb.		
Desmodium leptoclados Hemsl.		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Desmodium nicaraguense Oerst. Ex Benth. & Orst.		
Desmodium nudiflorum (L.) DC.		
Desmodium orbiculare Schltdl.		
Desmodium plicatum Cham. & Schltdl.		
Desmodium prehensile Schltdl.		
Desmodium procumbens (Mill.) Hitchc.		
Desmodium psilophyllum Schltdl.		
Desmodium purpusii Brandegee		
Desmodium sessilifolium Torr. & A. Gray		
Desmodium strobilaceum Schltdl.		
Desmodium tortuosum (Sw.) DC.		
Diphysa carthagenensis Jacq.		
Diphysa macrophylla Lundell		
Diphysa minutifolia Rose		
Diphysa sennoides Benth. ex Benth. & Oerst.		
Dussia mexicana Harms		
Enterolobium cyclocarpum (Jacq.) Griseb.		
Eriosema diffusum G. Don		
Eriosema grandiflorum G. Don		
Erythrina americana Mill.		
Erythrina berenices Krukoff & Barneby		
Erythrina flabelliformis Kearney		
Erythrina folkersii Krukoff & Moldenke		
Eysenhardtia polystachya (Ortega) Sarg.		
Galactia striata Urb.		
Gliricidia sepium Kunth		
Indigofera jamaicensis Spreng.		
Indigofera thibaudiana DC.		
Inga flexuosa Graham		
Inga jinicuil Schltdl.		
Inga latibracteata Harms		
Inga micheliana Harms		
Inga paterno Harms		
Inga punctata Willd.		
Inga sapindoides Willd.		
Inga vera Willd.		
Lennea brunnescens Standl.		
Lennea melanocarpa Vatke ex Harms		
Leucaena diversifolia Benth.		
Leucaena lanceolata S. Watson		
Leucaena leucocephala (Lam.) de Wit		
Leucaena pulverulenta Benth.		
Lonchocarpus guatemalensis Benth.		
Lonchocarpus santarosanus Donn. Sm.		
Lotus angustifolius Gouan		
Lupinus elegans Kunth		
Lysiloma acapulcense (Kunth) Benth.		
Lysiloma auritum (Schltdl.) Benth.		
Lysiloma divaricatum Benth		
Lysiloma microphyllum Benth.		
Machaerium biovulatum Micheli		
Machaerium chiapense Brandegee		
Macroptilium atropurpureum Urb.		
Macroptilium gibbosifolium (Ortega) A. Delgado		
Macroptilium lathyroides (L.) Urb		
Marina scopa Barneby		
Medicago lupulina L.		
Melilotus indicus (L.) All.		
Mimosa affinis B.L. Rob.		
Mimosa albida Humb. & Bonpl. ex Willd.		
Mimosa caerulea Rose		
Mimosa ervendbergii A. Gray		
Mimosa invisa Mart. ex Colla		
Mimosa pigra L.		
Mimosa polyantha Willd.		
Mimosa pudica L.		
Mucuna argyrophylla Standl.		
Mucuna jarocha T.M. Moura, Mansano, Gereau & A.M.G. Azevedo		
Mucuna pruriens (L.) DC.		
Phaseolus anisotrichos Schltdl.		
Phaseolus coccineus L.		
Phaseolus glabellus Piper		
Phaseolus lunatus L.		
Phaseolus pedicellatus Benth.		
Phaseolus vulgaris L.		
Piscidia piscipula (L.) Sarg.		
Pithecellobium lanceolatum Benth.		
Rhynchosia erythrinoides Schltdl. & Cham.		
Rhynchosia longeracemosa M. Martens & Galeotti		
Rhynchosia phaseoloides (Sw.) DC.		
Rhynchosia pyramidalis Urb.		
Senna atomaria (L.) H.S. Irwin & Barneby		
Senna bacillaris (L.f.) H.S. Irwin & Barneby		
Senna cobanensis (Britton) H.S. Irwin & Barneby		
Senna didymobotrya (Fresen.) H. S. Irwin & Barnby		
Senna fruticosa (Mill.) H.S. Irwin & Barneby		
Senna leiophylla (Vogel) H.S. Irwin & Barneby		
Senna mexicana (Jacq.) H.S. Irwin & Barneby		
Senna multiglandulosa (Jacq.) H.S. Irwin & Barneby		
Senna occidentalis (L.) Link		
Senna pallida (Vahl) H.S. Irwin & Barneby		
Senna papillosa (Britton & Rose) H.S. Irwin & Barneby		
Senna pendula (Humb. & Bonpl. ex Willd.) H.S. Irwin & Barneby		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Senna septemtrionalis (Viv.) H.S. Irwin & Barneby		
Senna spectabilis (DC.) H.S. Irwin & Barneby		
Senna uniflora (Mill.) H.S. Irwin & Barneby		
Senna villosa (Mill.) H.S. Irwin & Barneby		
Stylosanthes guianensis (Aubl.) Sw.		
Stylosanthes humilis Kunth		
Stylosanthes viscosa (L.) Sw.		
Tamarindus indica L.		
Tephrosia belizensis Lundell		
Tephrosia nitens Benth.		
Tephrosia vicioides Schltdl.		
Teramnus labialis (L.f.) Spreng.		
Trifolium amabile Kunth		
Trifolium repens L.		
Vicia faba L.		
Vigna luteola (Jacq.) Benth.		
Vigna speciosa (Kunth) Verdc.		
Vigna vexillata (L.) A. Rich.		
Zapoteca Formosa (Kunth) H.M. Hern.		
Zapoteca lambertiana (G. Don) H.M. Hern.		
Zapoteca portoricensis (Jacq.) H.M. Hern.		
Zornia reticulata Sm.		
Zygia cognata (Schltdl.) Britton & Rose		
FAGACEAE		
Fagus grandifolia Ehrh. var. *mexicana* (Martínez) Little		◊
Quercus acutifolia Née		
Quercus affinis Scheidw.		
Quercus candicans Née		
Quercus castanea Née		
Quercus conspersa Benth		
Quercus cortesii Liebm.		
Quercus crassifolia Bonpl.		
Quercus crassipes Bonpl.		
Quercus depressa Bonpl.		
Quercus elliptica Née		
Quercus germana Schltdl. & Cham.		
Quercus ghiesbreghtii M. Martens & Galeotti		
Quercus glabrescens Benth.		
Quercus laeta Liebm.		
Quercus lancifolia Schltdl. & Cham.		
Quercus laurina Bonpl.		
Quercus obtusata Bonpl.		
Quercus oleoides Schltdl. & Cham.		
Quercus peduncularis Née		
Quercus pinnativenulosa C.H. Mull.		
Quercus polymorpha Schltdl. & Cham.		
Quercus rugosa Née		
Quercus salicifolia Née		
Quercus sapotifolia Liebm.		
Quercus sartorii Liebm.		
Quercus sebifera Trel.		
Quercus splendens Née		
Quercus xalapensis Bonpl.		
GARRYACEAE		
Garrya laurifolia Hartw. ex Benth.		
GELSEMIACEAE		
Gelsemium sempervirens (L.) J. St.- Hil.		
GENTIANACEAE		
Gentiana ovatiloba Kusnezow		
Gentiana spathacea Kunth		◊
Halenia brevicornis (Kunth) G. Don		
Halenia schiedeana Griseb.		
GERANIACEAE		
Erodium cicutarium (L.) L'Hér. ex Aiton		
Geranium schiedeanum Schltdl.		
Geranium seemannii Peyr.		
Pelargonium peltatum (L.) L'Hér.		
GESNERIACEAE		
Besleria cyrtanthemum Hanst.		
Columnea schiedeana Schltdl.		
Kohleria deppeana (Schltdl. & Cham.) Fritsch		
Kohleria elegans Loes.		
Kohleria papillosa Fritsch		
Kohleria rugata (Scheidw.) L.P. Kvist & L.E. Skog		
Kohleria spicata (Kunth) Oerst.		
Kohleria viminalis Brandegee		
Moussonia deppeana (Schltdl. & Cham.) Hanst.		
Moussonia fruticosa (Brandegee) Wiehler		
Moussonia triflora Hanst.		
Rhynchoglossum azureum (Schltdl.) B.L. Burtt		
Sinningia speciosa Hiern		
Smithiantha zebrine Kuntze		
Solenophora glomerata Weigend & Förther		
GLEICHENIACEAE		
Diplopterygium bancroftii (Hook.) A.R. Sm.		
Gleichenella pectinata (Willd.) Ching		
Gleichenia palmata (Schaffn.) T. Moore		
Sticherus bifidus (Willd.) Ching		
GUNNERACEAE		
Gunnera mexicana Brandegee		
HAMAMELIDACEAE		
Hamamelis virginiana L.		
Matudaea trinervia Lundell		◊
HELICONIACEAE		
Heliconia adflexa Standl.		
Heliconia latispatha Benth.		
Heliconia schiedeana Klotzsch		
Heliconia wagneriana Petersen		
HERNANDIACEAE		
Gyrocarpus americanus Jacq.		
Hernandia sonora L.		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Hernandia wendtii Espejo		
HYDRANGEACEAE		
Hydrangea hortensis Sm.		
Hydrangea macrophylla (Thunb.) Ser.		
Hydrangea nebulicola Nevling & Gómez Pompa		◊
Philadelphus affinis Schltdl.		
Philadelphus mexicanus Schltdl.		
Philadelphus pueblanus S.Y. Hu		
HYMENOPHYLLACEAE		
Hymenophyllum fucoides Sw.		
Hymenophyllum hirsutum (L.) Sw.		
Hymenophyllum polyanthos (Sw.) Sw.		
Hymenophyllum trapezoidale Liebm.		
Hymenophyllum tunbridgense (L.) Sm.		
Trichomanes bucinatum Mickel & Beitel		
Trichomanes capillaceum L.		
Trichomanes collariatum Bosch		
Trichomanes crispum L.		
Trichomanes hymenophylloides Bosch		
Trichomanes krausii Hook. & Grev.		
Trichomanes radicans Sw.		
Trichomanes reptans Sw.		
HYPERICACEAE		
Ascyrum hypericoides L.		
Hypericum formosum Kunth		
Hypericum hypericoides (L.) Crantz		
Hypericum oaxacanum R. Keller ex N. Robson subsp. *veracrucense* N. Robson		
Hypericum pratense Cham. &Schltdl.		
Hypericum silenoides Juss.		
Hypericum simulans Rose		
HYPOXIDACEAE		
Hypoxis decumbens L.		
IRIDACEAE		
Alophia veracruzana Goldblatt & T.M. Howard		
Eleutherine latifolia (Standl. & L.O. Williams) Ravenna		
Neomarica gracilis Sprague		
Neomarica variegata (M. Martens & Galeotti) Henrich & Goldblatt		
Orthrosanthus exsertus (R.C. Foster) Ravenna		
Sisyrinchium angustifolium Mill.		
Sisyrinchium convolutum Nocca		
Sisyrinchium micranthum Cav.		
Sisyrinchium scabrum Schltdl. & Cham		
Sisyrinchium schaffneri S. Watson		
Sisyrinchium tinctorium Kunth		
Tigridia pavonia (L. f.) DC.		
Tritonia × *crocosmiiflora* G. Nicholson		
JUGLANDACEAE		
Carya ovata (Mill.) K. Koch var. *mexicana* (Engelm. Ex Hemsl.) W.E. Manning		
Juglans pyriformis Liebm.		◊
JUNCACEAE		
Juncus effusus L.		
Luzula caricina E. Mey.		
LACISTEMATACEAE		
Lacistema aggregatum (P.J. Bergius) Rusby		
LAMIACEAE		
Aegiphila deppeana Steud.		
Agastache mexicana (Kunth) H.P. Kelsey & Dayton		
Agastache palmeri (B.L. Rob.) Standl.		
Asterohyptis mociniana (Benth.) Epling		
Asterohyptis stellulata (Benth.) Epling		
Clerodendrum bungei Steud.		
Clerodendrum japonicum (Thunb.) Sweet		
Clerodendrum ligustrinum R. Br.		
Clerodendrum philippinum Schauer		
Clerodendrum thomsoniae Balf.		
Clinopodium brownei (Sw.) Kuntze		
Cornutia pyramidata L.		
Cunila lythrifolia Benth.		
Cunila polyantha Benth.		
Hedeoma piperita Benth.		
Hyptis albida Kunth		
Hyptis atrorubens Poit.		
Hyptis capitata Jacq.		
Hyptis pectinata Poit.		
Hyptis suaveolens (L.) Poit.		
Hyptis urticoides Kunth		
Leonurus japonicus Houtt.		
Lepechinia caulescens (Ortega) Epling		
Lepechinia schiedeana Vatke		
Marrubium vulgare L.		
Marsypianthes chamaedrys (Vahl) Kuntze		
Melissa officinalis L.		
Mentha spicata L.		
Monarda malloryi Gilly		
Ocimum basilicum L.		
Ocimum carnosum (Spreng.) Link & Otto ex Benth		
Origanum vulgare L.		
Pogostemon cablin Benth.		
Prunella vulgaris L.		
Rosmarinus officinalis L.		
Salvia albiflora M. Martens & Galeotti		
Salvia arthrocoma Fernald		
Salvia biserrata M. Martens & Galeotti		
Salvia carnea Kunth		
Salvia chazaroana B.L. Turner		
Salvia coccinea Buc'hoz ex Etl.		
Salvia elegans Vahl		
Salvia hispanica L.		
Salvia involucrata Cav.		
Salvia lasiocephala Hook. & Arn.		
Salvia lavanduloides Kunth		
Salvia leucantha Cav.		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Salvia longispicata M. Martens & Galeotti		
Salvia microphylla Kunth		
Salvia misella Kunth		
Salvia mocinoi Benth.		
Salvia nana Kunth		
Salvia occidentalis Sw.		
Salvia polystachia Cav.		
Salvia protracta Benth.		
Salvia purpurea Cav.		
Salvia recurva Benth.		
Salvia rubiginosa Benth.		
Salvia splendens ex Wied-Neuw		
Salvia thyrsiflora Benth.		
Salvia tiliifolia Vahl		
Salvia xalapensis Benth.		
Salvia zacuapanensis Briq.		
Scutellaria dumetorum Schltdl.		
Scutellaria racemosa Pers.		
Scutellaria seleriana Loes.		
Scutellaria splendens Link, Klotzsch & Otto		
Stachys agraria Schltdl. & Cham.		
Stachys biflora Hook & Arn.		
Stachys boraginoides Schltdl. & Cham.		
Stachys coccinea Ortega		
Stachys nepetifolia Desf.		
Stachys pringlei Greenm.		
Stachys radicans Epling		
Stachys rotundifolia Moc. & Sessé ex Benth.		
Teucrium vesicarium Mill.		
LAURACEAE		
Beilschmiedia anay (S.F. Blake) Kosterm.		
Beilschmiedia mexicana (Mez) Kosterm.		
Cassytha filiformis L.		
Cinnamomum amplexicaule (Cham. & Schltdl.) Kosterm.		
Cinnamomum effusum (Meisn.) Kosterm.		
Cinnamomum leptophyllum Lorea-Hern.		
Cinnamomum pachypodum (Nees) Kosterm.		
Cinnamomum padiforme (Standl. & Steyerm.) Kosterm.		
Cinnamomum triplinerve (Ruiz & Pav.) Kosterm.		
Cinnamomum zeylanicum Blume		
Licaria capitata (Cham. & Schltdl.) Kosterm.		
Licaria misantlae (Brandegee) Kosterm.		
Licaria peckii (I.M. Johnst.) Kosterm.		
Litsea glaucescens Kunth	◊	
Litsea neesiana (S. Schauer) Hemsl.		
Nectandra ambigens (S.F. Blake) C.K. Allen		
Nectandra coriacea Griseb.		
Nectandra lundellii C.K. Allen .		
Nectandra membranacea (Sw.) Griseb		
Nectandra salicifolia Kunth		
Nectandra sanguinea Rol.		
Ocotea acuminatissima (Lundell) Rohwer		
Ocotea dendrodaphne Mez		
Ocotea helicterifolia (Meisn.) Hemsl.		
Ocotea heydeana (Mez & Donn. Sm.) Bernardi		
Ocotea klotzschiana (Nees) Hemsl.		
Ocotea psychotrioides Kunth		
Ocotea uxpanapana T. Wendt & van der Werff		
Persea americana Mill.		
Persea chamissonis Mez		
Persea cinerascens S.F. Blake		
Persea donnell-smithii Mez		
Persea liebmannii Mez		
Persea longipes Meisn.		
Persea schiedeana Nees		
Persea standleyi C.K. Allen		
LEMNACEAE		
Lemna minor L.		
LENTIBULARIACEAE		
Pinguicula emarginata Zamudio & Rzed.		
Pinguicula macrophylla Kunth		
Pinguicula moranensis Kunth		
LILIACEAE		
Lilium candidum L.		
LINACEAE		
Linum orizabae Planch.		
Linum schiedeanum Schltdl. & Cham.		
Linum tenellum Cham.& Schltdl.		
LINDSAEACEAE		
Lonchitis hirsuta L.		
Odontosoria schlechtendalii (Pr.) C. Chr.		
LOASACEAE		
Eucnide hirta (Pav. ex G. Don) H.J. Thomps. & W.R. Ernst		
Gronovia scandens L.		
Loasa triphylla Juss		
Mentzelia hispida Willd.		
LOGANIACEAE		
Spigelia anthelmia L.		
Spigelia scabra Cham. & Schltdl.		
LORANTHACEAE		
Psittacanthus schiedeanus Blume		
Struthanthus crassipes Eichler		
Struthanthus deppeanus Blume		
Struthanthus marginatus Blume		
Struthanthus quercicola Blume		
LYCOPODIACEAE		
Huperzia dichotoma (Jacq.) Trevis.		◊
Huperzia linifolia (L.) Trevis		
Huperzia pithyoides (Schltdl. & Cham.) Holub		
Huperzia reflexa (Lam.) Trevis.		
Huperzia taxifolia (Sw.) Trevis		
Lycopodiella cernua (L.) Pic. Serm.		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059	SCIENTIFIC NAME	CITES	NOM- 059
Lycopodium cernuum L.			Sweet *Abutilon vexillarium* E.		
Lycopodium clavatum L.			Morren *Anoda acerifolia* Cav.		
Lycopodium thyoides Willd.			*Anoda cristata* (L.) Schltdl.		
LYGODIACEAE			*Ayenia micrantha* Standl.		
Lygodium venustum Sw.			*Ayenia purpusii* Brandegee		
LYTHRACEAE			*Bakeridesia ferruginea* (Martyn) Krapov.		
Adenaria floribunda Kunth			*Bastardia viscosa* (L.) Kunth		
Cuphea aequipetala Cav.			*Belotia mexicana* K. Schum.		
Cuphea calaminthifolia Schltdl.			*Byttneria catalpifolia* Jacq.		
Cuphea carthagenensis (Jacq.) J.F. Macbr.			*Carpodiptera ameliae* Lundell		
Cuphea cyanea DC.			*Ceiba aesculifolia* (Kunth) Britten & Baker f.		
Cuphea decandra W.T. Aiton			*Corchorus hirtus* L.		
Cuphea hyssopifolia Griseb.			*Corchorus orinocensis* Kunth		
Cuphea micropetala Baill.			*Corchorus siliquosus* L.		
Cuphea nitidula Kunth			*Corchorus tridens* L.		
Cuphea pinetorum Benth.			*Dombeya* × *cayeuxii* André		
Cuphea procumbens Ortega			*Fuertesimalva limensis* (L.) Fryxell		
Cuphea racemosa (L. f.) Spreng.			*Guazuma ulmifolia* Lam.		
Cuphea salicifolia Cham. & Schltdl.			*Hampea integerrima* Schltdl.		
Cuphea utriculosa Koehne			*Hampea nutricia* Fryxell		
Cuphea wrightii A. Gray			*Hampea rovirosae* Standl.		
Lagerstroemia indica L.			*Heliocarpus americanus* L.		
Lawsonia inermis L.			*Heliocarpus appendiculatus* Turcz.		
Lythrum acinifolium ex DC.			*Heliocarpus mexicanus* Sprague		
Nesaea salicifolia Kunth			*Heliocarpus pallidus* Rose		
MAGNOLIACEAE			*Herissantia crispa* Medik.		
Magnolia grandiflora L.			*Hibiscus acetosella* Welw. ex Fic.		
Magnolia schiedeana Schlecht.		◊	*Hibiscus bifurcatus* Cav.		
Talauma mexicana G. Don			*Hibiscus costatus* A. Rich.		
MALPIGHIACEAE			*Hibiscus phoeniceus* Jacq.		
Banisteria beecheyana (A. Juss.) C.B. Rob.			*Hibiscus rosa-sinensis* L.f. var. *schizopetalus* Mast.		
Bunchosia lindeniana A. Juss.			*Hibiscus sabdariffa* L.		
Bunchosia palmeri S. Watson			*Hibiscus spiralis* Cav.		◊
Bunchosia swartziana Griseb.			*Hibiscus tiliaceus* L.		
Byrsonima crassifolia Steud			*Hibiscus uncinellus* ex DC.		
Callaeum malpighioides (Turcz.) D.M. Johnson			*Hochreutinera amplexifolia* (DC.) Fryxell		
Galphimia glauca Cav.			*Kearnemalvastrum lacteum* (Aiton) D.M.Bates		
Gaudichaudia albida Cham. & Schltdl.			*Kosteletzkya tubiflora* (DC.) O.J. Blanch. & McVaugh		
Heteropterys brachiata Kunth			*Luehea candida* Mart.		
Malpighia glabra L.			*Luehea speciosa* Willd.		
Mascagnia vacciniifolia Nied.			*Malachra capitata* L.		
Psychopterys polycarpa (Brandegee) W.R. Anderson & S. Corso			*Malva parviflora* L.		
Stigmaphyllon bannisteroides (L.) C.E. Anderson			*Malvastrum coromandelianum* (L.) Garcke		
Stigmaphyllon lindenianum A. Juss.			*Malvastrum spicatum* A. Gray		
MALVACEAE			*Malvaviscus arboreus* Cav.		
Abelmoschus manihot (L.) Medik.			*Melochia bernoulliana* Donn. Sm.		
Abelmoschus moschatus Medik.			*Melochia pyramidata* L.		
Abutilon hulseanum (Torr. & A. Gray) Torr. ex A. Gray			*Melochia tomentosa* L.		
Abutilon hypoleucum A. Gray			*Modiola caroliniana* (L.) G. Don		
Abutilon purpusii Standl.			*Mortoniodendron guatemalense* Standl. & Steyerm.		◊
Abutilon subsagittatum Hochr.					
Abutilon umbellatum (L.)					

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Mortoniodendron sulcatum Lundell		
Pachira aquatica Aubl.		
Pavonia fruticosa (Mill.) Fawc. & Rendle		
Pavonia multifllora A. St.-Hil.		
Pavonia paniculata Cav.		
Pavonia rosea Schltdl.		
Pavonia schiedeana Steud.		
Pavonia spinifex (L.) Cav.		
Pavonia uniflora (Sessé & Moc.) Fryxell		
Phymosia umbellata (Cav.) Kearney		
Pseudabutilon scabrum (C. Presl) R.E.Fr.		
Robinsonella mirandae Gómez Pompa		
Robinsonella pilosa Rose		
Sida acuta Burm. F.		
Sida cordifolia L.		
Sida glabra Mill.		
Sida rhombifolia L.		
Sida spinosa L.		
Sida urens L.		
Sidastrum paniculatum (L.) Fryxell		
Taliparitiliaceum var. *pernambucense* (Arruda) Fryxell		
Theobroma cacao L.		
Tilia mexicana Schltdl.		
Tilia neglecta Spach		
Trichospermum galeottii (Turcz) Kosterm.		
Triumfetta bogotensis DC.		
Triumfetta columnaris Hochr.		
Triumfetta grandiflora Vahl		
Triumfetta lappula Schomb.		
Triumfetta orizabae Turcz.		
Triumfetta semitriloba Jacq.		
Waltheria indica L.		
Wissadula hernandioides (L'Hér.) Garcke		
Wissadula periplocifolia (L.) Thwaites		
MARANTACEAE		
Goeppertia misantlensis (Lascur.) Borchs. & S. Suárez		
Maranta arundinacea L.		
Maranta gibba Sm.		
Monotagma laxum (Poepp. & Endl.) K. Schum.		
MARATTIACEAE		
Marattia weinmanniifolia Liebm.		◊
MARCGRAVIACEAE		
Marcgravia mexicana Gilg		
Souroubea exauriculata Delp.		
MELASTOMATACEAE		
Arthrostemma ciliatum Pav. ex D. Don		
Centradenia grandifolia (Schltdl.) Endl.		
Centradenia inaequilateralis G. Don		
Clidemia dentata D. Don		
Clidemia hirta D. Don		
Clidemia laxiflora Schltdl.		
Clidemia petiolaris Triana		
Clidemia setosa (Triana) Gleason		
Conostegia arborea Schltdl. ex Steud.		
Conostegia caelestis Standl.		
Conostegia icosandra Urb.		
Conostegia superba D. Don		
Conostegia volcanalis Standl. & Steyerm.		
Conostegia xalapensis D. Don		
Heterocentron elegans Kuntze		
Heterocentron subtriplinervium A. Braun & Bouché		
Leandra melanodesma Cogn.		
Leandra mexicana Cogn.		
Leandra subseriata Cogn.		
Miconia affinis DC.		
Miconia anisotricha Triana		
Miconia chrysoneura Triana		
Miconia dodecandra Cogn.		
Miconia glaberrima Naudin		
Miconia ibaguensis C.Wright		
Miconia impetiolaris (Sw.) D. Don ex DC.		
Miconia lacera (Bonpl.) Naudin		
Miconia laevigata (L.) D. Don		
Miconia mexicana Naudin		
Miconia moorei Wurdack		
Miconia oligotricha Naudin		
Miconia sylvatica Schltdl.		
Miconia trinervia (Sw.) D. Don ex Loudon		
Monochaetum calcaratum Triana		
Monochaetum deppeanum Naudin		
Monochaetum floribundum Naudin		
Mouriri myrtilloides Poir.		
Tibouchina galeottiana (Naudin) Cogn.		
Tibouchina longifolia Baill.		
Tibouchina longisepala Cogn.		
Tibouchina mexicana Cogn.		
Tibouchina naudiniana Cogn.		
Tibouchina purpusii Brandegee		
Tibouchina rufipilis Cogn.		
Tibouchina schiedeana Cogn.		
Tibouchina urvilleana Cogn.		
Topobea laevigata (D. Don) Naudin		
Triolena scorpioides Naudin		
MELIACEAE		
Cedrela odorata L.		◊
Guarea glabra Vahl		
Guarea grandifolia DC.		
Guarea tuerckheimii C.DC. ex Donn.Sm.		
Trichilia elegans A. Juss.		
Trichilia glabra L.		
Trichilia havanensis Jacq.		
Trichilia japurensis C. DC.		
Trichilia martiana C. DC.		
Trichilia moschata Sw.		
Trichilia pallida Sw.		
MENISPERMACEAE		
Cissampelos fasciculata Benth.		
Cissampelos pareira L.		
Hyperbaena mexicana Miers		
Odontocarya mexicana Barneby		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
METTENIUSACEAE		
Calatola costaricensis Standl.		
Calatola mollis Standl.		
Oecopetalum mexicanum Greenm. & C.H. Thomps.		
MONIMIACEAE		
Mollinedia viridiflora Tul.		
Siparuna thecaphora A. DC.		
MONTIACEAE		
Calandrinia ciliata DC.		
MORACEAE		
Bagassa guianensis Aubl.		
Brosimum alicastrum Sw.		
Castilla elastica Cerv.		
Dorstenia contrajerva L.		
Ficus americana Aubl.		
Ficus apollinaris Dugand		
Ficus aurea Nutt.		
Ficus costaricana Miq.		
Ficus crocata Mart. ex Miq.		
Ficus fuscescens Miq.		
Ficus glycicarpa Miq.		
Ficus insipida Willd.		
Ficus lapathifolia Miq.		
Ficus maxima Mill.		
Ficus microcarpa L.f.		
Ficus obtusifolia Kunth		
Ficus pertusa L.f.		
Ficus trigonata L.		
Ficus turrialbana W.C. Burger		
Ficus velutina Humb. & Bonpl. ex Willd.		
Ficus yoponensis Desv.		
Maclura tinctoria (L.) D. Don ex Steud.		
Morus alba L.		
Pseudolmedia glabrata (Liebm.) C.C. Berg.		
Trophis mexicana (Liebm.) Bureau		
Trophis racemosa (L.) Urb.		
MUNTINGIACEAE		
Muntingia calabura L.		
MUSACEAE		
Musa balbisiana Colla		
Musa paradisiaca L.		
Musa ornata Roxb.		
MYRICACEAE		
Myrica cerifera L.		
MYRTACEAE		
Calycorectes mexicanus O. Berg		
Calyptranthes chytraculia Sw.		
Calyptranthes karlingii Standl.		
Calyptranthes karwinskyana O. Berg		
Calyptranthes schiedeana O. Berg		
Calyptranthes schlechtendaliana O. Berg		
Calyptranthes tenuipes McVaugh		
Eucalyptus globulus Labill.		
Eugenia acapulcensis Steud.		
Eugenia capuli Schltdl.		
Eugenia colipensis O. Berg		
Eugenia hypargyrea Standl.		
Eugenia mexicana Steud.		
Eugenia mozomboensis P.E. Sánchez		
Eugenia oerstediana O. Berg		
Eugenia pueblana Lundell		
Eugenia trunciflora (Schltdl. & Cham.) G.Don		
Eugenia venezuelensis O. Berg		
Eugenia xalapensis DC.		
Eugenia yautepecana Lundell		
Myrcianthes fragrans (Sw.) McVaugh		
Pimenta dioica (L.) Merr.		
Psidium guineense Sw.		
Syzygium jambos (L.) Alston		
NYCTAGINACEAE		
Boerhavia diffusa L.		
Boerhavia erecta L.		
Bougainvillea glabra Choisy		
Bougainvillea spectabilis Willd.		
Mirabilis jalapa L.		
Neea tenuis Standl.		
NYSSACEAE		
Nyssa sylvatica Marshall		
OCHNACEAE		
Ouratea nitida Engl.		
Sauvagesia erecta L.		
OLEACEAE		
Fraxinus dubia (Willd.) P.S. Green & M. Nee		
Fraxinus greggii A. Gray		
Jasminum gracillimum Hook. f.		
Jasminum grandiflorum L.		
Jasminum mesnyi Hance		
Osmanthus americanus Benth. & Hook. f.		
ONAGRACEAE		
Epilobium ciliatum Raf.		
Fuchsia arborescens Sims		
Fuchsia boliviana Carrière		
Fuchsia microphylla Kunth		
Fuchsia paniculata Lindl.		
Fuchsia thymifolia Kunth		
Gongylocarpus rubricaulis Cham. & Schltdl.		
Lopezia miniata DC.		
Lopezia racemosa Cav.		
Ludwigia octovalvis (Jacq.) P.H. Raven		
Ludwigia palustris (L.) Elliott		
Ludwigia peruviana (L.) H. Hara		
Oenothera kunthiana (Spach) Munz		
Oenothera rosea Aiton		
OPHIOGLOSSACEAE		
Botrychium virginianum (L.) Sw.		
OPILIACEAE		
Agonandra racemosa Standl.		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
ORCHIDACEAE		
Acianthera angustifolia (Lindl.) Luer	Appendix II	
Acianthera circumplexa (Lindl.) Pridgeon & M.W. Chase	Appendix II	
Acianthera obscura (A. Rich. & Galeotti) Pridgeon & M.W. Chase	Appendix II	
Arpophyllum giganteum Hartw. ex Lindl.	Appendix II	
Arpophyllum laxiflorum Pfitzer	Appendix II	
Arpophyllum spicatum Lex.	Appendix II	
Beloglottis costaricensis Schltr.	Appendix II	
Beloglottis mexicana Garay & Hamer	Appendix II	
Bletia gracilis G. Lodd.	Appendix II	
Bletia purpurata A. Rich. & Galeotti	Appendix II	
Brassavola appendiculata A. Rich. & Galeotti	Appendix II	
Brassavola cucullata R. Br.	Appendix II	
Brassia verrucosa Lindl.	Appendix II	
Bulbophyllum pachyrhachis (A.Rich.) Griseb	Appendix II	
Calanthe calanthoides (A. Rich. & Galeotti) Hamer & Garay	Appendix II	
Camaridium densum (Lindl.) M.A. Blanco	Appendix II	
Catasetum integerrimum Hook.	Appendix II	
Chysis × *laevis* Lindl.	Appendix II	
Coelia macrostachya Lindl.	Appendix II	
Coelia triptera (Sm.) Steud.	Appendix II	
Corallorhiza bulbosa A. Rich. & Galeotti	Appendix II	
Corymborkis forcipigera (Rchb. f. & Warsz.) L.O. Williams	Appendix II	
Cranichis sylvatica A. Rich. & Galeotti	Appendix II	
Cyclopogon comosus (Rchb. f.) Burns-Bal. & E.W. Greenw.	Appendix II	
Cyclopogon saccatus (A. Rich. & Galeotti) Schltr.	Appendix II	
Cyrtopodium punctatum (L.) Lindl.	Appendix II	
Dichaea graminoides Lindl.	Appendix II	
Dichaea muricatoides Hamer & Garay	Appendix II	
Dichaea neglecta Schltr.	Appendix II	
Domingoa purpurea (Lindl.) Van den Berg & Soto Arenas	Appendix II	
Elleanthus cynarocephalus Rchb. f.	Appendix II	
Encyclia alata (Bateman) Schltr.	Appendix II	
Encyclia livida (Lindl.) Dressler	Appendix II	
Encyclia ochracea (Lindl.) Dressler	Appendix II	
Encyclia parviflora (Regel) Withner	Appendix II	
Encyclia polybulbon (Sw.) Dressler	Appendix II	
Epidendrum ciliare L.	Appendix II	
Epidendrum cristatum Ruiz & Pav.	Appendix II	
Epidendrum difforme Jacq.	Appendix II	
Epidendrum diffusum Sw.	Appendix II	
Epidendrum longipetalum A. Rich. & Galeotti	Appendix II	
Epidendrum melistagum Hágsater	Appendix II	
Epidendrum nocturnum Jacq.	Appendix II	
Epidendrum paniculatum Ruiz & Pav.	Appendix II	
Epidendrum parkinsonianum Hook.	Appendix II	
Epidendrum polyanthum Lindl.	Appendix II	
Epidendrum propinquum A. Rich. & Galeotti	Appendix II	
Epidendrum ramosum Jacq.	Appendix II	
Epidendrum repens Cogn.	Appendix II	
Epidendrum tuxtlense Hágsater, García-Cruz & L. Sánchez	Appendix II	
Goodyera brachyceras (A. Rich. & Galeotti) Garay & G.A. Romero	Appendix II	
Goodyera striata Rchb. f.	Appendix II	
Govenia liliacea (La Llave & Lex.) Lindl.	Appendix II	
Govenia mutica Rchb. f.	Appendix II	
Govenia praecox Salazar & E.W. Greenw.	Appendix II	
Govenia superba (La Llave & Lex.) Lindl.	Appendix II	
Habenaria alata Hook.	Appendix II	
Habenaria bractescens Lindl.	Appendix II	
Habenaria distans Griseb	Appendix II	
Habenaria entomantha (La Llave & Lex.) Lindl.	Appendix II	
Habenaria floribunda Lindl.	Appendix II	
Habenaria pringlei B.L. Rob.	Appendix II	
Habenaria quinqueseta (Michx.) Sw.	Appendix II	
Ionopsis utricularioides Lindl.	Appendix II	
Isochilus latibracteatus A. Rich. & Galeotti	Appendix II	
Isochilus linearis (Jacq.) R. Br.	Appendix II	
Isochilus major var. *amparoanus* (Schltr.) Correll	Appendix II	
Isochilus unilateralis B.L. Rob.	Appendix II	
Jacquiniella leucomelana Schltr.	Appendix II	
Jacquiniella teretifolia (Sw.) Britton & P. Wilson	Appendix II	
Laelia anceps Lindl.	Appendix II	
Lepanthes avis Rchb. f.	Appendix II	
Liparis vexillifera (La Llave & Lex.) Cogn.	Appendix II	
Lycaste aromatica Lindl.	Appendix II	
Lycaste deppei (Lodd.) Lindl.	Appendix II	
Malaxis excavata Kuntze	Appendix II	
Malaxis fastigiata Kuntze	Appendix II	
Malaxis histionantha (Link, Klotzsch & Otto) Garay & Dunst.	Appendix II	
Malaxis soulei L.O. Williams	Appendix II	
Malaxis unifolia Michx.	Appendix II	
Maxillaria cucullata Lindl.	Appendix II	
Maxillaria variabilis Bateman ex Lindl.	Appendix II	
Maxillariella tenuifolia (Lindl.) M.A. Blanco & Carnevalli	Appendix II	
Mesadenus lucayanus Schltr.	Appendix II	
Myrmecophila tibicinis (Bateman) Rolfe	Appendix II	
Nageliella purpurea (Lindl.) L.O. Williams	Appendix II	
Nidema boothii (Lindl.) Schltr.	Appendix II	
Notylia barkeri Lindl.	Appendix II	
Oncidium carthagenense (Jacq.) Sw.	Appendix II	
Oncidium cavendishianum Bateman	Appendix II	
Oncidium sphacelatum Lindl.	Appendix II	
Oncidium stramineum Lindl.	Appendix II	
Ornithocephalus gladiatus Hook.	Appendix II	

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Pelexia funckiana (A. Rich. & Galeotti) Schltr.	Appendix II	
Pelexia gutturosa (Rchb. f.) Garay	Appendix II	
Physosiphon tubatus (Lodd.) Rchb. f.	Appendix II	
Platythelys vaginata (Hook.) Garay	Appendix II	
Pleurothallis cardiothallis Rchb. f.	Appendix II	
Pleurothallis circumplexa Lindl.	Appendix II	
Pleurothallis ornata Rchb. f.	Appendix II	
Pleurothallis platystylis Schltr.	Appendix II	
Pleurothallis schiedei Rchb. f.	Appendix II	
Pleurothallis tribuloides (Sw.) Lindl.	Appendix II	
Ponera juncifolia Lindl.	Appendix II	
Ponthieva racemosa (Walter) C. Mohr	Appendix II	
Prescottia stachyodes (Sw.) Lindl.	Appendix II	
Prosthechea cochleata (L.) W.E. Higgins	Appendix II	
Prosthechea livida (Lindl.) W.E. Higgins	Appendix II	
Prosthechea ochracea (Lindl.) W.E. Higgins	Appendix II	
Prosthechea pseudopygmaea (Finet) W.E. Higgins	Appendix II	
Prosthechea pygmaea (Hook.) W.E. Higgins	Appendix II	
Prosthechea radiata (Lindl.) W.E. Higgins	Appendix II	
Prosthechea vitellina (Lindl.) W.E. Higgins	Appendix II	◊
Restrepiella ophiocephala (Lindl.) Garay ex Dunst.	Appendix II	
Rhynchostele bictoniensis (Bateman) Soto Arenas & Salazar	Appendix II	
Rhynchostele ehrenbergii (Link, Klotzsch & Otto) Soto Arenas & Salazar	Appendix II	◊
Rhynchostele rossii (Lindl.) Soto Arenas & Salazar	Appendix II	◊
Sacoila lanceolata (Aubl.) Garay	Appendix II	
Sarcoglottis cerina (Lindl.) P.N. Don	Appendix II	◊
Scaphyglottis fasciculata Hook.	Appendix II	
Scaphyglottis livida Schltr.	Appendix II	
Sobralia macrantha Lindl.	Appendix II	
Specklinia grobyi (Bateman ex Lindl.) F. Barros	Appendix II	
Spiranthes graminea Lindl.	Appendix II	
Spiranthes nebulorum V.R. Catling	Appendix II	
Stanhopea oculata Lindl.	Appendix II	◊
Stelis emarginata (Lindl.) Soto Arenas & Solano	Appendix II	
Stelis nicaraguensis (Liebm.) Solano & Soto Arenas	Appendix II	
Stelis oaxacana Solano	Appendix II	
Stelis quadrifida (La Llave & Lex.) Solano & Soto Arenas	Appendix II	
Stelis veracrucensis Solano	Appendix II	
Trichocentrum cosymbephorum (C. Morren) R. Jiménez & Carnevali	Appendix II	
OROBANCHACEAE		
Agalinis peduncularis (Benth.) Pennell		
Agalinis spiciflora Pennell		
Castilleja arvensis Cham. & Schltdl.		
Castilleja obovata Benth.		
Castilleja tenuiflora Benth.		
Conopholis alpina Liebm.		
Escobedia grandiflora (L.f.) Kuntze		
Escobedia laevis Cham. & Schltdl.		
Gerardia tenuifolia Vahl		
Lamourouxia multifida Kunth		
Lamourouxia nelsonii B.L. Rob. & Greenm.		
Lamourouxia viscosa Kunth		
Lamourouxia xalapensis Kunth		
OXALIDACEAE		
Oxalis corniculata L.		
Oxalis frutescens L.		
Oxalis latifolia Kunth		
PAPAVERACEAE		
Argemone platyceras Link & Otto		
Bocconia arborea S. Watson		
Bocconia frutescens L.		
Papaver somniferum L.		
PASSIFLORACEAE		
Passiflora adenopoda DC.		
Passiflora biflora Lam.		
Passiflora ciliata [Dryand.]		
Passiflora conzattiana Killip		
Passiflora coriacea Juss.		
Passiflora foetida L.		
Passiflora hahnii Mast.		
Passiflora helleri Peyr.		
Passiflora holosericea L.		
Passiflora ligularis Juss.		
Passiflora membranacea Benth.		
Passiflora quadrangularis L.		
Passiflora rovirosae Killip		
Passiflora serratifolia L.		
Passiflora sexflora Juss.		
Passiflora sicyoides Cham. & Schltdl.		
Passiflora suberosa L.		
Passiflora sublanceolata (Killip) J.M. MacDougal		
Passiflora subpeltata Ortega		
Turnera ulmifolia L.		
PEDALIACEAE		
Sesamum indicum L.		
PENTAPHYLACACEAE		
Cleyera serrulata Choisy		
Cleyera theaeoides (Sw.) Choisy		
Ternstroemia lineata DC.		
Ternstroemia sylvatica Cham. & Schltdl.		
Ternstroemia tepezapote Schltdl. & Cham.		
PETIVERIACEAE		
Rivina humilis L.		
PHRYMACEAE		
Leucocarpus perfoliatus Benth.		
Mimulus glabratus Kunth		
PHYLLANTHACEAE		
Phyllanthus amarus Schumach. & Thonn.		

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SCIENTIFIC NAME	CITES	NOM- 059
Phyllanthus caroliniensis Walter		
Phyllanthus compressus Kunth		
Phyllanthus graveolens Kunth		
Phyllanthus liebmannianus Müll.Arg.		
Phyllanthus niruri L.		
Phyllanthus stipulatus (Raf.) G.L. Webster		
Savia sessiliflora Willd.		
PHYTOLACCACEAE		
Agdestis clematidea Moc. & Sessé		
Phytolacca americana L.		
Phytolacca icosandra L.		
Phytolacca rivinoides Kunth & C.D. Bouché		
PICRAMNIACEAE		
Picramnia antidesma subsp. *fessonia* (DC.) W.W. Thomas		
Picramnia xalapensis Planch.		
PINACEAE		
Pinus chiapensis (Martínez) Andresen		
Pinus leiophylla Schltdl. & Cham.		
Pinus montezumae Lamb.		
Pinus nubicola J.P. Perry		
Pinus patula Schltdl. & Cham.		
Pinus pseudostrobus Lindl.		
Pinus strobus var. *chiapensis* Martínez	◊	
Pinus teocote Schltdl. & Cham.		
PIPERACEAE		
Peperomia alata Ruiz & Pav.		
Peperomia angularis C. DC.		
Peperomia angustata Kunth		
Peperomia arboricola C. DC.		
Peperomia asarifolia Schltdl.		
Peperomia berlandieri Miq.		
Peperomia blanda (Jacq.) Kunth		
Peperomia blanda var. *humilis* (Vahl.) Callejas		
Peperomia dendrophila Schltdl.		
Peperomia deppeana Schltdl. & Cham.		
Peperomia donaguiana C. DC.		
Peperomia emarginulata C. DC.		
Peperomia epidendron C. DC.		
Peperomia galioides Kunth		
Peperomia glabella (Sw.) A. Dietr.		
Peperomia granulosa Trel.		
Peperomia hernandiifolia (Vahl) A. Dietr.		
Peperomia liebmannii C. DC.		
Peperomia macrostachyos (Vahl.) A.Dietr.		
Peperomia maculosa (L.) Hook.		
Peperomia oajacensis Dahlst.		
Peperomia obtusifolia (L.) A. Dietr.		
Peperomia petrophila C. DC.		
Peperomia pseudoalpina Trel.		
Peperomia quadrifolia (L.) Kunth		
Peperomia rotundifolia (L.) Kunth		
Peperomia santa-helenae Trel.		
Peperomia subblanda C. DC.		
Peperomia tenerrima Schltdl. & Cham.		
Peperomia tetraphylla Hook. & Arn.		
Peperomia tuisana C. DC. ex Pittier		
Piper aduncum L.		
Piper aequale Vahl		
Piper amalago L.		
Piper auritum Kunth		
Piper colipanum C. DC.		
Piper dilatatum Rich.		
Piper glabrescens C. DC.		
Piper hispidum Sw.		
Piper jalapense M. Martens & Galeotti		
Piper lapathifolium Steud.		
Piper martensianum C. DC.		
Piper melastomoides Schltdl. & Cham.		
Piper misantlense C. DC.		
Piper pseudofuligineum C. DC.		
Piper psilorhachis C. DC.		
Piper sanctum Miq.		
Piper schiedeanum Steud.		
Piper umbellatum L.		
Piper unguiculatum Ruiz & Pav.		
PLAGIOGYRIACEAE		
Plagiogyria pectinata (Liebm.) Lellinger		
PLANTAGINACEAE		
Bacopa monnieri (L.) Wettst.		
Bacopa salzmannii (Benth.) Wettst. ex Edwall		
Callitriche verna L.		
Cymbalaria muralis G. Gaertn., B. Mey. & Scherb.		
Digitalis purpurea L.		
Linaria canadensis Dum. Cours.		
Lophospermum erubescens D. Don		
Mecardonia procumbens (Mill.) Small		
Penstemon hartwegii Benth.		
Penstemon isophyllus B.L. Rob.		
Plantago australis Lam.		
Plantago lanceolata L.		
Plantago major L.		
Russelia coccinea (L.) Wettst.		
Russelia equisetiformis Schltdl. & Cham.		
Russelia sarmentosa Jacq.		
Schistophragma mexicanum Benth. ex D. Dietr.		
Sibthorpia repens (L.) Kuntze		
Stemodia lanata Ruiz & Pav. ex Benth.		
Stemodia macrantha B.L. Rob.		
Stemodia verticillata (Mill.) Hassl.		
Tetranema roseum (M. Martens & Galeotti) Standl. & Steyerm.		
Veronica arvensis L.		
Veronica peregrina L.		
Veronica persica Poir.		
PLATANACEAE		
Platanus mexicana Moric.		
PLUMBAGINACEAE		
Plumbago auriculata Lam.		

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SCIENTIFIC NAME	CITES	NOM- 059
Plumbago zeylanica L.		
POACEAE		
Aegopogon cenchroides Humb. & Bonpl. ex Willd.		
Aegopogon tenellus Trin.		
Agrostis bourgeaei E. Fourn.		
Agrostis perennans Tuck.		
Agrostis scabra Willd.		
Andropogon bicornis L.		
Andropogon cirratus Hack.		
Andropogon condensatus Kunth		
Andropogon glomeratus Britton, Sterns & Poggenb		
Andropogon gyrans Ashe		
Andropogon liebmannii Hack.		
Andropogon littoralis Nash		
Andropogon microstachyus Ham.		
Andropogon salzmannii (Trin. ex Steud.) Hack.		
Andropogon scoparius Michx.		
Andropogon selloanus (Hack.) Hack.		
Andropogon virginicus L.		
Aristida liebmannii E. Fourn ex Hemsl.		
Andropogon virginicus L.		
Aristida purpurea Nutt.		
Aristida schiedeana Trin. & Rupr.		
Aristida ternipes Cav.		
Arundinella berteroniana Hitchc. & Chase		
Arundinella deppeana Nees		
Arundinella hispida Kuntze		
Avena sativa L.		
Axonopus ater Chase		
Axonopus compressus P. Beauv.		
Bothriochloa saccharoides (Sw.) Rydb.		
Botriochloa laguroides (DC.) Herter		
Bouteloua curtipendula (Michx.) Torr.		
Brachiaria plantaginea (Link) Hitchc.		
Brachypodium mexicanum Link		
Brachypodium pringlei Scribn. ex Beal		
Briza minor L.		
Briza rotundata Steud.		
Bromus catharticus Vahl		
Bromus secalinus L.		
Bromus unioloides Kunth		
Cenchrus brownii Roem. & Schult.		
Cenchrus echinatus L.		
Chascolytrum subaristatum Desv.		
Chloris gayana Kunth		
Chloris virgata Sw.		
Chusquea enigmatica Ruiz-Sánchez, Mejía-Saulés & L.G.Clark		
Chusquea glauca L.G. Clark		
Chusquea mulleri Munro		
Cryptochloa strictiflora (E. Fourn.) Swallen		
Cymbopogon citratus Stapf		
Cynodon plectostachyus (K. Schum.) Pilg.		

SCIENTIFIC NAME	CITES	NOM- 059
Dichanthelium acuminatum (Sw.) Gould & C.A. Clark		
Dichanthelium commutatum (Schult.) Gould		
Dichanthelium dichotomum (Elliott) Gould & C.A.Clark		
Dichanthelium viscidellum (Scribn.) Gould		
Dichanthelium aciculare (Desv. ex Poir.) Gould & C.A. Clark		
Dichanthelium boscii (Poir.) Gould & C.A. Clark		
Dichanthelium commutatum (Schult.) Gould		
Dichanthelium laxiflorum (Lam.) Gould		
Digitaria ciliaris (Retz.) Koeler		
Digitaria eriantha Steud.		
Digitaria insularis (L.) Fedde		
Digitaria milanjiana (Rendle) Stapf		
Digitaria sanguinalis (L.) Scop.		
Digitaria villosa Michx.		
Echinochloa cruz-galli (L.) P. Beauv.		
Echinochloa crus-pavonis (Kunth) Schult.		
Echinochloa pyramidalis (Lam.) Hitchc. & Chase		
Elionurus tripsacoides Humb. & Bonpl. ex Willd.		
Eragrostis bahiensis Schrad.		
Eragrostis intermedia Hitchc.		
Eragrostis lugens Nees		
Eragrostis pilosa P. Beauv.		
Eragrostis tenuifolia Hochst.		
Eriochloa punctata (L.) Desv. ex Ham.		
Festuca arundinacea Schreb.		
Guadua aculeata Rupr. ex E. Fourn.		
Guadua amplexifolia J. Presl.		
Guadua longifolia (E. Fourn.) R.W. Pohl		
Guadua velutina Londoño & L.G. Clark		
Hemarthria altissima (Poir.) Stapf & C.E. Hubb.		
Heteropogon contortus Beauv. ex Roem. & Schult.		
Homolepis aturensis Chase		
Homolepis glutinosa (Sw. ex Smithson) Zuloaga & Soderstr.		
Hordeum vulgare L.		
Hymenachne amplexicaulis Nees		
Hordeum vulgare L.		
Ichnanthus nemorosus (Sw.) Döll		
Ichnanthus pallens (Sw.) Benth.		
Ichnanthus tenuis Hitchc. & Chase		
Isachne arundinacea Griseb.		
Ixophorus unisetus Schltdl.		
Jarava ichu Ruiz & Pav.		
Lasiacis divaricata (L.) Hitchc.		
Lasiacis grisebachii Hitchc.		
Lasiacis nigra Davidse		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059	SCIENTIFIC NAME	CITES	NOM- 059
Lasiacis procerrima Hitchc.			*Paspalum paniculatum* L.		
Lasiacis rhizophora (E. Fourn.) Hitchc.			*Paspalum squamulatum* E. Fourn.		
Lasiacis rugelii Hitch.			*Paspalum unispicatum* (Scribn. & Merr.) Nash		
Lasiacis ruscifolia Hitchc.			*Paspalum variabile* Nash		
Lasiacis sorghoidea (Ham.) Hitchc. & Chase			*Paspalum virgatum* L.		
Leersia hexandra Sw.			*Paspalum virletii* E. Fourn. ex Hemsl.		
Leersia ligularis Trin.			*Pennisetum bambusiforme* (E. Fourn.) Hemsl. ex B.D. Jacks.		
Leersia ligularis var. *grandiflora* (Döll) Pyrah			*Pennisetum clandestinum* Hochst. ex Chiov.		
Leptochloa mucronata (Michx.) Kunth			*Pennisetum complanatum* Hemsl.		
Leptochloa virgata (L.) P. Beauv.			*Pennisetum distachyum* Rupr.		
Lithachne pauciflora P. Beauv.			*Pennisetum purpureum* Schumach.		
Lolium multiflorum Lam.			*Pereilema crinitum* J. Presl		
Microchloa indica (L.f.) P. Beauv.			*Peyritschia deyeuxioides* (Kunth) Finot		
Muhlenbergia cenchroides (Humb. & Bonpl. ex Willd.) P.M. Peterson			*Peyritschia pringlei* (Scribn.) S.D. Koch		
Muhlenbergia ciliata Trin.			*Pharus latifolius* L.		
Muhlenbergia gigantea (E. Fourn.) Hitchc.			*Piptochaetium virescens* (Kunth) Parodi		
Muhlenbergia glauca (Nees) B.D. Jacks.			*Poa annua* L.		
Muhlenbergia implicata Trin.			*Polypogon viridis* (Gouan) Breistr.		
Muhlenbergia macroura (Kunth) Hitchc.			*Pseudechinolaena polystachya* (Kunth) Stapf		
Muhlenbergia minutissima (Steud.) Swallen			*Rhynchelytrum repens* (Willd.) C.E. Hubb.		
Muhlenbergia peruviana Steud.			*Rhynchelytrum roseum* Stapf & C.E. Hubb. ex Bews		
Muhlenbergia pulcherrima Scribn. ex Beal			*Saccharum officinarum* L.		
Muhlenbergia ramulosa (Kunth) Swallen			*Schizachyrium condensatum* Nees		
Muhlenbergia robusta (E. Fourn.) Hitchc.			*Schizachyrium sanguineum* (Retz.) Alston		
Muhlenbergia schreberi J.F. Gmel.			*Schizachyrium tenerum* Nees		
Muhlenbergia setarioides E. Fourn. ex Hemsl.			*Setaria liebmannii* E. Fourn.		
Muhlenbergia tenella Trin.			*Setaria longipila* E. Fourn. ex Hemsl.		
Nassella tenuissima (Trin.) Barkworth			*Setaria macrostachya* Kunth		
Olyra latifolia L.			*Setaria palmifolia* Stapf		
Oplismenus burmannii (Retz.) P. Beauv.			*Setaria pumila* Roem & Schult		
Oplismenus compositus (L.) P. Beauv.			*Setaria scheelei* Hitchc.		
Oplismenus hirtellus (L.) P. Beauv.			*Setaria sulcata* Raddi		
Panicum arundinariae Trin. ex E. Fourn.			*Setaria tenax* (Rich.) Desv.		
Panicum bulbosum Kunth			*Sorghastrum brunneum* Swallen		
Panicum fasciculatum Sw.			*Sorghastrum incompletum* Nash		
Panicum ghiesbreghtii E. Fourn.			*Sorghum halepense* (L.) Pers.		
Panicum gouinii E. Fourn.			*Sporobolus atrovirens* Kunth		
Panicum maximum Jacq.			*Sporobolus erectus* Hitchc.		
Panicum nitidum Lam.			*Sporobolus indicus* (L.) R.Br.		
Panicum polygonatum Schrad.			*Sporobolus poiretii* (Roem. & Schult.) Hitchc.		
Panicum sphaerocarpon Elliott			*Sporobolus purpurascens* Ham.		
Panicum trichanthum Nees			*Sporobolus pyramidalis* P. Beauv.		
Panicum trichoides Sw.			*Steinchisma laxum* (Sw.) Zuloaga		
Parodiophyllochloa cordovensis (E. Fourn.) Zuloaga & Morrone			*Trachypogon spicatus* Kuntze		
Paspalum botterii Chase			*Triniochloa stipoides* Hitchc.		
Paspalum candidum Kunth			*Tripogon spicatus* (Nees) Ekman		
Paspalum conjugatum P.J. Bergius			*Tripsacum dactyloides* (L.) L.		
Paspalum denticulatum Trin.			*Trisetum palmeri* Hitchc.		
Paspalum dilatatum Poir.			*Urochloa mutica* (Forssk.)T.Q. Nguyen		
Paspalum humboldtianum Flüggé			*Vulpia myuros* (L.) C.C. Gmel.		
Paspalum millegrana Schrad.			*Zea mays* L.		
			Zeugites americanus Willd.		
			Zuloagaea bulbosa (Kunth) Bess		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
PODOCARPACEAE		
Podocarpus guatemalensis Standl.		
Podocarpus matudae Lundell		◊
POLEMONIACEAE		
Cobaea scandens Cav.		
Loeselia ciliata L.		
Loeselia glandulosa (Cav.) G. Don		
Loeselia mexicana Brand		
POLYGALACEAE		
Hebecarpa rivinifolia (Kunth) J.r. Abbot & J.F.B. Pastore		
Monnina schlechtendaliana D. Dietr.		
Monnina xalapensis Kunth		
Polygala alba Nutt.		
Polygala berlandieri S. Watson		
Polygala biformipilis S.F. Blake		
Polygala glochidata Kunth		
Polygala paniculata L.		
Securidaca diversifolia (L.) S.F. Blake		
Securidaca sylvestris Schltdl.		
POLYGONACEAE		
Antigonon cinerascens M. Martens & Galeotti		
Antigonon flavescens S. Watson		
Antigonon leptopus Hook. & Arn.		
Coccoloba belizensis Standl.		
Coccoloba cozumelensis Hemsl.		
Coccoloba escuintlensis Lundell		
Coccoloba hirtella Lundell		
Coccoloba humboldtii Meisn.		
Coccoloba tuerckheimii Donn. Sm.		
Homalocladium platycladum L.H. Bailey		
Persicaria hydropiperoides Small		
Persicaria segetum (Kunth) Small		
Podopterus mexicanus Bonpl.		
Polygonum punctatum Elliott		
Rumex acetosella L.		
Rumex crispus L.		
Rumex obtusifolius L.		
Rumex pulcher L.		
POLYPODIACEAE		
Campyloneurum angustifolium Fée		
Campyloneurum xalapense Fée		
Melpomene xiphopteroides (Liebm.) A.R. Sm. & R.C. Moran		
Niphidium crassifolium (L.) Lellinger		
Pecluma alfredii (Rosenst.) M.G. Price		
Pecluma atra (A.M. Evans) M.G. Price		
Pecluma dispersa (A.M. Evans) M.G. Price		
Pecluma plumula (Humb. & Bonpl. ex Willd.) M.G. Price		
Phlebodium areolatum (Willd.) J. Sm.		
Phlebodium aureum (L.) J.Sm.		
Pleopeltis astrolepis (Liebm.) E. Fourn.		
Pleopeltis crassinervata T. Moore		
Pleopeltis fallax (Schltdl. & Cham.) Mickel & Beitel		
Pleopeltis macrocarpa (Bory ex Willd.) Kaulf.		
Pleopeltis polylepis var. *interjecta* (Weath.) E.A. Hooper		
Polypodium conterminans Liebm.		
Polypodium dissimile L.		
Polypodium eatonii Baker		
Polypodium fraternum Schltdl. & Cham.		
Polypodium furfuraceum Schltdl. & Cham.		
Polypodium lepidotrichum (Fée) Maxon		
Polypodium longepinnulatum Fourn.		
Polypodium loriceum L.		
Polypodium plebeium Schltdl. & Cham.		
Polypodium plesiosorum Kunze		
Polypodium puberulum Schltdl. & Cham.		
Polypodium rhodopleuron Kunze		
Polypodium subpetiolatum Hk.in Benth.		
Polypodium thyssanolepis A. Br.; Kl.		
Polypodium triseriale Sw.		◊
Polytrichum juniperinum Hedw.		
PONTEDERIACEAE		
Heteranthera reniformis Ruiz & Pav.		
POTAMOGETONACEAE		
Zannichellia palustris L.		
PRIMULACEAE		
Amatlania jalapensis (Lundell) Lundell		
Anagallis arvensis L.		
Anagallis pumila Sw.		
Ardisia revoluta Kunth		
Ardisia compressa Kunth		
Ardisia hyalina Lundell		
Ardisia liebmannii Oerst.		
Ardisia nigrescens Oerst.		
Ardisia paniculata Roxb.		
Ardisia pellucida Oerst.		
Gentlea penduliflora (A. DC.) Pipoly & Ricketson		
Myrsine coriacea R. Br.		
Parathesis chiapensis Fernald		
Parathesis donnell-smithii Mez		
Parathesis lenticellata Lundell		
Parathesis melanosticta Hemsl.		
Parathesis psychotrioides Lundell		
Parathesis serrulata (Sw.) Mez		
Samolus parviflorus Kunth		
PSILOTACEAE		
Psilotum complanatum Sw.		◊
Psilotum nudum (L.) P. Beauv.		
PTERIDACEAE		
Adiantopsis radiata (L.) Fée		
Adiantum amplum C. Presl		
Adiantum andicola Liebm.		
Adiantum braunii Mett.; Kuhn		
Adiantum capillus-veneris L.		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Adiantum concinnum Humb. & Bonpl. ex Willd.		
Adiantum poiretii Wikstr.		
Adiantum tenerum Sw.		
Anogramma leptophylla (L.) Link		
Astrolepis crassifolia (Houlston & T. Moore) D.M. Benham & Windham		
Astrolepis laevis (M. Martens & Galeotti) Mickel		
Astrolepis sinuata (Lag. ex Sw.) D.M Benham & Windham		
Cheilanthes bonariensis (Willd.) Proctor		
Cheilanthes cucullans Fée		
Cheilanthes eatonii Baker		
Cheilanthes integerrima (Hook.) Mickel		
Cheilanthes kaulfussii Kunze		
Cheilanthes lendigera (Cav.) Sw.		
Cheilanthes marginata Kunth		
Cheilanthes microphylla Sw.		
Cheilanthes tomentosa Link		
Doryopteris palmata (Willd.) J. Sm.		
Hemionitis palmata L.		
Llavea cordifolia Lag.		
Mildella intramarginalis Trevis.		
Notholaena brachypus (Kunze) J. Sm.		
Notholaena candida (M. Martens & Galeotti) Hook.		
Pellaea ovata Weath.		
Pellaea ternifolia (Cav.) Link		
Pityrogramma calomelanos (L.) Link		
Pityrogramma ebenea (L.) Proctor		
Pityrogramma trifoliata (L.) R.M. Tryon		
Pteris altissima Poir.		
Pteris cretica L.		
Pteris grandifolia L.		
Pteris orizabae M. Martens & Galeotti		
Pteris podophylla Sw.		
Pteris pulchra Schltdl. & Cham.		
Pteris quadriaurita Retz.		
Pterozonium brevifrons (A.C. Sm.) Lellinger		
PUTRANJIVACEAE		
Drypetes lateriflora (Sw.) Krug & Urb.		
RANUNCULACEAE		
Anemone mexicana Kunth		
Clematis dioica L.		
Clematis haenkeana C. Presl.		
Consolida ambigua (L.) P.W. Ball & Heywood		
Ranunculus aquatilis L.		
Ranunculus dichotomus Moc. & Sessé ex DC.		
Ranunculus macranthus Scheele		
Ranunculus petiolaris Kunth		
Ranunculus pilosus Kunth		
Ranunculus praemorsus Kunth ex DC.		
Thalictrum galeottii Lecoy.		
Thalictrum steyermarkii Standl.		
Thalictrum strigillosum Hemsl.		
RESEDACEAE		
Forchhammeria trifoliata Radlk.		
RHAMNACEAE		
Ceanothus azureus Desf.		
Colubrina arborescens (Mill.) Sarg.		
Colubrina celtidifolia Schltdl.		
Colubrina heteroneura (Griseb.) Standl.		
Colubrina triflora Brongn.		
Frangula capreifolia var. *grandifolia* (M.C. Johnst. & L.A. Johnst.) A. Pool		
Frangula longistyla (C.B. Wolf.) A. Pool		
Gouania lupuloides (L.) Urb.		
Gouania polygama (Jacq.) Urb.		
Rhamnus capreifolia Schltdl.		
Sageretia elegans (Kunth) Brongn.		
Ziziphus amole (Sessé & Moc.) M.C. Johnst.		
ROSACEAE		
Acaena elongata L.		
Agrimonia pringlei Rydb.		
Alchemilla pectinata Kunth		
Alchemilla pringlei (Rydb.) Fedde		
Alchemilla procumbens Rose		
Alchemilla sibbaldiifolia Kunth		
Cercocarpus macrophyllus C.K. Schneid.		
Cotoneaster lucidus Schltdl.		
Crataegus mexicana Moc. & Sessé ex DC.		
Crataegus pubescens C. Presl		
Duchesnea indica (Andrews) Teschem.		
Eriobotrya japonica (Thunb.) Lindl.		
Fragaria vesca L.		
Holodiscus argenteus (L. f.) Maxim.		
Holodiscus discolor (Pursh) Maxim.		
Malacomeles denticulata (Kunth) G.N. Jones		
Malus pumila Mill.		
Potentilla aurea L.		
Prunus brachybotrya Zucc.		
Prunus cortapico Kerber ex Koehne		
Prunus domestica L.		
Prunus erythroxylon Koehne		
Prunus matudae Lundell		
Prunus persica (L.) Batsch		
Prunus potosina Lundell		
Prunus rhamnoides Koehne		
Prunus samydoides Schltdl.		
Prunus serotina Ehrh.		
Prunus tetradenia Koehne		
Pyracantha crenulata (D. Don) M. Roem.		
Pyrus communis L.		
Rosa roxburghii Tratt.		
Rubus adenotrichos Schltdl.		
Rubus coriifolius Liebm.		
Rubus eriocarpus Liebm.		
Rubus fagifolius Schltdl. & Cham.		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Rubus liebmannii Focke		
Rubus rosifolius Sm.		
Rubus sapidus Schltdl.		
Rubus schiedeanus Steud.		
RUBIACEAE		
Alibertia edulis (Rich.) A. Rich. ex DC.		
Amaioua corymbosa Kunth		
Arachnothryx capitellata (Hemsl.) Borhidi		
Arachnothryx gonzaleoides (Standl.) Borhidi		
Arachnothryx gracilispica (Standl.) Borhidi		
Arachnothryx heteranthera (Brandegee) Borhidi		
Arachnothryx septicidalis (B.L. Rob.) Borhidi		
Augusta rivalis (Benth.) J.H. Kirkbr.		
Borreria spinosa Cham. & Schltdl.		
Bouvardia laevis M. Martens & Galeotti		
Bouvardia ternifolia Schltdl.		
Cephaelis elata Sw.		
Chiococca alba Hitchc.		
Chiococca pachyphylla Wernham		
Chiococca phaenostemon Schltdl.		
Chione venosa (Sw.) Urb.		
Chione mexicana Standl.		
Coccocypselum cordifolium Nees & Mart.		
Coccocypselum guianense (Aubl.) K. Schum.		
Coccocypselum herbaceum Aubl.		
Coccocypselum hirsutum Bartl. ex DC.		
Coffea arabica L.		
Coutarea hexandra (Jacq.) K. Schum.		
Crusea calocephala DC.		
Crusea coccinea DC.		
Crusea hispida (Mill.) B.L. Rob.		
Crusea longiflora (Willd. ex Roem. & Schult.) W.R. Anderson		
Deppea grandiflora Schltdl.		
Deppea purpusii Standl.		
Deppea umbellata Hemsl.		
Didymaea alsinoides (Cham. & Schltdl.) Standl.		
Diodella sarmentosa (Sw.) Bacigalupo & E.L. Cabral		
Diodia teres Walter		
Faramea occidentalis (L.) A. Rich.		
Galianthe brasiliensis subsp. *angulata* (Benth) E.L. Cabral & Bacigalupo		
Galium aschenbornii S. Schauer		
Galium hypocarpium (L.) Endl. ex Griseb		
Galium mexicanum Kunth		
Galium orizabense Hemsl.		
Genipa americana L.		
Gonzalagunia panamensis (Cav.) K. Schum.		
Guettarda elliptica Sw.		
Guettarda macrocarpa Griseb.		
Guettarda macrosperma Donn. Sm.		
Hamelia patens Jacq.		
Hedyotis exigula W.H. Lewis		
Hedyotis microtheca Steud.		
Hedyotis patens Ridl.		
Hedyotis sharpii (Terrell) G.L. Nesom		
Hillia tetrandra Sw.		
Hoffmannia conzattii B.L. Rob.		
Hoffmannia culminicola Standl. & L.O. Williams		
Hoffmannia excelsa K. Schum.		
Hoffmannia mexicana Hemsl.		
Hoffmannia montana L.O. Williams		
Hoffmannia orizabensis Standl.		
Hoffmannia psychotriifolia Griseb.		
Ixora coccinea L.		
Margaritopsis microdon (DC.) C.M. Taylor		
Mexotis galeottii (M. Martens) Terrell & H. Rob		
Mitracarpus hirtus DC.		
Nertera granadensis Druce		
Notopleura uliginosa Bremek.		
Oldenlandia lancifolia DC.		
Palicourea crocea (Sw.) Schult		
Palicourea gardenioides Benth. & Hook. ex Hemsl.		
Palicourea guianensis Aubl.		
Palicourea macrantha Loes.		
Palicourea padifolia ((Roem. & Schult.) T.N. Taylor & Lorence		
Pentas lanceolata (Forssk.) Deflers		
Psychotria berteroana DC.		
Psychotria capensis Vatke		
Psychotria costivenia Griseb.		
Psychotria elata (Sw.) Hammel		
Psychotria flava Oerst. ex Standl.		
Psychotria fruticetorum Standl.		
Psychotria galeottiana (M. Martens) C.M. Taylor & Lorence		
Psychotria lorenciana C.M. Taylor		
Psychotria mexiae Standl.		
Psychotria panamensis Standl.		
Psychotria papantlensis (Oerst.) Hemsl.		
Psychotria pubescens Sw.		
Psychotria quinqueradiata Pol.		
Psychotria simiarum Standl.		
Psychotria tenuifolia Sw.		
Psychotria trichotoma M. Martens & Galeotti		
Randia aculeata L.		
Randia cookii Standl.		
Randia monantha Benth.		
Randia obcordata S. Watson		
Randia xalapensis M. Martens & Galeotti		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Richardia scabra L.		
Rogiera ligustroides (Hemsl.) Borhidi		
Sabicea panamensis Wernham		
Simira rhodoclada (Standl.) Steyerm.		
Simira salvadorensis (Standl.) Steyerm.		
Sommera arborescens Schltdl.		
Spermacoce capitata Ruiz & Pav.		
Spermacoce remota Lam.		
Spermacoce tetraquetra A. Rich.		
Spermacoce verticillata L.		
Strumpfia maritima Jacq.		
RUTACEAE		
Amyris balsamifera L.		
Amyris purpusii P. Wilson		
Amyris sylvatica Jacq.		
Casimiroa edulis La Llave		
Choisya ternata Kunth		
Citrus japonica Thunb.		
Citrus maxima (Burm.) Merr.		
Citrus medica L.		
Citrus reticulata Blanco		
Esenbeckia berlandieri Baill.		
Esenbeckia dorantesii Ramos & E. Martínez		
Esenbeckia macrantha Rose		
Esenbeckia pentaphylla Griseb.		
Murraya paniculata (L.) Jack		
Peltostigma pteleoides (Hook.) Walp.		
Ptelea trifoliata L.		
Ruta graveolens L.		
Stauranthus perforatus Liebm.		
Zanthoxylum caribaeum Lam.		
Zanthoxylum clava-herculis L.		
Zanthoxylum elegantissimum P. Wilson		
Zanthoxylum fagara Sarg.		
Zanthoxylum juniperinum Poepp.		
Zanthoxylum melanostictum Schltdl. & Cham.		
Zanthoxylum riedelianum Engl.		
SABIACEAE		
Meliosma alba Walp.		
Meliosma dentata Urb.		
SACCOLOMATACEAE		
Saccoloma inaequale (Kunze) Mett.		
SALICACEAE		
Abatia mexicana Standl.		
Banara dioica Benth.		
Casearia guevarana Cast.-Campos & E. Medina		
Casearia guianensis (Aubl.) Urb.		
Casearia nitida Jacq.		
Casearia obovata Schltdl.		
Casearia sylvestris Sw.		
Lunania mexicana Brandegee		
Pleuranthodendron lindenii (Turcz) Sleumer		
Populus alba L.		
Populus deltoides W. Bartram ex Marshall		
Populus mexicana Wesm.		
Salix babylonica L.		
Salix bonplandiana Kunth		
Salix exigua Nutt.		
Salix humboldtiana Willd.		
Salix interior var. *angustissima* (Andersson) Dayton		
Salix paradoxa Kunth		
Salix taxifolia Kunth		
Xylosma flexuosa (Kunth) Hemsl.		
Xylosma panamensis Turcz.		
Xylosma quichensis Donn. Sm.		
Zuelania guidonia Britton & Millsp.		
SALVINIACEAE		
Azolla filiculoides Lam.		
SANTALACEAE		
Phoradendron falcatum Eichler		
Phoradendron galeottii Trel.		
Phoradendron hexastichum (DC.) Griseb		
Phoradendron nervosum Oliv.		
Phoradendron pedicellatum (Tiegh.) Kuijt		
Phoradendron piperoides (Kunth) Trel.		
Phoradendron purpusii Trel.		
Phoradendron quadrangulare (Kunth) Krug & Urb.		
Phoradendron robinsonii Urb.		
Phoradendron velutinum Nutt.		
SAPINDACEAE		
Cupania dentata Moc. & Sessé		
Cupania macrophylla Mart.		
Cupania spectabilis Radlk.		
Dodonaea viscosa Jacq.		
Paullinia clavigera Schltdl.		
Paullinia pinnata L.		
Sapindus drummondii Hook. & Arn.		
Sapindus saponaria L.		
Serjania brachycarpa A. Gray ex Radlk.		
Serjania cardiospermoides Schltdl. & Cham.		
Serjania glabrata Kunth		
Serjania triquetra Radlk.		
Thouinidium decandrum Radlk.		
Urvillea ulmacea Kunth		
SAPOTACEAE		
Chrysophyllum mexicanum Brandegee ex Standl.		
Manilkara zapota (L.) P Royen		
Pouteria campechiana (Kunth) Baehni		
Pouteria glomerata (Miq.) Radlk.		
Pouteria rhynchocarpa T.D. Penn.		
Sideroxylon capiri (A. DC.) Pittier		◊
Sideroxylon persimile (Hemsl.) T.D. Penn		
Sideroxylon salicifolium (L.) Lam.		
SAXIFRAGACEAE		
Heuchera acutifolia Rose		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Heuchera mexicana W. Schaffn. ex Rydb.		
SCHISANDRACEAE		
Illicium floridanum J. Ellis		
SCHOEPFIACEAE		
Schoepfia schreberi J.F. Gmel.		
SCROPHULARIACEAE		
Buddleja americana L.		
Buddleja cordata Kunth		
Buddleja parviflora Kunth		
Buddleja skutchii C.V. Morton		
Capraria biflora L.		
Capraria frutescens (Mill.) Britten		
Verbascum virgatum Stokes		
SELAGINELLACEAE		
Selaginella delicatissima A. Br.		
Selaginella flexuosa Spring		
Selaginella lepidophylla (Hook. & Grev.) Spring		
Selaginella martensii Spring		
Selaginella mollis A. Br.		
Selaginella pallescens (C. Presl) Spring		
Selaginella pulcherrima Liebm.		
Selaginella sartorii Hieron.		
Selaginella schiedeana A. Br.		
Selaginella silvestris Aspl.		
Selaginella stellata Spring		
Selaginella stenophylla A. Braun		
SIMAROUBACEAE		
Picrasma mexicana Brandegee		
Simarouba amara Aubl.		
SMILACACEAE		
Smilax aristolochiifolia Mill.		
Smilax bona-nox L.		
Smilax domingensis Willd.		
Smilax glauca Walter		
Smilax laurifolia L.		
Smilax mollis Humb. & Bonpl. ex Willd.		
Smilax moranensis M. Martens & Galeotti		
Smilax spinosa Mill.		
SOLANACEAE		
Athenaea cernua Donn. Sm.		
Brachistus stramoniifolius (Kunth) Miers		
Brugmansia suaveolens (Willd.) Bercht. & J. Presl		
Brugmansia × *candida* Pers.		
Brunfelsia nitida Benth.		
Capsicum annuum L.		
Capsicum annuum var. *aviculare* (Dierb.) D'Arcy & Eshbaugh		
Capsicum ciliatum Kuntze		
Capsicum frutescens L.		
Capsicum lanceolatum (Greenm. Ex Donn.Sm.) C.V. Morton & Standl.		
Capsicum pubescens Ruiz & Pav.		
Capsicum rhomboideum (Humb. Bonpl. & Kunth) Kuntze		
Cestrum anagyris Dunal		
Cestrum benthamii Miers		
Cestrum dumetorum Schltdl.		
Cestrum elegans (Brongn. ex Neumann) Schltdl.		
Cestrum endlicheri Miers		
Cestrum fasciculatum Miers		
Cestrum glanduliferum Kerber ex Francey		
Cestrum lanatum M. Martens & Galeotti		
Cestrum nocturnum L.		
Cestrum purpureum Standl.		
Cyphomandra betacea Cav.		
Cyphomandra hartwegii Sendtn. ex Walp.		
Datura meteloides DC. ex Dunal		
Datura stramonium L.		
Datura suaveolens Humb. & Bonpl. ex Willd.		
Jaltomata procumbens (Cav.) J.L. Gentry		
Lycianthes geminiflora Bitter		
Lycianthes lenta (Cav.) Bitter		
Lycianthes sideroxyloides Bitter		
Lycopersicon esculentum Mill.		
Nicandra physalodes (L.) Gaertn.		
Nicotiana plumbaginifolia Viv.		
Nicotiana tabacum L.		
Physalis ampla Waterf.		
Physalis campanula Standl. & Steyerm.		
Physalis gracilis Miers		
Physalis greenmanii Waterf.		
Physalis hintonii Waterf.		
Physalis nicandroides Schltdl.		
Physalis peruviana L.		
Physalis philadelphica Lam.		
Physalis stapelioides (Decne. ex Regel) Bitter		
Physalis subrepens Waterf.		
Schraderanthus viscosus (Schrad.) Averett		
Solandra guerrerensis Martinez		
Solandra guttata D. Don		
Solandra maxima (Sessé & Moc.) P.S. Green		
Solanum acerifolium Humb. & Bonpl. ex Dunal		
Solanum adhaerens Willd. ex Roem. & Schult.		
Solanum adscendens Sendthn.		
Solanum aligerum Schltdl.		
Solanum aphyodendron S. Knapp		
Solanum appendiculatum Humb. & Bonpl. ex Dunal		
Solanum asperolanatum Ruiz & Pav.		
Solanum aturense Humb. & Bonpl. ex Dunal		
Solanum capsicoides All.		
Solanum cervantesii Lag.		
Solanum chrysotrichum Schltdl.		
Solanum diphyllum L.		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Solanum dulcamaroides Dunal		
Solanum erianthum D. Don		
Solanum hirtum Vahl		
Solanum ionidium Bitter		
Solanum lanceifolium Jacq.		
Solanum lanceolatum Ruiz & Pav.		
Solanum laxum Spreng.		
Solanum mammosum L.		
Solanum melongena L.		
Solanum mitlense Dunal		
Solanum morelliforme Bitter & Münch		
Solanum myriacanthum Dunal		
Solanum nigrescens M. Martens & Galeotti		
Solanum nigricans M. Martens & Galeotti		
Solanum nigrum L.		
Solanum nudum Humb. & Bonpl. ex Dunal		
Solanum pseudocapsicum L.		
Solanum pubigerum Dunal		
Solanum rudepannum Dunal		
Solanum schlechtendalianum Walp.		
Solanum seaforthianum Andrews		
Solanum tuberosum L.		
Solanum umbellatum Mill.		
Solanum verbascifolium L.		
Solanum wendlandii Hook. f.		
Witheringia solanacea Miers ex Benth. & Hook.f		
Witheringia stellata (Greenm.) Hunz.		
SPHENOCLEACEAE		
Sphenoclea zeylanica Gaertn.		
STAPHYLEACEAE		
Turpinia insignis Tul.		
Turpinia occidentalis (Sw.) G. Don		
STEREOPHYLLACEAE		
Stereophyllum radiculosum (Hook.) Mitt.		
STYRACACEAE		
Styrax glabrescens Benth.		
SYMPLOCACEAE		
Symplocos coccinea Bonpl.		◊
Symplocos limoncillo Bonpl.		
Symplocos longipes Lundell		
Symplocos pycnantha Hemsl.		
TALINACEAE		
Talinum fruticosum (L.) Juss.		
Talinum lineare Hoffmanns.		
Talinum paniculatum (Jacq.) Gaertn.		
TAXACEAE		
Taxus globosa Schltdl.		◊
THEACEAE		
Camellia japonica L.		
THELYPTERIDACEAE		
Christella dentata (Forssk.) Brownsey & Jermy		
Macrothelypteris torresiana (Gaudich.) Ching		
Thelypteris cheilanthoides (Kunze) Proctor		
Thelypteris concinna (Willd.) Ching		
Thelypteris linkiana (C. Presl) R.M. Tryon		
Thelypteris obliterata (Sw.) Proctor		
Thelypteris pilosa (M. Martens & Galeotti) Crawford		
Thelypteris puberula (Baker) C.V. Morton		
Thelypteris resinifera (Desv.) Proctor		
Thelypteris rudis (Kunze) Proctor		
Thelypteris scalaris (Christ) Alston		
Thelypteris toganetra A.R. Sm.		
THYMELAEACEAE		
Daphnopsis americana (Mill.) J.R. Johnst.		
Daphnopsis mollis (Meisn.) Standl.		
Daphnopsis radiata Donn. Sm.		
TOVARIACEAE		
Tovaria diffusa (Macfad.) Fawc. & Rendle		
Tovaria pendula Ruiz & Pav.		
TROPAEOLACEAE		
Tropaeolum majus L.		
ULMACEAE		
Ulmus mexicana Planch.		
URTICACEAE		
Boehmeria caudata Sw.		
Boehmeria ulmifolia Wedd.		
Cecropia obtusifolia Bertol.		
Discocnide mexicana (Liebm.) Chew		
Laportea canadensis Gaudich.		
Myriocarpa cordifolia Liebm.		
Myriocarpa longipes Liebm.		
Parietaria debilis G. Forst		
Parietaria pensylvanica Muhl. ex Willd.		
Phenax hirtus Wedd.		
Pilea acuminata Liebm.		
Pilea falcata Liebm.		
Pilea microphylla (L.) Liebm.		
Pilea pubescens Liebm.		
Pouzolzia guatemalana Wedd.		
Urera baccifera Gaudich.		
Urera caracasana (Jacq.) Gaudich. ex Griseb.		
Urera glabriuscula V.W. Steinm.		
Urera simplex Wedd.		
Urtica chamaedryoides Pursh		
Urtica mexicana Liebm.		
VERBENACEAE		
Aloysia citriodora Ortega ex Pers		
Bouchea prismatica (L.) Kuntze		
Citharexylum affine D. Don		
Citharexylum caudatum L.		
Citharexylum ellipticum Moc. & Sessé ex D.Don		
Citharexylum hidalgense Moldenke		

Appendix 1. Continuation.

SCIENTIFIC NAME	CITES	NOM- 059
Citharexylum ligustrinum Van Houtte		
Citharexylum mocinnoi D. Don		
Duranta erecta L.		
Glandularia delticola (L.M.Perry) Umber		
Glandularia elegans (Kunth) Umber		
Glandularia teucriifolia (M. Martens & Galeotti) Umber		
Lantana camara L.		
Lantana canescens Kunth		
Lantana glandulosissima Hayek		
Lantana trifolia L.		
Lantana velutina M. Martens & Galeotti		
Lippia alba (Mill.) N.E. Br. ex Britton & P. Wilson		
Lippia myriocephala Schltdl. & Cham.		
Lippia nodiflora Michx.		
Lippia umbellata Cav.		
Petrea volubilis L.		
Phyla scaberrima (Juss. ex Pers.) Moldenke		
Phyla strigulosa (M. Martens & Galeotti) Moldenke		
Priva aspera Kunth		
Stachytarpheta jamaicensis Vahl		
Tamonea curassavica (L.) Pers.		
Tectona grandis L. f.		
Verbena bipinnatifida Nutt.		
Verbena carolina L.		
Verbena ehrenbergiana S. Schauer		
Verbena halei Small.		
Verbena litoralis Kunth		
Verbena longifolia M. Martens & Galeotti		
Verbena menthifolia Benth.		
Verbena pinetorum Moldenke		
Verbena rigida Spreng.		
VIOLACEAE		
Hybanthus attenuatus (Humb. & Bonpl. ex Schult.) Schulze-Menz		
Hybanthus elatus (Turcz.) C.V. Morton		
Hybanthus mexicanus Ging. ex DC.		
Hybanthus parietariifolius Loes.		
Rinorea guatemalensis Bartlett		
Viola hookeriana Kunth		
Viola jalapaensis W. Becker		
Viola odorata L.		
Viola scandens Humb. & Bonpl. ex Willd.		
VITACEAE		
Ampelocissus erdvendbergiana Planch.		
Cissus alata Jacq.		
Cissus erosa Rich.		
Cissus sicyoides L.		
Parthenocissus quinquefolia Planch.		
Vitis berlandieri Planch.		
Vitis biformis Rose		
Vitis bourgaeana Planch.		
Vitis nesbittiana Comeaux		
Vitis popenoei J.L. Fennell		
Vitis tiliifolia Humb. & Bonpl. ex Schult.		
VITTARIACEAE		
Polytaenium feei Maxon		
Vittaria graminifolia Kaulf.		
WINTERACEAE		
Drimys winteri J.R. Forst. & G. Forst		
WOODSIACEAE		
Athyrium filix-femina (L.) Roth		
Woodsia mollis (Kaulf.) J.Sm.		
XIMENIACEAE		
Ximenia americana L.		
ZAMIACEAE		
Ceratozamia brevifrons Miq.	Appendix I	
Ceratozamia mexicana Brongn.	Appendix I	◊
Ceratozamia morettii Vázq. Torres & Vovides	Appendix I	◊
Dioon edule Lindl.	Appendix II	◊
Zamia inermis Vovides, J.D. Rees & Vázq. Torres	Appendix II	◊
Zamia monticola Chamb.	Appendix I	
ZINGIBERACEAE		
Alpinia zerumbet (Pers.) B.L. Burtt & R.M. Sm.		
Hedychium coronarium J. Koenig		
Renealmia aromatica Griseb.		
Renealmia mexicana Klotzsch ex Petersen		
ZYGOPHYLLACEAE		
Kallstroemia pubescens (G. Don) Dandy		