

FLORISTICS

An integrated assessment of the vascular plant species of the Americas

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The cataloging of the vascular plants of the Americas has a centuries-long history, but it is only in recent decades that an overview of the entire flora has become possible. We present an integrated assessment of all known native species of vascular plants in the Americas. Twelve regional and national checklists, prepared over the past 25 years and including two large ongoing flora projects, were merged into a single list. Our publicly searchable checklist includes 124,993 species, 6227 genera, and 355 families, which correspond to 33% of the 383,671 vascular plant species known worldwide. In the past 25 years, the rate at which new species descriptions are added has averaged 744 annually for the Americas, and we can expect the total to reach about 150,000.

“What trees!...all utterly new to us. Bonpland keeps telling me he’ll go out of his mind if the wonders don’t cease soon.”

—Alexander von Humboldt (1)

Fernández de Oviedo’s chronicles (2) from 1526 contain the first European accounts of New World plants; they depict huge trees and include the first reports of tobacco, chili pepper, and corn, soon to become widely used throughout the world. Accounts like Oviedo’s inspired thousands of botanists to explore the plant riches of the hemisphere over the next five centuries and to collect over 22 million specimens, now housed in the world’s herbaria (3), which provide the foundation for our current knowledge (see supplementary text).

The task of naming and classifying plant species remains daunting because of the exuberance of plant diversity in the tropics and the paucity of comprehensive floristic accounts there. In the 1970s, a new era commenced throughout the Americas, as collecting and documenting plants expanded greatly as an activity for in-country institutions, promoting and strengthening the capacity of both institutions and individuals. Because of the large numbers of plant species and the extensive time needed to complete regional (4, 5) or country floras in a region where land clearing and other human activities were driving extinction rapidly (6), many botanists turned to producing online and printed checklists to provide a better understanding of the plants of individual countries or regions. In the 1990s, a series of country-based plant checklists (7–9) was organized by the Missouri Botanical Garden, followed by other lists produced by institutions throughout the Americas (10–16). These checklists present verifiable listings of species based on the analysis

of herbarium specimens, published literature, and expert knowledge of plant specialists. The task of preparing authoritative checklists often proved more difficult than anticipated, in view of the large amounts of data to be synthesized within them, and some of the projects took a decade or more to complete. Checklists are extensively used as aids to identify plants of an area and are valued by derivative projects such as Red Lists [e.g., (17)] and regional lists [e.g., (18)] and as estimates of the number of threatened species [e.g., (19)]. In some countries, they have become the authoritative resource for scholars and decision-makers [e.g., (20)].

Between 1993 and 2016, plant checklists were completed for Mexico (16), the West Indies (14), and all of South America (7–13, 15). Together with two large ongoing flora projects—Flora of North America north of Mexico (hereafter North America) and Flora Mesoamericana, which published, in part (4, 5), records of the occurrences of most of their plant species—a series of data sets became available, making an initial overview of the plants of the Americas possible. Here we merge these floristic efforts into a single checklist to present an initial account of the native vascular plant species known in the Americas. This combined working list was produced through a compilation process using the Missouri Botanical Garden Tropicos database (21).

The total number of native vascular plants known in the Americas comprises 124,993 species, 6227 genera, and 355 families. This corresponds to 33% of the most recent estimate of 383,671 known vascular plant species worldwide (22). At a continental scale, 51,241 species occur on the North American continent (42,941 endemic) and 82,052 in South America (73,552 endemic), with only 8300 species shared between the two continents. The vascular plant flora of South America is 6%

larger than the 77,100 species recorded for Africa (23), which has an area twice its size. Although China has a surface area of similar size to the United States or Canada, its mostly temperate flora consisting of 30,426 species (24) is 97% larger than the flora of the United States and Canada combined.

Within the Americas, Brazil has the most diverse flora, with 33,161 species, followed by Colombia (23,104) and Mexico (22,969) (Fig. 1 and fig. S1A). The most diverse family is Orchidaceae, with 12,983 species, followed by Asteraceae with 12,043 species and Fabaceae with 7473 (fig. S2A); 24 families have more than 1000 species (figs. S2 and S3A). The largely epiphytic Orchidaceae is the most diverse family in the tropical Andean countries, accounting for 9 to 23% of those countries’ floras (Ecuador 23%, Colombia 15%, Peru 11%, Venezuela 10%, Bolivia 9%); it is also the most diverse family in Central America (13%) and the Guianas (9%) and is the second most diverse in Brazil (8%). By contrast, Asteraceae is the most species-rich family in the mostly temperate Southern Cone (15%), North America (14%), and Mexico (13%); this family is second in diversity in most tropical Andean countries and Central America. Fabaceae is the most diverse family in Brazil (8%) and the second most diverse in Mexico (8%), the Guianas (8%), North America (7%), and Venezuela (6%). In the West Indies, the most diverse family is Rubiaceae (7%), which is well represented in all tropical regions; second in diversity are Orchidaceae and Asteraceae (table S1). Fifty-two families are endemic or near endemic to the Americas, including the nearly endemic Berberidopsidaceae, Bromeliaceae, Cactaceae, Calceolariaceae, Humiriaceae, Mitrastemonaceae, and Rapateaceae, with only one or two species of these families found on other continents (table S2). Bromeliaceae is the largest of these families with 3403 species, 39.5% of which are found in Brazil. Five genera have more than 1000 species in the Americas, including pantropical *Piper* (1804) and *Peperomia* (1133) and neotropical *Epidendrum* (1459 species),

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Fig. 1. Map of the Americas showing 12 geographical areas. The areas represent the 12 data sets used to calculate the plant-data summary. For each area, the total number of species of vascular plants and the number of species restricted to that area (in parentheses) are shown.

Miconia (1110), and *Lepanthes* (1035) (fig. S2B and table S3). The majority of genera (5975) and families (223) are represented by fewer than 100 species (fig. S3).

Seventy percent (87,080) of the species in the Americas are restricted in distribution to one of the countries or regions (Fig. 2A and fig. S4). In the West Indies, 67% of the vascular flora is restricted to that region, whereas only 14% of the flora of the Guianas is endemic there. The temperate North America and Southern Cone also show high percentages of restricted species (69 and 45%, respectively). At the country level, Brazil and Mexico have over half of their flora, 55 and 53%, restricted to their borders (fig. S1A). We find, not surprisingly, that larger areas have more range-restricted species than smaller ones (fig. S1B).

Neighboring countries of the tropical Andes, such as Colombia, Ecuador, and Peru, share a large number of their species (between 6799 and 9226; table S4). The floristic similarity among the 12 areas can be gauged from a nonmetric

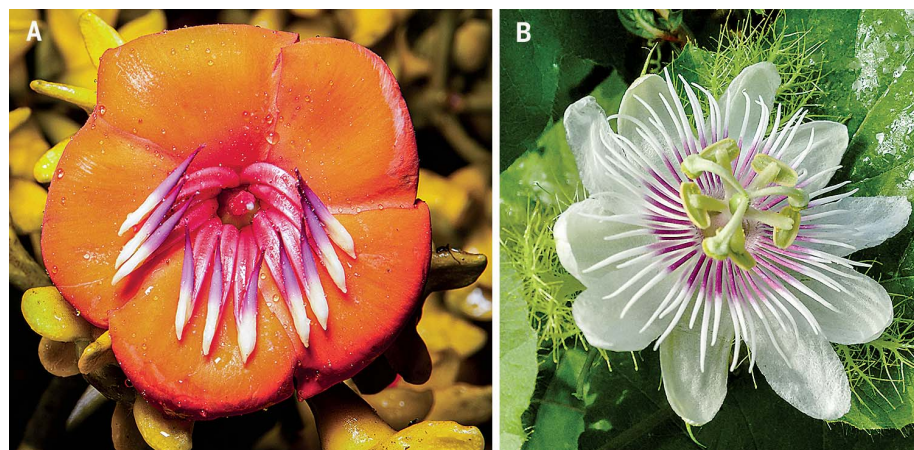


Fig. 2. Contrasting distributions of plant species in the Americas. (A) *Meriania aurata*, one of the 87,080 species with restricted distribution, which only occurs in central Ecuador [Photo credit: L. Jost]. (B) *Passiflora foetida*, one of the 122 species shared among all 12 geographic areas in the Americas [Photo credit: O. Hokche].

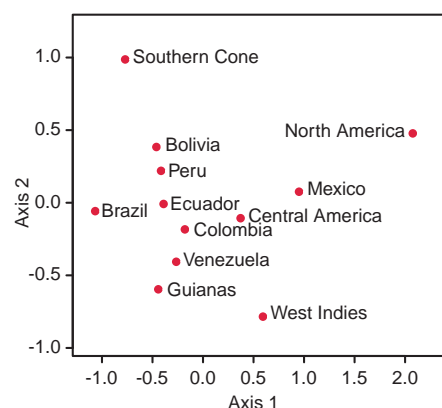


Fig. 3. Floristic similarity among the 12 geographical areas in the Americas. The floristic similarity among the geographic areas represented as a nonmetric multidimensional scaling (NMDS). Distance and placement is indicative of similarity among areas. Axes 1 and 2 show the floristic similarities among regions according to an NMDS ordination based on Sørensen's distances.

multidimensional scaling (Fig. 3). The temperate Southern Cone has the most commonality with Brazil and Bolivia. North America shares, by far, more species with Mexico than with any other area. The West Indies share species with all 11 areas, but their flora is noticeably less similar to that of Peru and the Southern Cone. Of the 124,993 native species in the Americas, only 122 species occur in all of the countries and regions considered here (Fig. 2B and fig. S4).

Our data show that the rate at which plant names are described and accepted for the Americas does not show a tendency to level off. In the past 25 years, between 439 and 1022 (average 744) species have been described each year (Fig. 4). Five to 10 years after the publication of the Brazil, Ecuador, and Peru checklists, the number of known species of plants in those countries increased by 3.6 to 10% (25–28). Brazil is among the four countries globally that continues to yield the greatest number of new species described annually (29). Biologists estimate that as many as 10 to 20% of species could still remain undescribed in tropical American biodiversity hotspots (15, 30, 31). A forecast using linear regression based on the number of new species described between 1990 and 2014 would yield about 152,000 species by 2050 for the Americas (fig. S5).

To date, there has been no previous attempt to catalog the plant diversity of the Americas in its entirety. Because our checklist is compiled from specimen-based data from floras and checklists that cover all sectors of the Americas, it is verifiable and can be readily updated with input from taxonomic specialists. Keeping these listings up-to-date is challenging, given the constant stream of new discoveries and because of taxonomic and nomenclatural changes. Development of computerized databases has helped to manage informa-

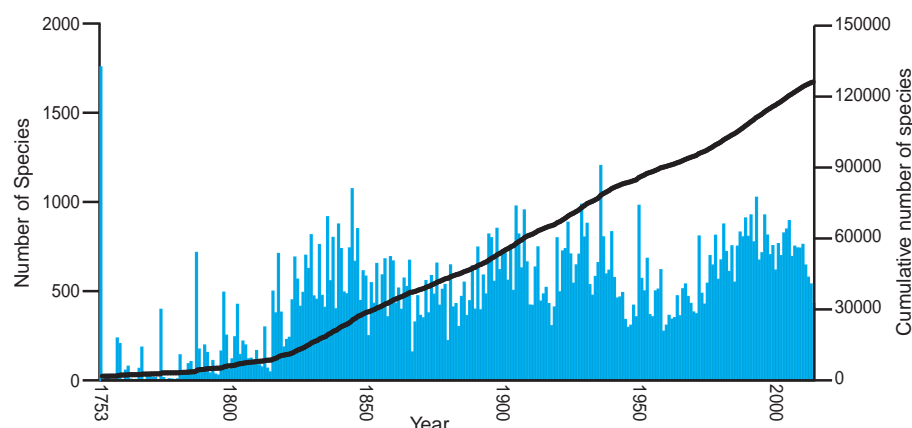


Fig. 4. Species described per year. The number of plant species (basynoms) described per year from 1753 to 2015 for the Americas list (blue bars), and the cumulative number of accepted species (black line).

tion, and the use of molecular-based phylogenies has improved our understanding of taxonomic and biogeographic relationships. Checklist data has proven to be a major source of baseline information for both scientists and governmental decision-makers, and it helps to fulfill major goals of the Global Strategy of Plant Conservation of the United Nations Convention on Biological Diversity (www.cbd.int/gspc/). Such efforts should assist field-directed and taxonomically oriented research of plants and their distribution, while there is still an opportunity for these to be conducted.

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ACKNOWLEDGMENTS

Our gratitude goes to the hundreds of contributors to the various projects, collectors, volunteers, and botanical institutions; governmental and funding agencies; and individuals that have supported these endeavors. We thank L. Jost for permitting use of his photograph and S. Tello for preparing Fig. 3. This project was conceived by C.U.U., P.M.J., and P.H.R. The checklist data were compiled by C.U.U. and P.M.J., data was contributed by C.U.U., P.A.-R., S.B., M.J.B., R.B., P.E.B., L.B., M.C., G.D., R.C.F., S.R.G., O.H., B.L., S.L.-Y., D.A.N., M.N., P.H.R., M.T.S., J.L.V., J.L.Z., F.O.Z., and P.M.J. The structure of the Tropicos database was developed by R.E.M. All queries in Microsoft SQL Server and multiple data reports were conducted by H.S. The project website was designed

by P.M.J. and C.U.U. and populated by H.S. All data analyses were conducted by and figures and tables prepared by C.U.U. and P.M.J. The checklist data were formatted by P.M.J. The original manuscript was drafted by C.U.U., and all coauthors contributed to subsequent versions. R.C.F. received a Research Productivity Fellowship from the National Council for Scientific and Technological Development of Brazil (CNPq). The Checklist of the Vascular Plants of the Americas is available as a text document in

the supplemental materials, and all of the information is publicly available on a website on the Missouri Botanical Garden database Tropicos at <http://tropicos.org/Project/VPA>.

SUPPLEMENTARY MATERIALS

www.sciencemag.org/content/358/6370/1614/suppl/DC1
Materials and Methods

Supplementary Text
Figs. S1 to S5
Tables S1 to S5
References (32–50)
Data Set S1

14 June 2017; accepted 8 November 2017
10.1126/science.aao0398

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Science **358** (6370), 1614-1617.
DOI: 10.1126/science.aao0398

The vascular plants of the Americas

Botanical exploration in the Americas has a history that stretches back for half a millennium, with knowledge assembled in diverse regional floras and lists. Ulloa Ulloa *et al.* present a comprehensive and integrated compilation of all known native New World vascular plant species (see the Perspective by Givnish). This compilation, in a publicly available, searchable database, includes 124,993 species—about one-third of the worldwide total. They further present details of the distribution of species across families and genera, the geographical foci of diversity, and the floristic relationships between regions. The rate of plant species discovery in the Americas averages almost 750 annually, so this valuable resource will continue to grow.

Science, this issue p. 1614; see also p. 1535

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Supplementary Materials for

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Published 22 December 2017, *Science* **358**, 1614 (2017)
DOI: 10.1126/science.aao0398

This PDF file includes:

Materials and Methods
Supplementary Text
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Caption for Data Set S1
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Other Supporting Online Material for this manuscript includes the following:
(available at www.sciencemag.org/content/358/6370/1614/suppl/DC1)

Data Set S1 (PDF)

Materials and Methods

Data compilation

Our dataset is built from ten published datasets of accepted names of native vascular plant species for Bolivia, Brazil, Colombia, Ecuador, the Guianas (French Guiana, Guyana, and Suriname), Mexico, Peru, the Southern Cone (Argentina, Chile, Paraguay, Uruguay), Venezuela, and the West Indies (7-17, 25-28, 32-34); two partial published datasets in the Flora of North America North of Mexico (North America hereafter) and the Flora Mesoamericana (4, 5) along with unpublished data from volumes still in preparation, and two previously unpublished datasets covering the ferns in the West Indies and Peru provided by coauthors of this article. Data for Central America was extracted from the Flora Mesoamerica project, and data for the Guianas was taken from the Checklist of the Plants of the Guiana Shield (10, 34), for a total of 12 non-overlapping geopolitical areas used in our analyses: Bolivia, Brazil, Central America, Colombia, Ecuador, the Guianas, Mexico, North America, Peru, the Southern Cone, Venezuela, and the West Indies. Species names were extracted from three sources: floras, catalogues, and checklists. Floras are comprehensive works that include descriptions, and to different degrees, synonymy, type information, references, specimen citations, maps, and illustrations; catalogues present species names with condensed information that may include synonymy, references, habit, habitat, elevation, distribution, and conservation status; finally, checklists are simpler listings of species names and distributions. Due to their similarity and conciseness, catalogues and checklists are often used interchangeably in the botanical community.

We used the Missouri Botanical Garden (MBG) plant database Tropicos® (21) as our data repository and conducted a computerized compilation of the component datasets. We used Tropicos® because it already contained name data and distributions for MBG's published catalogues (Bolivia, Ecuador, Peru), from over 95% of species recorded as occurring for the Flora Mesoamericana and Flora of North America region, and had many names linked to other published resources used herein.

In order to verify plant name information, the "Name Matching" function in Tropicos® was performed for each of the 12 original datasets (one at a time). This function looks for plant names in the database and produces a report of names with their ID number and place of publication when matched, or else an empty output field if not matched. This exercise resulted in the need to add over 25,000 names (including basionyms for combinations and new names) and their place of publication that were not previously recorded in Tropicos®, in order to have a complete set of all names associated with each publication. To make results comparable, only names at the species level were considered throughout the datasets. We only used names of plant species originally scored as native and/or endemic in source datasets. Species introduced to the New World were excluded from each dataset; those species were eliminated from the lists according to the original score in each individual publication or project (as introduced, exotic, adventitious, naturalized, or cultivated). Once all 12 datasets were completed, they were uploaded in the Tropicos® project database, and a single master list was produced merging all names linked to their respective geographical occurrences (effective June 2016). Initial data uploaded for the 12 areas was Bolivia (14,527 species names), Brazil (33,328), Colombia (23,208), Central America (16,759), Ecuador (18,268), the Guianas

(8,425), Mexico (23,219), North America (15,431), Peru (19,309), Southern Cone (13,149), Venezuela (15,194), and the West Indies (11,089). Names deemed unreliable because they resulted in duplicates, invalid names, orthographic variants, non-native species, or when not found in Tropicos® or the International Plant Name Index (IPNI, www.ipni.org) websites, were eliminated from each dataset (see Table S4 for final numbers per area), and reports were returned to each contributor for their evaluation and future resolution.

Nomenclature and taxonomy.

To sort out homotypic synonymy we evaluated all combinations and new names, and when more than one name used the same basionym we retained only the most recent name accepted by any of the 12 datasets. Because of differing generic concepts used in the 12 datasets, spanning approximately 23 years, some generic inconsistency resulted. To attempt to solve this problem, we ran a verification test to look for the correct inclusion of the generic type using Tropicos®' generic type information. Missing type information was completed using the services provided by Index Nominum Genericorum (ING) (<http://botany.si.edu/ing/>) and IPNI. At the time of publication, 123 genera in the master list were not typified and have not been lectotypified. Lectotypification is complicated and goes beyond the aim of this compilation (for example, *Tripleurospermum* in Asteraceae). To verify generic synonymy and use of generic names, coauthors revised families of their expertise or we consulted those included in Kew's World Checklist of Selected Plant families (35): Alstroemeriaceae, Apocynaceae, Arecaceae, Asparagaceae, Asteraceae, Basellaceae, Berberidaceae, Bignoniaceae, Bromeliaceae, Burmanniaceae, Campanulaceae, Chrysobalanaceae, Cleomaceae, Commelinaceae, Cucurbitaceae, Cupressaceae, Cyperaceae, Euphorbiaceae, Fabaceae, Iridaceae, Juncaceae, Marantaceae, Musaceae, Myrtaceae, Onagraceae, Orchidaceae, Passifloraceae, Pinaceae, Poaceae, Podocarpaceae, Pteridophytes, Rapateaceae, Rubiaceae, Sapindaceae, Sapotaceae, Solanaceae, and Zingiberaceae. We also requested and acknowledge the following people for revision of parts of the checklist: C. Anderson (Malpighiaceae), I. Al-Shehbaz (Brassicaceae), M. Fishbein (Apocynaceae), S. Graham (Lythraceae), J. Luteyn (Ericaceae), H. Maas (Costaceae), P. Maas and L. Westra (Annonaceae), F. Michelangeli (Melastomataceae), N. O'Leary (Lamiaceae and Verbenaceae), J. Solomon and W. Wagner (Onagraceae), H. van der Werff (Lauraceae), R. Riina, G. Levin, L. Gillespie, B. van Ee, S. Armbruster and K. Wurdack (Euphorbiaceae). The resulting checklist does however, not solve all problems relating to differences in generic concept in various families (for example, *Borreria* vs. *Spermacoce* in Rubiaceae). Even when the generic concepts have been resolved there are occasionally some residual names that lack combinations in the current generic alignment, such species are included, but in the genus where they were originally accepted in the 12 datasets.

The download of names from Tropicos® used for all analyses was performed on 27 September 2017. To analyze the yearly rate of publication of species names in the checklist, we used the year of publication of basionyms. We also used basionyms for the table of people who have described species names in this list (Table S5). We used the Forecast function of Microsoft® Excel® to predict number of species using the number of species published each year in the last 25 years (1990-2014, Fig. S5). Families follow

the APG IV (36) classification. Analyses presented in Figure 3 were run in the R Statistical Environment v. 3.3.2 (37) using the metaMDS function in the package Vegan (38).

Distribution.

Distribution in the checklist (see Dataset 1) refers to individual geopolitical datasets of: Bolivia (BO), Brazil (BR), Central America (CA), Colombia (CO), Ecuador (EC), the Guianas (GU), Mexico (ME), North America (NA), Peru (PE), the Southern Cone (SC), Venezuela (VE), and the West Indies (WI). Central America includes the countries of Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama. North America refers to the concept of the 'Flora of North America north of Mexico' project and includes the continental United States (including the Florida Keys and Aleutian Islands), Canada, Greenland (Kalâtdlit-Nunât), and St. Pierre and Miquelon. Original sources involved three overlapping areas that would produce an unwanted bias in the number of endemics for our analyses. To solve this situation we excluded species occurring in the overlapping areas, based on the distributions from the original sources and already treated in their respective country lists: excluded from Mesoamerica were 744 species occurring only in the southern Mexican states of Chiapas, Tabasco, and Yucatán Peninsula, leaving Central America as a unit; for the same reason the Guianas in our list refers exclusively to French Guiana, Guyana, and Suriname and does not include 4,313 species found only in the Venezuelan Guayana (states of Amazonas, Bolívar, and Delta Amacuro), which are already treated in the Venezuela list; the Southern Cone includes the countries of Argentina, Chile, Paraguay, and Uruguay; 3,575 species known only from southern Brazil were excluded as they are already treated in the Brazil country list.

The checklist and website.

The purpose of this compilation is to unite major achievements published as country or regional checklists, and their supplements if available, with two large ongoing floristic projects which in their totality comprise a complete dataset for plants native to the Americas. Checklists by nature are a moving target and have various limitations. This list is no exception, due mainly to the variety of sources, the 23-year interval since 1993 when the first of the dataset (Peru) used for this compilation was published, and the computerized method employed. Furthermore, updates to the individual datasets have been irregular and do not exist in published or databased format for all geopolitical datasets. This first version of the list does not attempt to include names postdating a published checklist or its update, which means that a number of recently published species are missing (ca. 1%). To arrive at the 1% estimate of missing species due to names published after the different checklists or updates were published, we performed advanced searches in IPNI to determine the number of new species published subsequent to the publication of the Peru endemics (2008-on), the Venezuelan checklist (2009-on), the Southern Cone checklist (2009-on), the Ecuador update (2011-on), and the Guianas update (2011-on). Other checklists or updates are more recent (up to early 2016, for Colombia and México) or else continuously updated. The results of our searches were sorted by year, excluding 2016 and 2017 so that our data would cover until the end of 2015, and then averaged to arrive at the 1% figure of species not included in our

Americas checklist. This list is not definitive and is considered a working list subject to improvements, additions, and corrections. Further changes in taxonomy and distribution will be made and reflected in the online version of the checklist at <http://tropicos.org/Project/VPA>, where a coordinated effort will be made to solve nomenclatural problems, resolve conflicts, and compile new data. We welcome comments and feedback, and invite users and readers to submit pertinent information.

The collated lists resulted in a total of 124,993 species, 6,227 genera, and 355 families (see Dataset 1).

The Tropicos® botanical database.

Tropicos® is an online botanical database on worldwide vascular plant and bryophyte created in the 1980s. It contains scientific names and associated information to manage internal data for MBG floristic projects, but has since been made publicly available to the world's scientific community. It contains nomenclatural, bibliographic, and specimen data collected by MBG staff during the past 35 years, as well as a wealth of information incorporated from other databases through collaborative agreements. The Names table contains the plant scientific name and publication information entered from the original publication. Each name is identified by a unique identifier and linked to other databases (e.g., IPNI), type information and images (e.g., JStor Global Plants), and to the original place of publication (e.g., Biodiversity Heritage Library). The Names table is also linked to additional information such as herbarium specimens bearing that name, status as an accepted name or a synonym (according to individual linked references), and geographical distribution from literature displayed in separate tabs. The Reference table includes bibliographic references by author and year. Information contained in References can also be stored, allowing the linkage of names originally published or used in References along with the accepted name or synonym directly linked to the Names table; a similar module allows storage of the reported geographic distribution which is also linked to the Names table. Tropicos® also serves as a management tool for the administration of herbarium and living collections. The system currently employs a Microsoft® SQL Server® relational database engine. Current online resources in Tropicos® include nomenclatural data on about 1.3 million plant names, ca. 140,000 references, more than 4,520,000 specimens, and nearly 530,000 plant images. Tropicos® is curated and updated via various MBG projects.

Supplementary Text 1

Highlights of the Americas botanical history.

In the mid-1700s as settlements and colonies in the Americas were consolidated, they formed bases for exploring the natural history of the new areas. Following the introduction of Carl Linnaeus' comprehensive account of plant species in 1753 (39), the desire grew to catalogue the plants of the world. Dutch-born scientist Nikolaus Jacquin explored the plants of the West Indies and neighboring continental lands in 1755–59, seeking new botanical treasures for the Imperial Palace at Schönbrunn, in Vienna. He became the first botanist to name plants of the Americas based on his own collections (40). In 1762, French botanist Jean Aublet collected in French Guiana and later described his findings (41). Three expeditions went to the Spanish Viceroyalties: Peru (now areas of Ecuador, Peru, Bolivia, and Chile) led by Hipólito Ruiz and José Pavón, from 1777 to

1788; New Spain (present day Mexico, Spanish West Indies, Southern United States, Central America) led by Mariano Sessé and José Mociño from 1787 to 1803; New Granada (present day Panama, Venezuela, Colombia, and Ecuador), directed by resident botanist José Celestino Mutis from 1783 to 1816. With Napoleon's conquest of Spain and the subsequent loss of its colonies in the Americas, the publication of their findings lost support and they were only slowly made available to the botanical community. A portion of *Flora Peruviana et Chilensis* (42) was published soon after the expeditions, but other results mostly remained unpublished until modern times. The collections by the Prussian savant Alexander von Humboldt with French botanist Aimé Bonpland made during their extraordinary expedition from 1799 to 1804, with the subsequent studies of their material by Carl Kunth, became the foundation for plant taxonomy for northern South America (43). Similar remarkable important works were Thomas Nuttall's *The Genera of North American Plants* (44), August Grisebach's *Symbolae ad Floram Argentinam* (45), and Claudio Gay's *Flora Chilena* (46). The turn of the 20th century saw the culmination of the monumental *Flora Brasiliensis* (1840–1906) of Carl von Martius and collaborators (47), at the time one of the largest floras of the world. Since then, numerous initiatives for regional, country, and local floras have been undertaken, but only about a dozen modern country floras have been completed (e.g., 48-50).

European botanists Carolus Linnaeus, George Bentham, Augustin de Candolle, and Carl Kunth were the most prolific of the early scientists describing plants from the Americas; they worked exclusively with herbarium specimens. By 1825, about 10% of the currently known flora of the Americas had been assigned binomial names, and a century later half had been described (Fig. 3). A total of 6,164 botanists have described the species presented in this list (Table S5).

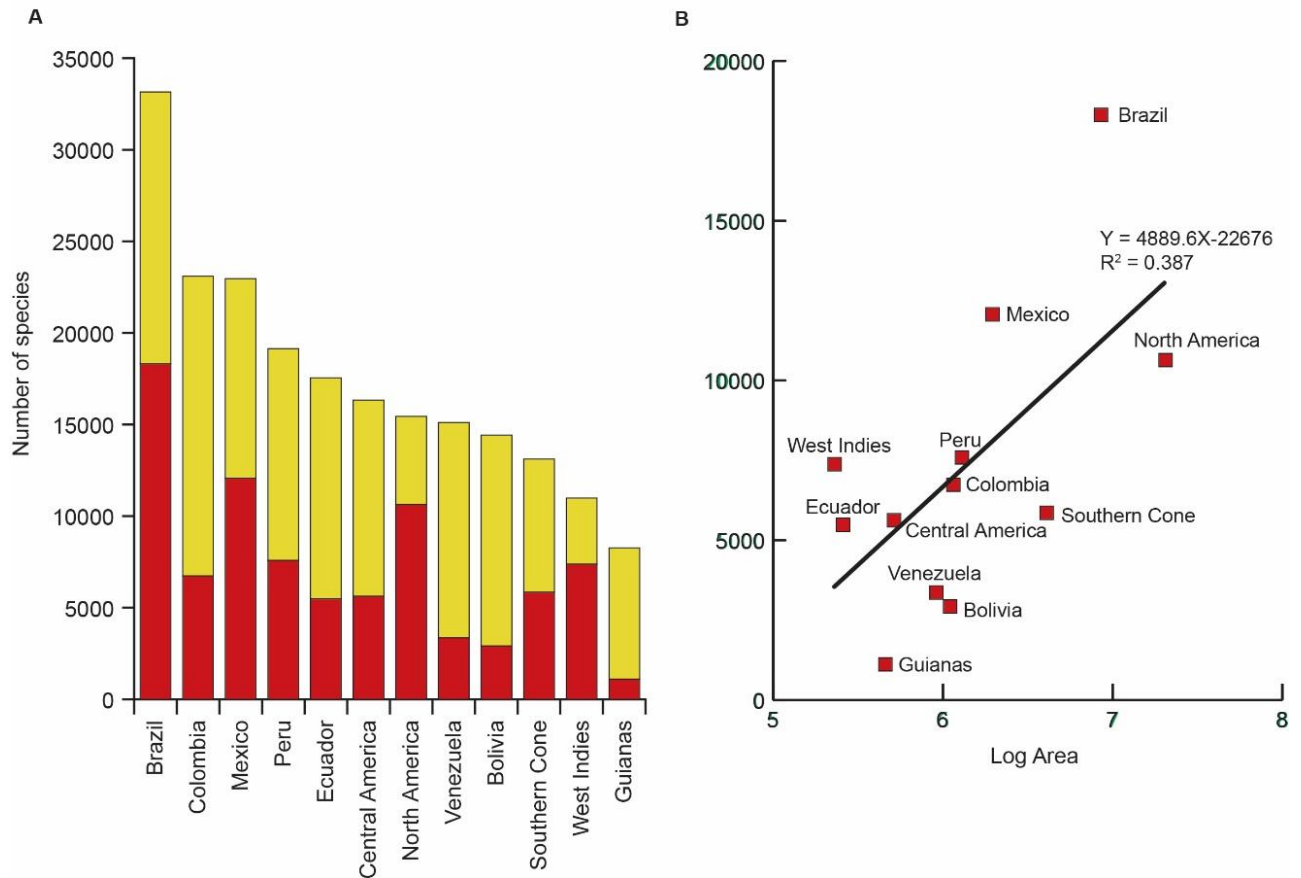


Fig. S1

(A) Total number of species of vascular plants in each geographic area in the Americas. Yellow portion of each bar are species found in other areas as well. Red portion of each bar are species restricted to the area. (B) The number of range-restricted species as a function of log area. Larger areas tend to have more range-restricted species.

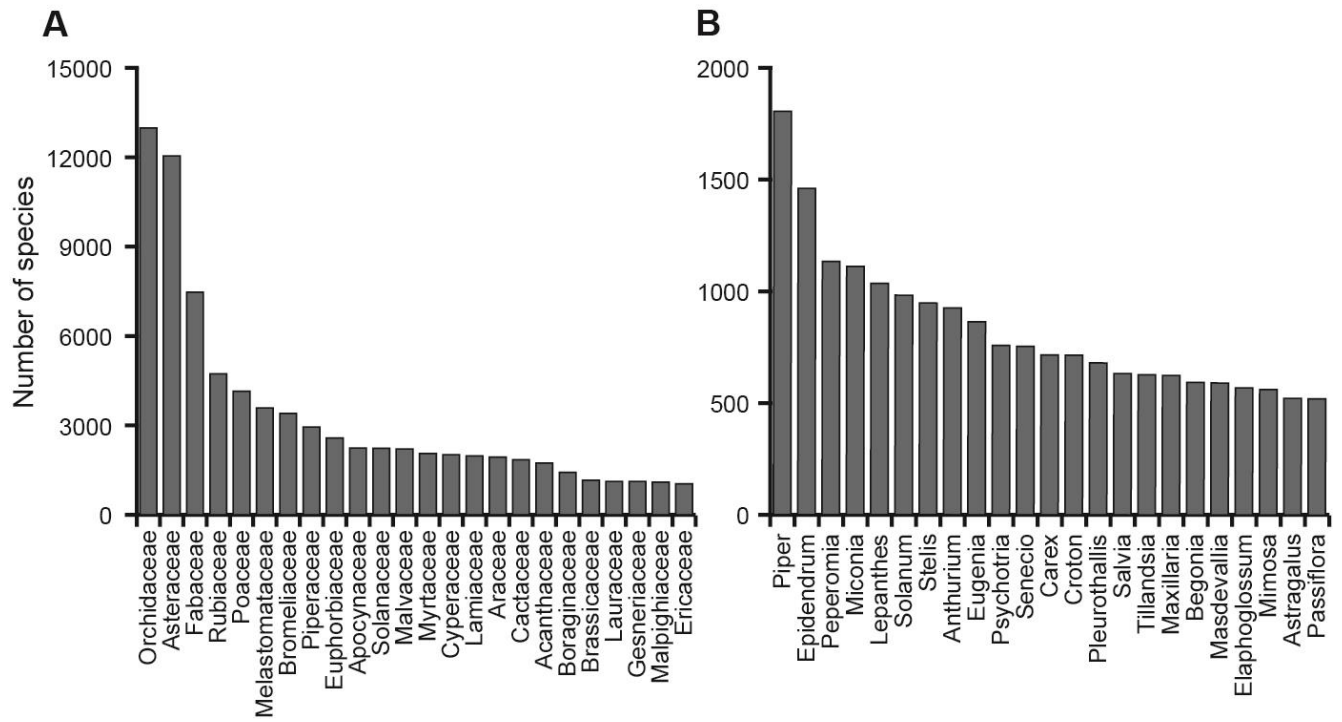


Fig. S2

(A) The 24 most diverse plant families with more than 1,000 species in the Americas. (B) The 23 genera with more than 500 species in the Americas.

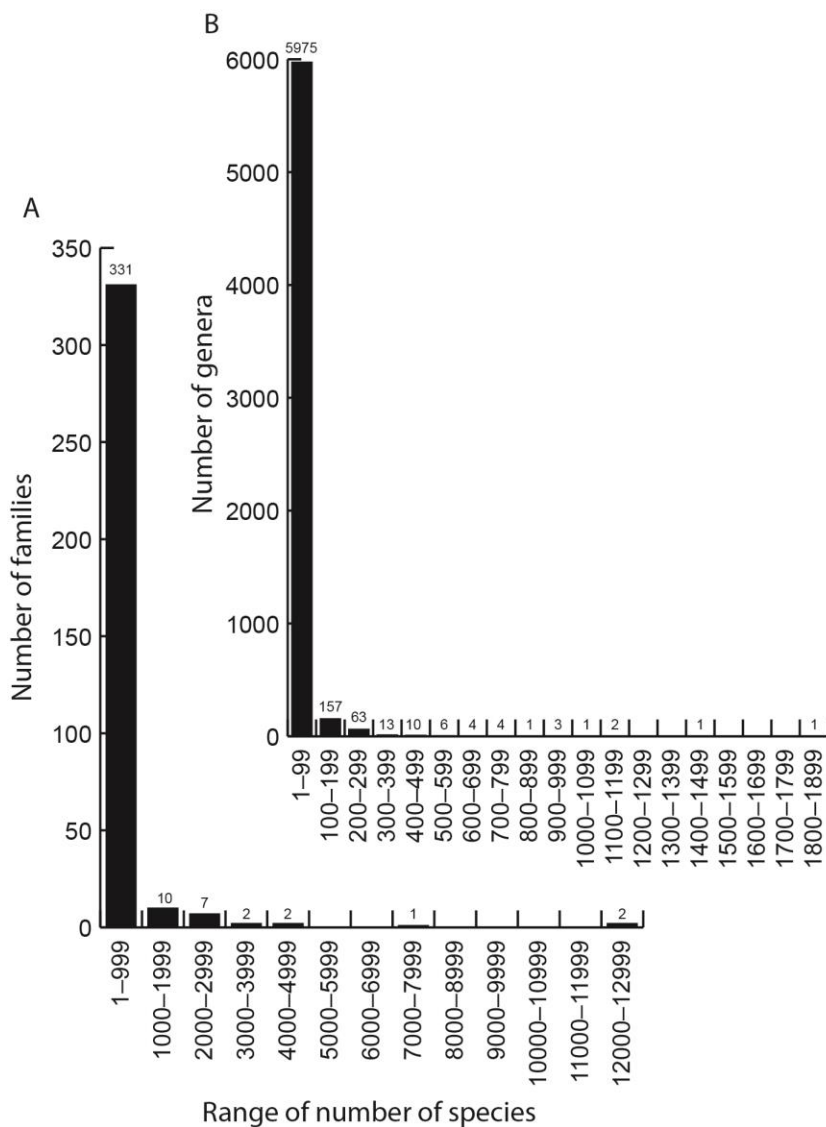


Fig. S3

Number of families and genera versus number of species. (A) Number of families versus range of number of species. The majority of families (331) in the Americas are represented by less than 1,000 species. Of these, 223 families are represented by less than 100 species. (B) Number of genera versus range of number of species. The majority of genera (5,975) in the Americas are represented by less than a 100 species. Few families and genera have a high number of species.

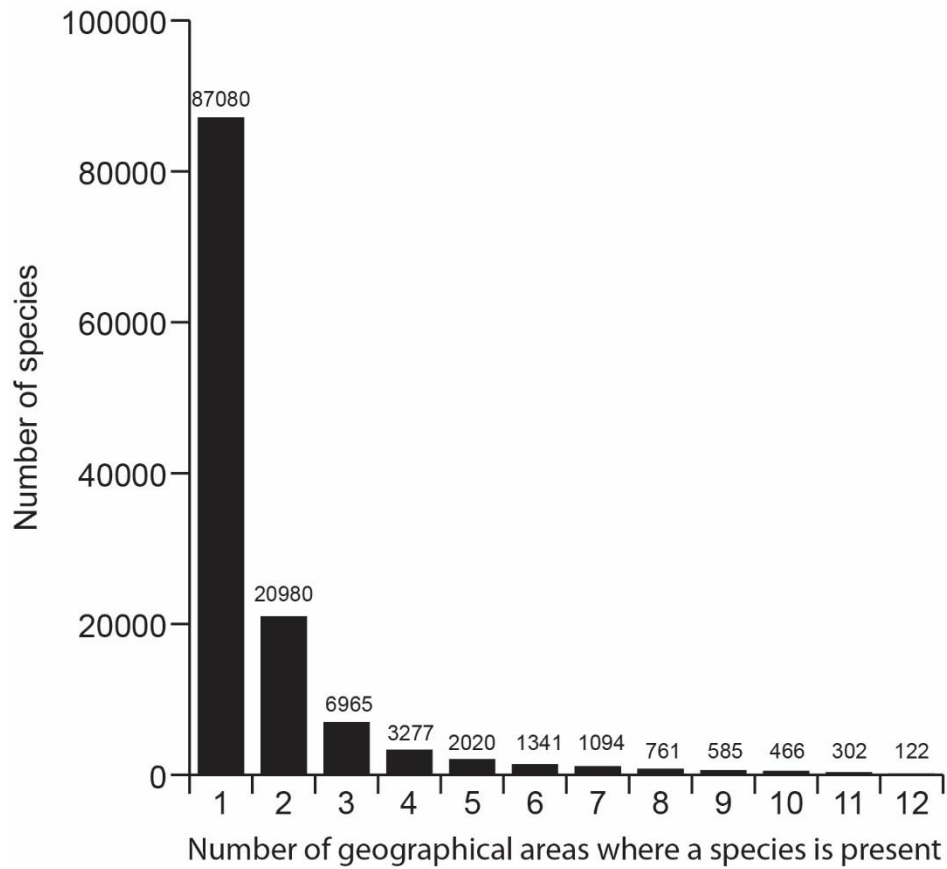


Fig. S4

Number of species versus number of geographic areas in the Americas where a species is present. Only 122 species are shared among all 12 geographical areas in the Americas. The majority of species are restricted to a single geographical area.

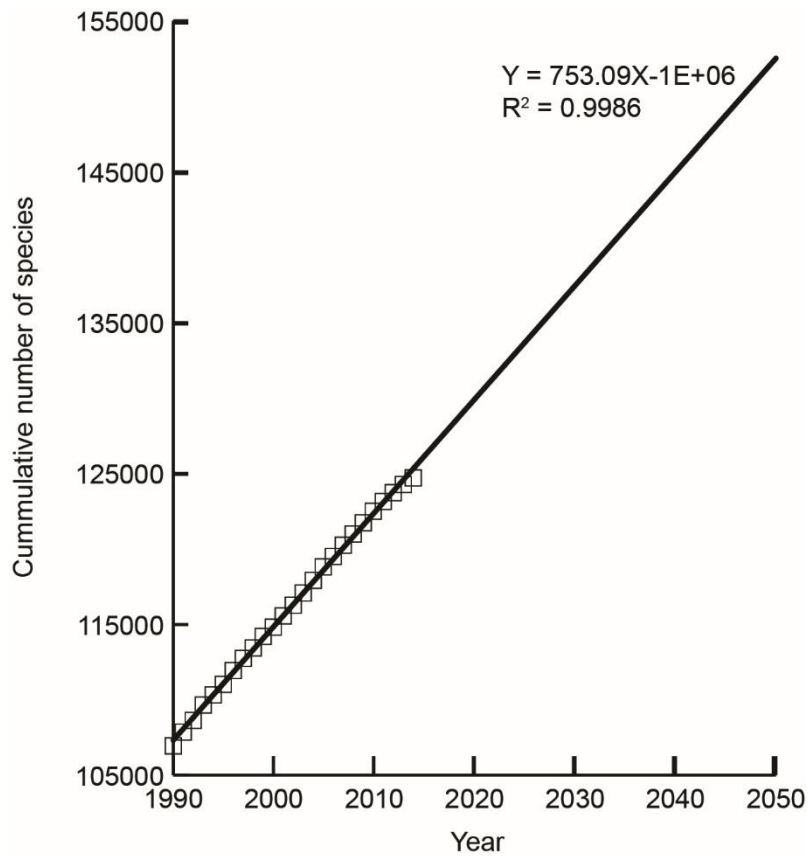


Fig. S5

Prediction of the number of plant species in the Americas. A forecast using linear regression based on the number of new species (basionyms) described between 1990 and 2014 (squares) would yield about 152,000 species by 2050 for the Americas.

Table S1.

Twenty most diverse plant families in each geographical area in the Americas list.
Numbers refer to the species in each area.

| Bolivia | Brazil | Central America | Colombia | Ecuador | Guianas |
|------------------------|--------------------------|------------------------|------------------------|------------------------|-------------------------|
| Orchidaceae 1,270 | Fabaceae 2,736 | Orchidaceae 2,080 | Orchidaceae 3,566 | Orchidaceae 3,972 | Orchidaceae 714 |
| Asteraceae 1,184 | Orchidaceae 2,527 | Asteraceae 896 | Asteraceae 1,202 | Asteraceae 925 | Fabaceae 644 |
| Fabaceae 1,015 | Asteraceae 1,996 | Piperaceae 787 | Rubiaceae 1,091 | Rubiaceae 713 | Rubiaceae 468 |
| Poaceae 841 | Rubiaceae 1,372 | Rubiaceae 782 | Fabaceae 1,060 | Melastomataceae 582 | Poaceae 320 |
| Rubiaceae 426 | Melastomataceae 1,361 | Fabaceae 719 | Melastomataceae 972 | Fabaceae 556 | Melastomataceae 315 |
| Malvaceae 414 | Bromeliaceae 1,345 | Poaceae 684 | Araceae 759 | Bromeliaceae 526 | Cyperaceae 294 |
| Cyperaceae 343 | Poaceae 1,267 | Melastomataceae 479 | Poaceae 715 | Araceae 496 | Apocynaceae 196 |
| Melastomataceae 323 | Myrtaceae 1,025 | Araceae 449 | Piperaceae 677 | Piperaceae 458 | Myrtaceae 171 |
| Bromeliaceae 320 | Euphorbiaceae 928 | Cyperaceae 317 | Bromeliaceae 520 | Poaceae 451 | Malvaceae 156 |
| Solanaceae 316 | Malvaceae 744 | Bromeliaceae 312 | Malvaceae 400 | Solanaceae 355 | Araceae 145 |
| Euphorbiaceae 293 | Apocynaceae 741 | Apocynaceae 299 | Apocynaceae 374 | Gesneriaceae 272 | Euphorbiaceae 144 |
| Apocynaceae 277 | Cyperaceae 649 | Dryopteridaceae 288 | Gesneriaceae 365 | Dryopteridaceae 233 | Annonaceae 143 |
| Cactaceae 224 | Eriocaulaceae 622 | Solanaceae 286 | Acanthaceae 347 | Malvaceae 232 | Asteraceae 142 |
| Piperaceae 216 | Malpighiaceae 553 | Acanthaceae 272 | Cyperaceae 335 | Ericaceae 225 | Lauraceae 135 |
| Dryopteridaceae 213 | Lamiaceae 496 | Gesneriaceae 257 | Solanaceae 325 | Lauraceae 214 | Chrysobalanaceae 129 |
| Polypodiaceae 204 | Araceae 471 | Malvaceae 250 | Dryopteridaceae 294 | Cyperaceae 211 | Bromeliaceae 127 |
| Acanthaceae 173 | Piperaceae 452 | Myrtaceae 222 | Euphorbiaceae 289 | Euphorbiaceae 210 | Bignoniaceae 121 |
| Pteridaceae 164 | Solanaceae 452 | Polypodiaceae 214 | Ericaceae 274 | Polypodiaceae 210 | Malpighiaceae 115 |
| Bignoniaceae 162 | Acanthaceae 442 | Euphorbiaceae 211 | Annonaceae 260 | Apocynaceae 206 | Piperaceae 113 |
| Convolvulaceae 160 | Lauraceae 438 | Primulaceae 207 | Arecaceae 251 | Lamiaceae 167 | Sapotaceae 110 |

| Mexico | North America | Peru | Southern Cone | Venezuela | West Indies |
|-----------------------|------------------------|------------------------|-----------------------|------------------------|------------------------|
| Asteraceae 3,045 | Asteraceae 2,173 | Orchidaceae 2,120 | Asteraceae 2,008 | Orchidaceae 1,441 | Rubiaceae 806 |
| Fabaceae 1,864 | Fabaceae 1,092 | Asteraceae 1,507 | Poaceae 1,180 | Fabaceae 942 | Asteraceae 644 |
| Orchidaceae 1,206 | Poaceae 917 | Fabaceae 930 | Fabaceae 1,052 | Rubiaceae 771 | Orchidaceae 644 |
| Poaceae 1,033 | Cyperaceae 792 | Piperaceae 843 | Solanaceae 451 | Asteraceae 718 | Myrtaceae 518 |
| Euphorbiaceae 706 | Brassicaceae 636 | Melastomataceae 637 | Malvaceae 442 | Poaceae 667 | Fabaceae 514 |
| Rubiaceae 687 | Boraginaceae 580 | Poaceae 633 | Orchidaceae 406 | Melastomataceae 630 | Melastomataceae 411 |
| Cactaceae 670 | Rosaceae 532 | Solanaceae 614 | Cyperaceae 378 | Cyperaceae 419 | Poaceae 404 |
| Lamiaceae 595 | Plantaginaceae 400 | Rubiaceae 607 | Cactaceae 356 | Bromeliaceae 370 | Euphorbiaceae 369 |
| Malvaceae 524 | Polygonaceae 388 | Bromeliaceae 456 | Euphorbiaceae 337 | Apocynaceae 357 | Cyperaceae 307 |
| Asparagaceae 439 | Lamiaceae 341 | Malvaceae 388 | Apocynaceae 262 | Araceae 288 | Urticaceae 244 |
| Bromeliaceae 422 | Apiaceae 335 | Cactaceae 270 | Amaryllidaceae 241 | Piperaceae 259 | Apocynaceae 218 |
| Cyperaceae 407 | Polemoniaceae 313 | Apocynaceae 268 | Brassicaceae 226 | Euphorbiaceae 257 | Dryopteridaceae 199 |
| Apocynaceae 404 | Orobanchaceae 277 | Acanthaceae 265 | Verbenaceae 216 | Malvaceae 249 | Malvaceae 189 |
| Solanaceae 395 | Onagraceae 271 | Euphorbiaceae 257 | Amaranthaceae 203 | Lauraceae 207 | Boraginaceae 184 |
| Acanthaceae 377 | Ranunculaceae 255 | Araceae 253 | Rubiaceae 202 | Myrtaceae 204 | Lamiaceae 175 |
| Boraginaceae 375 | Euphorbiaceae 217 | Lauraceae 239 | Boraginaceae 176 | Solanaceae 194 | Pteridaceae 156 |
| Crassulaceae 366 | Ericaceae 206 | Lamiaceae 231 | Convolvulaceae 165 | Malpighiaceae 189 | Solanaceae 151 |
| Convolvulaceae 291 | Caryophyllaceae 204 | Dryopteridaceae 226 | Iridaceae 165 | Dryopteridaceae 173 | Piperaceae 150 |
| Piperaceae 238 | Orchidaceae 201 | Cyperaceae 212 | Apiaceae 159 | Polypodiaceae 152 | Polypodiaceae 137 |
| Pteridaceae 210 | Malvaceae 196 | Polypodiaceae 207 | Bromeliaceae 158 | Ochnaceae 149 | Malpighiaceae 128 |

Table S2.

Fifty two plant families endemic, or nearly endemic (*except for one or two species) to the Americas. The number in parenthesis corresponds to species in the Americas list.

| | | |
|-------------------------|-----------------------|-----------------------|
| Achatocarpaceae (10) | Goupiaceae (1) | Philesiaceae (2) |
| Aextoxicaceae (1) | Guamatelaceae (1) | Phyllonomaceae (4) |
| Alzateaceae (1) | Halophytaceae (1) | Picramniaceae (57) |
| Berberidopsidaceae* (1) | Hemidictyaceae (1) | Plocospermataceae (1) |
| Bromeliaceae* (3,403) | Humiriaceae* (62) | Quillajaceae (2) |
| Brunelliaceae (56) | Iteaceae (4) | Rapateaceae* (94) |
| Cactaceae* (1,847) | Koeberliniaceae (2) | Rhabdodendraceae (3) |
| Calceolariaceae* (256) | Krameriaceae (16) | Sarcobataceae (2) |
| Calyceraceae (48) | Lacistemataceae (15) | Sarraceniaceae (21) |
| Cannaceae (12) | Limnanthaceae (8) | Setchellanthaceae (1) |
| Caryocaraceae (25) | Marcgraviaceae (138) | Simmondsiaceae (1) |
| Columelliaceae (10) | Martyniaceae (15) | Stegnospemataceae (3) |
| Crossosomataceae (9) | Metaxyaceae (2) | Thyrsopteridaceae (1) |
| Cyclanthaceae (227) | Microteaceae (11) | Ticodendraceae (1) |
| Cyrillaceae (11) | Mitrastemonaceae* (1) | Tovariaceae (2) |
| Euphroniaceae (3) | Misodendraceae (8) | Tropaeolaceae (94) |
| Fouquieriaceae (11) | Muntingiaceae (3) | |
| Gomortegaceae (1) | Petenaaceae (1) | |

Table S3.

Twenty most diverse plant genera in each geographical area in the Americas list.
Numbers refer to the number of species in each area.

| Bolivia | Brazil | Central America | Colombia | Ecuador | Guianas |
|-----------------------------|----------------------------|-----------------------------|-----------------------------|-----------------------------|---------------------------|
| <i>Solanum</i> 187 | <i>Eugenia</i> 387 | <i>Piper</i> 610 | <i>Epidendrum</i> 456 | <i>Stelis</i> 524 | <i>Psychotria</i> 114 |
| <i>Miconia</i> 141 | <i>Mimosa</i> 357 | <i>Epidendrum</i> 322 | <i>Piper</i> 410 | <i>Epidendrum</i> 472 | <i>Miconia</i> 107 |
| <i>Epidendrum</i> 129 | <i>Paepalanthus</i> 336 | <i>Anthurium</i> 198 | <i>Miconia</i> 374 | <i>Lepanthes</i> 356 | <i>Piper</i> 79 |
| <i>Elaphoglossum</i> 127 | <i>Croton</i> 311 | <i>Elaphoglossum</i> 185 | <i>Anthurium</i> 353 | <i>Pleurothallis</i> 338 | <i>Rhynchospora</i> 77 |
| <i>Peperomia</i> 123 | <i>Piper</i> 286 | <i>Peperomia</i> 176 | <i>Lepanthes</i> 319 | <i>Anthurium</i> 283 | <i>Epidendrum</i> 71 |
| <i>Tillandsia</i> 104 | <i>Miconia</i> 281 | <i>Miconia</i> 174 | <i>Peperomia</i> 266 | <i>Masdevallia</i> 257 | <i>Eugenia</i> 67 |
| <i>Senecio</i> 97 | <i>Solanum</i> 270 | <i>Lepanthes</i> 163 | <i>Stelis</i> 220 | <i>Miconia</i> 255 | <i>Licania</i> 67 |
| <i>Paspalum</i> 96 | <i>Myrcia</i> 257 | <i>Maxillaria</i> 144 | <i>Psychotria</i> 214 | <i>Peperomia</i> 230 | <i>Paspalum</i> 67 |
| <i>Piper</i> 93 | <i>Chamaecrista</i> 251 | <i>Psychotria</i> 137 | <i>Philodendron</i> 202 | <i>Piper</i> 227 | <i>Passiflora</i> 67 |
| <i>Thelypteris</i> 93 | <i>Psychotria</i> 249 | <i>Eugenia</i> 133 | <i>Pleurothallis</i> 191 | <i>Maxillaria</i> 221 | <i>Inga</i> 66 |
| <i>Cyperus</i> 82 | <i>Vriesea</i> 218 | <i>Thelypteris</i> 131 | <i>Elaphoglossum</i> 187 | <i>Solanum</i> 193 | <i>Cyperus</i> 63 |
| <i>Maxillaria</i> 81 | <i>Begonia</i> 212 | <i>Stelis</i> 126 | <i>Passiflora</i> 158 | <i>Elaphoglossum</i> 143 | <i>Pouteria</i> 60 |
| <i>Croton</i> 77 | <i>Paspalum</i> 211 | <i>Philodendron</i> 111 | <i>Solanum</i> 155 | <i>Psychotria</i> 132 | <i>Maxillaria</i> 59 |
| <i>Inga</i> 77 | <i>Leandra</i> 205 | <i>Solanum</i> 109 | <i>Palicourea</i> 154 | <i>Oncidium</i> 129 | <i>Ouratea</i> 57 |
| <i>Psychotria</i> 77 | <i>Mikania</i> 203 | <i>Ardisia</i> 105 | <i>Masdevallia</i> 151 | <i>Guzmania</i> 124 | <i>Philodendron</i> 52 |
| <i>Stelis</i> 75 | <i>Aechmea</i> 180 | <i>Passiflora</i> 100 | <i>Maxillaria</i> 144 | <i>Thelypteris</i> 109 | <i>Clusia</i> 50 |
| <i>Asplenium</i> 72 | <i>Baccharis</i> 177 | <i>Paspalum</i> 92 | <i>Oncidium</i> 139 | <i>Tillandsia</i> 105 | <i>Guatteria</i> 48 |
| <i>Lepanthes</i> 72 | <i>Xyris</i> 173 | <i>Ocotea</i> 87 | <i>Clusia</i> 128 | <i>Palicourea</i> 96 | <i>Myrcia</i> 46 |
| <i>Ipomoea</i> 69 | <i>Ocotea</i> 172 | <i>Tillandsia</i> 87 | <i>Pitcairnia</i> 114 | <i>Passiflora</i> 93 | <i>Solanum</i> 46 |
| <i>Passiflora</i> 69 | <i>Philodendron</i> 168 | <i>Justicia</i> 86 | <i>Pentacalia</i> 103 | <i>Philodendron</i> 85 | <i>Swartzia</i> 46 |

| Mexico | North America | Peru | Southern Cone | Venezuela | West Indies |
|----------------------------|--------------------------|-----------------------------|---------------------------|-----------------------------|----------------------------|
| <i>Salvia</i> 325 | <i>Carex</i> 465 | <i>Piper</i> 440 | <i>Senecio</i> 384 | <i>Miconia</i> 209 | <i>Eugenia</i> 221 |
| <i>Euphorbia</i> 242 | <i>Astragalus</i> 349 | <i>Peperomia</i> 402 | <i>Adesmia</i> 187 | <i>Psychotria</i> 157 | <i>Pilea</i> 202 |
| <i>Tillandsia</i> 234 | <i>Penstemon</i> 238 | <i>Epidendrum</i> 316 | <i>Solanum</i> 163 | <i>Epidendrum</i> 147 | <i>Rondeletia</i> 136 |
| <i>Agave</i> 206 | <i>Eriogonum</i> 224 | <i>Solanum</i> 306 | <i>Baccharis</i> 137 | <i>Piper</i> 138 | <i>Miconia</i> 127 |
| <i>Quercus</i> 174 | <i>Phacelia</i> 177 | <i>Miconia</i> 296 | <i>Carex</i> 120 | <i>Peperomia</i> 120 | <i>Calyptanthus</i> 125 |
| <i>Mammillaria</i> 169 | <i>Erigeron</i> 172 | <i>Maxillaria</i> 187 | <i>Mimosa</i> 108 | <i>Maxillaria</i> 113 | <i>Psychotria</i> 122 |
| <i>Ageratina</i> 165 | <i>Crataegus</i> 167 | <i>Lupinus</i> 171 | <i>Oxalis</i> 104 | <i>Elaphoglossum</i> 111 | <i>Lepanthes</i> 118 |
| <i>Verbesina</i> 163 | <i>Castilleja</i> 119 | <i>Senecio</i> 170 | <i>Viola</i> 99 | <i>Philodendron</i> 107 | <i>Peperomia</i> 100 |
| <i>Ipomoea</i> 157 | <i>Euphorbia</i> 119 | <i>Masdevallia</i> 164 | <i>Astragalus</i> 96 | <i>Rhynchospora</i> 106 | <i>Rhynchospora</i> 97 |
| <i>Dalea</i> 137 | <i>Draba</i> 116 | <i>Elaphoglossum</i> 140 | <i>Paspalum</i> 96 | <i>Paspalum</i> 101 | <i>Croton</i> 95 |
| <i>Solanum</i> 136 | <i>Boechera</i> 109 | <i>Tillandsia</i> 130 | <i>Nassella</i> 92 | <i>Pleurothallis</i> 93 | <i>Cyperus</i> 81 |
| <i>Piper</i> 134 | <i>Salix</i> 99 | <i>Calceolaria</i> 123 | <i>Croton</i> 89 | <i>Solanum</i> 92 | <i>Guettarda</i> 77 |
| <i>Sedum</i> 133 | <i>Oenothera</i> 92 | <i>Stelis</i> 112 | <i>Sisyrinchium</i> 86 | <i>Stelis</i> 88 | <i>Asplenium</i> 77 |
| <i>Muhlenbergia</i> 129 | <i>Lupinus</i> 91 | <i>Psychotria</i> 109 | <i>Calceolaria</i> 84 | <i>Selaginella</i> 87 | <i>Elaphoglossum</i> 76 |
| <i>Echeveria</i> 128 | <i>Juncus</i> 89 | <i>Anthurium</i> 101 | <i>Dioscorea</i> 73 | <i>Passiflora</i> 84 | <i>Euphorbia</i> 74 |
| <i>Croton</i> 125 | <i>Quercus</i> 89 | <i>Oxalis</i> 96 | <i>Valeriana</i> 70 | <i>Cyperus</i> 82 | <i>Phyllanthus</i> 73 |
| <i>Carex</i> 117 | <i>Physaria</i> 88 | <i>Gentianella</i> 96 | <i>Cyperus</i> 70 | <i>Ilex</i> 80 | <i>Paspalum</i> 71 |
| <i>Epidendrum</i> 117 | <i>Potentilla</i> 88 | <i>Inga</i> 92 | <i>Ipomoea</i> 67 | <i>Ocotea</i> 79 | <i>Koanophyllon</i> 70 |
| <i>Stevia</i> 115 | <i>Lomatium</i> 87 | <i>Bomarea</i> 89 | <i>Euphorbia</i> 66 | <i>Xyris</i> 78 | <i>Ipomoea</i> 69 |
| <i>Mimosa</i> 112 | <i>Mentzelia</i> 85 | <i>Oncidium</i> 89 | <i>Tillandsia</i> 64 | <i>Clusia</i> 77 | <i>Thelypteris</i> 68 |

Table S4.

Number of plant species in each geographic area (diagonal in bold) in the Americas. Above the diagonal: number of shared species between geographic areas. Below the diagonal: Sørensen Index, values between 0 and 1.

| | Bolivia | Brazil | Central America | Colombia | Ecuador | Guianas | Mexico | North America | Peru | Southern Cone | Venezuela | West Indies |
|-------------------------------|---------------|---------------|-----------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Bolivia | 14,431 | 6680 | 2823 | 5343 | 4715 | 2920 | 2071 | 582 | 6395 | 4488 | 4292 | 1650 |
| Brazil | 0.28 | 33,161 | 2928 | 6865 | 4238 | 5770 | 2024 | 560 | 5293 | 4911 | 6859 | 1894 |
| Central America | 0.18 | 0.12 | 16,335 | 6015 | 3927 | 2203 | 7043 | 1087 | 2954 | 1205 | 3923 | 2450 |
| Colombia | 0.28 | 0.24 | 0.31 | 23,104 | 9226 | 4241 | 3216 | 713 | 6799 | 1638 | 8700 | 2354 |
| Ecuador | 0.29 | 0.17 | 0.23 | 0.45 | 17,548 | 2661 | 2275 | 559 | 7259 | 1426 | 4784 | 1719 |
| Guianas | 0.26 | 0.28 | 0.18 | 0.27 | 0.21 | 8,271 | 1454 | 394 | 2889 | 1003 | 5462 | 1524 |
| Mexico | 0.11 | 0.07 | 0.36 | 0.14 | 0.11 | 0.09 | 22,969 | 4307 | 2021 | 1234 | 2662 | 2232 |
| North America | 0.04 | 0.02 | 0.07 | 0.04 | 0.03 | 0.03 | 0.22 | 15,447 | 506 | 596 | 678 | 1134 |
| Peru | 0.38 | 0.20 | 0.17 | 0.32 | 0.40 | 0.21 | 0.10 | 0.03 | 19,147 | 395 | 446 | 467 |
| Southern Cone | 0.33 | 0.21 | 0.08 | 0.09 | 0.09 | 0.09 | 0.07 | 0.04 | 0.02 | 13,125 | 1489 | 954 |
| Venezuela | 0.29 | 0.28 | 0.25 | 0.46 | 0.29 | 0.47 | 0.14 | 0.04 | 0.03 | 0.11 | 15,116 | 1489 |
| West Indies | 0.13 | 0.09 | 0.18 | 0.14 | 0.12 | 0.16 | 0.13 | 0.09 | 0.03 | 0.08 | 0.11 | 10,992 |
| Area in km² | 1,098,581 | 8,514,877 | 510,974 | 1,141,748 | 256,370 | 462,353 | 1,967,138 | 20,278,800 | 1,285,216 | 4,118,264 | 916,445 | 230,074 |

Table S5.

Authors who have described more than 400 plant species accepted in the Americas list.

| Author | Life | N. species |
|--------------------------------------|-------------|-------------------|
| Luer, Carlyle (Carl) August | 1922- | 2700 |
| Urban, Ignatz | 1848-1931 | 1965 |
| Robinson, Harold Ernest | 1932- | 1926 |
| Standley, Paul Carpenter | 1884-1963 | 1890 |
| Bentham, George | 1800-1884 | 1678 |
| Smith, Lyman Bradford | 1904-1997 | 1395 |
| Steyermark, Julian Alfred | 1909-1988 | 1334 |
| Trelease, William | 1857-1945 | 1273 |
| Cuatrecasas, José | 1903-1996 | 1263 |
| Gray, Asa | 1810-1888 | 1223 |
| Linnaeus, Carl von | 1707-1778 | 1199 |
| Candolle, Augustin Pyramus de | 1778-1841 | 1161 |
| Schlechter, Friedrich Richard Rudolf | 1872-1925 | 1078 |
| King, Robert Merrill | 1930-2007 | 1038 |
| Reichenbach, Heinrich Gustav | 1824-1889 | 936 |
| Barneby, Rupert Charles | 1911-2000 | 923 |
| Britton, Nathaniel Lord | 1859-1934 | 859 |
| Lindley, John | 1799-1865 | 842 |
| Candolle, Anne Casimir Pyramus de | 1836-1918 | 792 |
| Grisebach, August Heinrich Rudolf | 1814-1879 | 790 |
| Rose, Joseph Nelson | 1862-1928 | 774 |
| Cogniaux, Célestin Alfred | 1841-1916 | 671 |
| Chase, Mark W. | 1951- | 665 |
| Croat, Thomas Bernard | 1938- | 663 |
| Hooker, William Jackson | 1785-1865 | 661 |
| Wurdack, John Julius | 1921-1998 | 659 |
| Yuncker, Truman George | 1891-1964 | 654 |
| Hágsater Gartenberg, Eric | 1945- | 648 |
| Greene, Edward Lee | 1843-1915 | 645 |
| Dodson, Calaway Homer | 1928- | 623 |
| Watson, Sereno | 1826-1892 | 613 |
| Philippi, Rudolf Amandus | 1808-1904 | 601 |
| Martius, Carl Friedrich Philipp von | 1794-1868 | 597 |
| Turner, Billie Lee | 1925- | 597 |
| Hirtz, Alexander C. | 1945- | 594 |
| Borhidi, Attila Lajos | 1932- | 574 |
| Triana, José Jerónimo | 1834-1890 | 532 |
| Mez, Carl Christian | 1866-1944 | 515 |

| | | |
|-------------------------------------|-----------|-----|
| Moldenke, Harold Norman | 1909-1996 | 504 |
| Müller Argoviensis, Johannes (Jean) | 1828-1896 | 496 |
| Blake, Sydney Fay | 1892-1959 | 493 |
| Lundell, Cyrus Longworth | 1907-1994 | 488 |
| Garay, Leslie Andrew | 1924-2016 | 481 |
| Johnston, Ivan Murray | 1898-1960 | 480 |
| Robinson, Benjamin Lincoln | 1864-1935 | 475 |
| Smith, Alan Reid | 1943- | 467 |
| Ducke, Walter Adolpho | 1876-1959 | 457 |
| Cabrera, Angel Lulio | 1908-1999 | 449 |
| Nesom, Guy L. | 1945- | 441 |
| Baker, John Gilbert | 1834-1920 | 440 |
| Escobar Restrepo, Rodrigo | 1935-2009 | 432 |
| Taylor, Charlotte M. | 1955- | 429 |
| Ekman, Erik Leonard | 1883-1931 | 423 |
| Macbride, James Francis | 1892-1976 | 423 |
| Ravenna, Pedro Felix (Pierfelice) | 1938- | 421 |
| Engler, Heinrich Gustav Adolf | 1844-1930 | 419 |
| Radlkofer, Ludwig Adolph Timotheus | 1829-1927 | 417 |
| Leme, Elton Martínez Carvalho | 1960- | 406 |
| Pavón, José Antonio | 1750-1844 | 401 |

Data Set S1.

Checklist of vascular plants of the Americas

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