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Checklist of the endemic vascular plants of Paraguay

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Abstract

We present a list of endemic plants of Paraguay, which includes 374 taxa from 52 families and 162 genera based on the revision of primary data (herbarium collections). Synonyms, habit, distribution in Paraguay and all the voucher specimens seen or cited in recent bibliographies or in the consulted databases are provided for each taxon. A brief analysis of the diversity and importance of this endemic flora is presented. A list of excluded species, which were considered as endemics in previous publications, is also included.

Introduction

Paraguay is a landlocked country located between 18°28' and 27°30' South latitude and 54°19' and 62°38' West longitude in the heart of the South American continent, and lies entirely within the Río de la Plata drainage system (De Egea *et al.* 2012). With a total of 408,600 square kilometers the country is bisected by the Paraguay river into two major geographic regions with distinct topography and geology; to the East lies the Oriental region, also referred to as the Paraná region (representing 39% of the total area, and harbouring over 90% of the population), and to the West lies the Chaco (making up 61% of the total area and home to less than 10% of the population). The country is divided into 17 departments, 14 of which are in the Oriental region and the remaining three are in the Chaco (Fig. 1). The climate is subtropical, with an annual rainfall ranging from 400 mm in the North West to 2000 mm in the South East (Bartrina 2007). The Oriental region is a relatively humid area of rolling hills with altitudes ranging from 50 to 842 m above sea level (Cerro Tres Kandú, Guairá). The main orographic systems are the Cordilleras of Amambay, Mbaracayú, Ybytyrusú, San Rafael and Caaguazú. In the Chaco region, 80% of the rain falls during the summer months while in the Oriental region this is more equally distributed throughout the year. Mean annual temperature is 22.5°C, but can reach 40°C or more during the summer months. In biogeographical terms, Paraguay can be divided into 6 main ecoregions (Clay *et al.* 2008): Alto Paraná Atlantic Forest, Cerrados, Chaco (Dry and Humid), Pantanal and South American grasslands (Fig. 2).

The Oriental region holds the remnants of the Alto Paraná Atlantic Forest (also known as Interior Atlantic Forest), as well as some areas covered with savanna vegetation, from grasslands and palm savannas to cerrado forests. Located mainly within Brazil and spreading inland to cover small parts of Argentina and Paraguay, the Atlantic Forest grows in acid soils with a clay-like texture in areas with an annual rainfall of 1500-2000 mm. This forest is a subtropical semideciduous wet forest (Hueck 1978, Keel & Herrera-MacBryde 1997) and it is considered one of the most diverse and yet most threatened ecosystems of the world. While the Atlantic forest in eastern Paraguay only accounts for a small portion of the total geographic area of the Atlantic Forest ecoregion, it has a disproportionately high level of species diversity (Huang *et al.* 2007).

Paraguay is the southernmost limit for Cerrado vegetation, which is largely found in Brazil, reaching northeastern Paraguay and eastern Bolivia (Dinerstein *et al.* 1995). The cerrado includes a combination of dry forests, savannas and grasslands that grow in acid soils with a sandy texture, in areas with an annual rainfall of 750-1250 mm (Spichiger *et al.* 2006). It also stands as a centre of floristic endemism, since some factors, such as the low nutrient content and high concentration of heavy metals in the soil, as well as the periodic burning of this vegetation have influenced the development of particular adaptations, succulence and presence of underground organs (Clay *et al.* 2008).

The southern portion of the Oriental region is covered by South American grasslands, characterized by extensive natural pastures and wetlands that develop on periodically flooded soils. They spread through the center and northeast of Argentina and south Brazil to the Uruguay river plains (Clay *et al.* 2008).

The Gran Chaco is a very flat region with soils derived from the massive accumulation of fine loose and alluvial Andean sediments during the Quaternary (Pennington *et al.* 2000). Soils are generally clayey, with clay content varying up to about 40% (gleysols, vertisols, luvisols and regosols), with sandy soil intrusions in the North West, in the area called Médanos del Chaco (Mereles & Rodas 2014). The region has an annual rainfall of 400-800 mm in the driest parts and of 1300-1400 in the areas closest to the Paraguay river (Mereles & Rodas 2014). Extending throughout North Argentina, East Bolivia, North West Paraguay and into a small part of South West Brazil, it is covered with xeromorphic forests, thickets and savanna-like vegetation. In the northern part there are several isolated hills, such as cerro Chovoreca, cerro Cabrera (with a maximum altitude of 650 m above sea level) and the cerro León complex. The Paraguayan Chaco has commonly been divided into two units: Dry Chaco and Humid Chaco (Ramella & Spichiger 1989, Spichiger *et al.* 1995). The Dry Chaco is an area with very irregular and low-intensity rainfall covered by scrubby

xeromorphic forests interspersed with diverse savanna-like vegetation. The Humid Chaco is greatly influenced by the Pilcomayo and Paraguay Rivers, and covered by a mosaic of forests, periodically-flooded palm savannas dominated by *Copernicia alba* and wetlands (Peña Chocarro *et al.* 2006, Mereles *et al.* 2013). In the northeasternmost part of the country there is also an intrusion of the Pantanal, one of the world largest wetlands (mainly occurring in neighbouring Brazil).



FIGURE 1. Administrative division map of Paraguay.

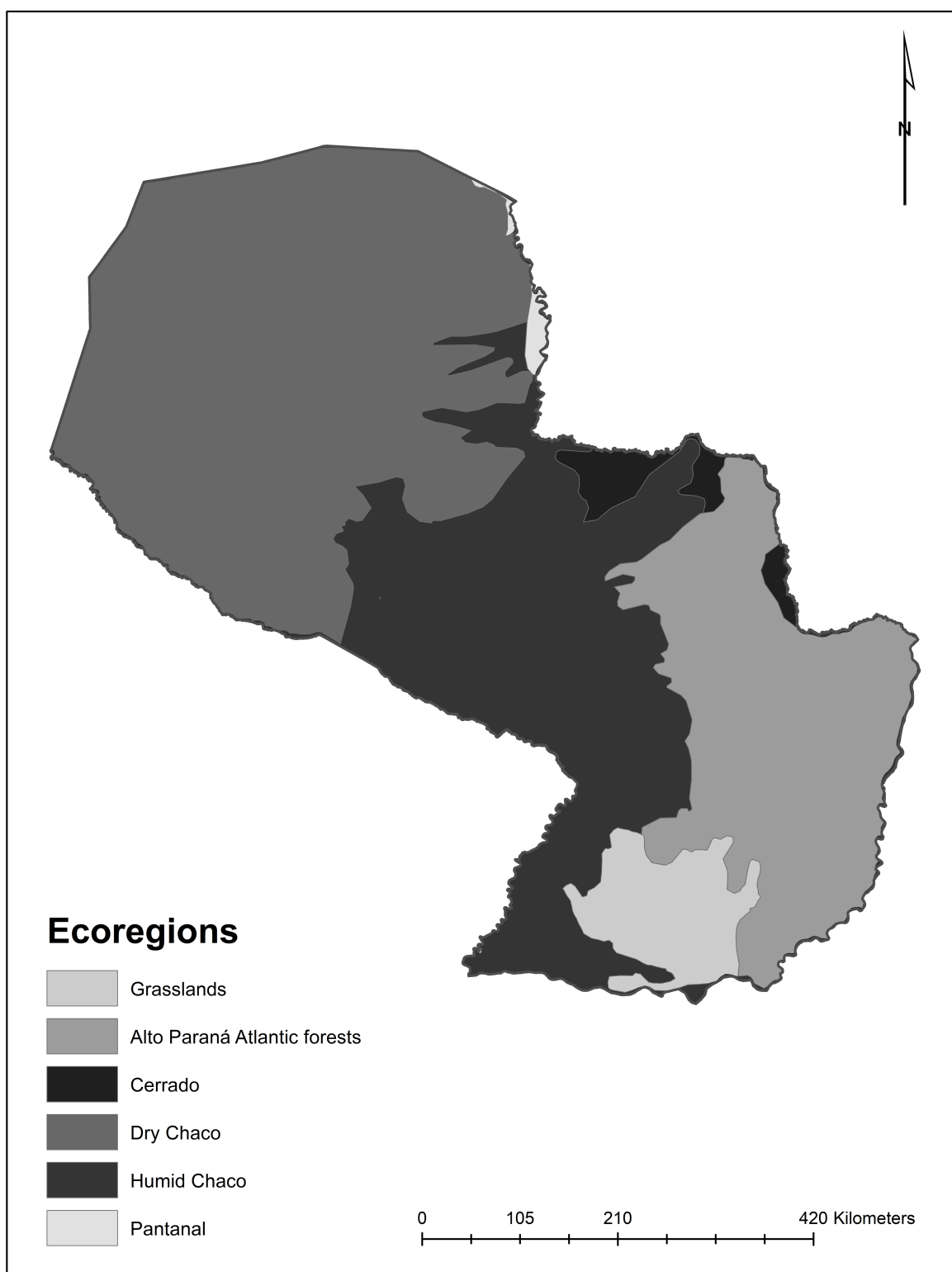


FIGURE 2. Ecoregions of Paraguay (based on Olson *et al.* 2001 and Guyra Paraguay 2005).

The floristic richness of Paraguay has been attributed to the confluence of different ecoregions, the mosaic of habitat types occurring throughout the country and the geographical position of Paraguay at the edge of the tropics (Keel & Herrera-MacBryde 1997; Huang *et al.* 2011; Bueno *et al.* 2017). The Tropic of Capricorn divides the country into two, resulting in many tropical plants occurring at their southernmost distributions, and southern temperate plants

occurring at their northernmost distributions. Huang *et al.* (2009) also highlighted Paraguay as an ecologically unique country, located at the confluence of five ecoregions: the Atlantic Forest, the Humid Chaco, the Chaco woodland, the Pantanal and The Cerrado, which contributes to its floristic richness, whereas Spichiger *et al.* (2011) and Bueno *et al.* (2017) stated that Paraguay may be viewed as a huge and diversified ecotone in South America, where various floras intermingle: Chaco, Paraná, Cerrado and Pampa.

The total number of vascular plant species in Paraguay is estimated between 6500–7000 species (Mereles 2007). Zuloaga *et al.* (2008) mention a total of 5099 species, 103 subspecies, 375 varieties and 20 forms, distributed among 201 families and 1231 genera recorded for Paraguay.

The knowledge of the endemic vascular flora of Paraguay was scattered and very limited until the publication of the Catalogue of Vascular Plants for the Southern Cone (Zuloaga *et al.* 2008). The official list of endemics for the country published in 2006 by SEAM (Secretaría del Ambiente) listed 25 species, of which only 10 are strictly restricted to the Paraguayan territory, according to this study. González Parini (2005) mentioned a document from the CDC, which could not be consulted, with 136 taxa listed as endemics. The publication of the Catalogue of Vascular Plants for the Southern Cone in 2008 provided much more reliable and updated information, listing 399 endemic species for the country. Subsequent taxonomic publications and checklists of neighboring countries increased the knowledge of the flora for the region.

The extent of forest cover in Paraguay has been severely reduced over the last few decades, in both the Oriental and Chaco regions. In 1973, 73.4% of the Atlantic Forest region was covered by forest, which was quickly reduced to 40.7% by 1989 and further reduced to 24.9% by 2000 (Huang *et al.* 2007). Today, the Atlantic forest is limited to a series of fragmented and isolated remnants (Huang *et al.* 2009); the World Land Trust estimates that less than 7% of the total Atlantic Forest remains standing and the percentage for Paraguay is less than 10% (Yanosky 2013). Deforestation in this region is due to activities of both small-scale settlers and large landowners, but the majority of forest loss is due to the activities of the latter (Huang *et al.* 2007). In the Chaco region, the figures are as alarming as those for the Oriental region, in spite of being until very recently one of the last extensive undisturbed areas in Latin America, with only modest forest changes (Yanosky 2013). However, land clearance has been intense in recent years and the minimum rate of deforestation has been estimated between 200,000–300,000 hectares per year during the period 2005–2012 (Yanosky 2013). According to Guyra Paraguay's monthly reports (www.guyra.org.py) land clearance exceeded 1000ha/day in 2013.

Accelerated deforestation rates and soil cover changes in Paraguay are real and current threats for the conservation of its wild areas, which is why biodiversity checklists and inventories are urgently needed to strengthen national strategies and initiatives for biodiversity conservation. This paper presents an updated list of endemic plant species for the country, resulting from the revision of historic and recent herbarium collections and available literature, as well as from the re-evaluation of species distribution ranges. This list aims not only to contribute towards the knowledge of the Paraguayan flora, but also to provide support to national conservation strategies and decision-making processes regarding protected wilderness areas in Paraguay.

Methods

This annotated list of endemic vascular flora of Paraguay comprises only species with distributions strictly restricted within the Paraguayan territory. This means that species considered endemics or nearly endemics for a particular cross-border ecoregion, with a recorded presence in neighbouring countries, have been excluded from this list.

The Catalogue of Vascular Plants for the Southern Cone (Zuloaga *et al.* 2008) was used as a starting point for compiling this list; an updated version of this catalogue can be found at: <http://www2.darwin.edu.ar/Proyectos/FloraArgentina/fa.htm>. Recent monographic literature, as well as online herbarium resources such as TROPICOS (<http://www.tropicos.org/>) and Geneva Botanical Garden (<http://www.ville-ge.ch/musinfo/bd/cjb/fdp/>), were also reviewed. The endemic status of all species was verified by consulting available checklists and catalogues of neighbouring countries, such as Bolivia (Jørgensen *et al.* 2014) and Brazil (<http://floradobrasil.jbrj.gov.br/jabot/listaBrasil/PrincipalUC/PrincipalUC.do>) as well as <http://apps.kew.org/wcsp/home.do>. Specialists for certain families (Asteraceae, Cactaceae, Euphorbiaceae, Rubiaceae, Verbenaceae) were also consulted.

Data was compiled in a MS Access database. All historical and recent collections of Paraguayan endemics held in the Natural History Museum of London (BM), Kew Gardens (K), Real Jardín Botánico de Madrid (MA) and the herbarium of the Facultad de Ciencias Químicas de Asunción (FCQ), as well as selected material from the Instituto Botánico del Nordeste in Argentina (CTES) were included, resulting in a database with over 2000 records.

Flowering plant family circumscription follows APG IV (2016) and pteridophyte classification follows Smith *et al.* (2006), as modified by Christenhusz *et al.* (2011). Families are sorted alphabetically and genera are sorted alphabetically within families. For each taxon we present the accepted name, place and date of publication, synonyms, habit and all the voucher specimens seen in the visited herbariums or cited in recent bibliographies or in the consulted databases, indicating the department where they were collected. When a taxon was cited in the literature without a voucher, the full reference is included.

Synonymy follows Zuloaga *et al.* (2008), except for those taxa covered in more recent literature. Herbarium acronyms used in the text follow *Index Herbariorum* (Holmgren *et al.* 1990, available online at <http://sciweb.nybg.org/science2/IndexHerbariorum.asp>).

Distributions of all taxa in the database were re-assessed in order to confirm that they have not been recorded in the neighbouring countries. Consequently, some of the taxa considered endemic in previous publications were excluded from this list, either because they (or their synonyms) were recorded or mentioned in recent literature for neighboring countries, or because they were found to be synonyms of species with wider distributions. These taxa are listed in APPENDIX 1, indicating their distribution and relevant bibliographical references.

Results and discussion

The list includes a total of 374 taxa endemic to Paraguay: 328 species, 14 subspecies, 30 varieties and 2 forms, within 52 families and 162 genera.

These 328 species represent less than 6.5% of the total Paraguayan flora (based on 5,099 species reported for the country in Zuloaga *et al.* 2008); a low level of endemism when compared with those of neighbouring countries: Argentina (17.7%), Chile (39.38%) and Bolivia (15.29%) (Zuloaga *et al.* 2008, Jørgensen *et al.* 2014). The percentage of endemics for the Southern cone of South America is 43.47% (Zuloaga *et al.* 2008). This low level of endemism was already reported by Bernardi (1984) and Spichiger (1995) and was attributed to the fact that Paraguay presents neither the topography nor the biogeographical position which would result in isolation, and the subsequent speciation. Furthermore, the Paraguay, Paraná and Pilcomayo rivers serve as entry points and facilitate the dispersal of the flora (Bernardi 1984, Spichiger *et al.* 2011). On the other hand, Paraguay is smaller than other countries of the ‘Southern Cone’ of South America, which could be a contributing factor towards the lower proportion of endemisms.

The families with the highest number of endemic species are Asteraceae (48), Euphorbiaceae (40) and Fabaceae (36). Other families with more than 10 species are: Convolvulaceae with 20 species, Malvaceae (17), Bromeliaceae (14), Apocynaceae (12), as well as Rubiaceae and Orchidaceae with 11 species each (TABLE 1). Only two endemic genera, *Bordasia* (Malvaceae) and *Piptadeniopsis* (Fabaceae) have been reported for the country, although the latter was also mentioned for Bolivia by Jørgensen *et al.* (2014) following Serrano & Terán (1998); however, there are no herbarium vouchers to confirm the presence of this genus in that country.

TABLE 1. Families with highest numbers of endemics

Family	Number of endemic species	Number of infraspecific taxa	Total
Asteraceae	48	5	53
Euphorbiaceae	40	5	45
Fabaceae	36	11	47
Convolvulaceae	20	1	21
Malvaceae	17	1	18
Bromeliaceae	14	1	15
Apocynaceae	12	2	14
Orchidaceae	11	-	11
Rubiaceae	11	1	12
Lamiaceae	9	1	10
Melastomataceae	8	2	10

The genera with the highest number of endemics also belong to the most endemic-rich families: *Mimosa* (Fabaceae) with 18 species, *Ipomoea* (Convolvulaceae) with 15 species, and *Croton* (Euphorbiaceae) with 10 species, followed by *Vernonia* (Asteraceae) with 8 species and *Oxypetalum* (Apocynaceae), *Stevia* (Compositae), *Cnidioscolus* (Euphorbiaceae) and *Dyckia* (Bromeliaceae) with 7 species each.

From the total taxa analyzed, in relation to their life form, the great majority are shrubs or subshrubs (170, of which 115 are subshrubs) and herbs with 160 taxa (TABLE 2).

In terms of departmental distribution, the largest number of endemics is found in Amambay with 138 taxa (36.63% of the endemic flora), 49 of which are restricted to this department, followed by Canindeyú with 94 species (25.13%) and Caaguazú with 90 species (24.06%) (TABLE 3).

TABLE 2. Synopsis of plant life-forms of Paraguayan endemics.

Plant life-form	Number of taxa
Shrubs/subshrubs	170
Herbs	160
Trees	14
Vines	13
Epiphytes	10
Succulent herbs	7

TABLE 3. Number of endemic taxa by department.

Departments	Number of endemic taxa at a departmental level	Number of endemic taxa at a country level	% of endemic taxa at a country level
Amambay	49	138	36.63
Canindeyú	24	94	25.13
Caaguazú	15	90	24.06
Cordillera	13	69	18.18
Paraguarí	4	63	16.84
Concepción	17	58	15.50
San Pedro	4	47	12.29
Alto Paraná	11	43	11.22
Alto Paraguay	17	40	10.69
Central	4	41	10.69
Guairá	3	34	9.09
Boquerón	3	21	5.61
Caazapá	0	17	4.58
P. Hayes	3	14	3.74
Misiones	0	13	3.47
Itapúa	1	6	1.60
Ñeembucú	0	1	0.26

A greater number of endemics are found in the Oriental Region, which harbour the remnants of the Alto Paraná Atlantic forest (BAAPA) as well as savanna habitats (cerrados, palm savannas and grasslands). Both ecosystems have been highlighted as important and distinctive areas of South America for endemism in different groups of organisms (Gentry 1982, Silva & Bates 2002, Huang *et al.* 2007, Murray-Smith *et al.* 2008, Stehmann *et al.* 2009).

Nevertheless, it is also worth mentioning that the Alto Paraguay department, located within the Gran Chaco area, is also in third place regarding the number of taxa restricted to this department (17) (TABLE 3). The Gran Chaco is indeed an ecoregion with a rich biodiversity and important numbers of endemics restricted to their particular habitats, but most of them are shared between the three countries (Argentina, Bolivia and Paraguay).

The low level of endemism in Paraguay, may also result from the undercollection of some areas affecting departments such as Ñeembucú (De Egea *et al.* 2012), Misiones and Itapúa. However, further studies and collections are needed to confirm this. It is worth mentioning that 8 of the listed endemics are species that have been published within the last 4 years (TABLE 4); 6 of which were from the Oriental region and 2 from the Chaco region, suggesting that greater effort could be placed in botanical surveys within the country. It is worth mentioning that an analysis of the patterns of endemism in Paraguay and their distribution on the main biogeographic areas is the subject of a paper in preparation by the authors.

On the other hand, for over 69% of the included taxa we could only find five or fewer collections (APPENDIX 2), and many have not been collected for over 100 years. Our records indicate that 103 taxa are known only from the type collection, 55 from two collections, 51 from three collections, 33 from four collections and 17 from five collections. This does not come as a surprise when referring to restricted distribution species. It is worrying, however, in terms of conservation status, the limited amount or even a complete absence of recent collections for certain taxa. Greater efforts are needed to track down these endemics, thus we strongly recommend that conservation assessments of these species are undertaken.

TABLE 4. Endemic species of Paraguay published in the last 10 years

Family	Species	Year of publication
Convolvulaceae	<i>Ipomoea cordillerae</i> J.R.I. Wood & Scotland	2017
Convolvulaceae	<i>Ipomoea megalantha</i> J.R.I. Wood & Scotland	2017
Euphorbiaceae	<i>Microstachys dasycarpa</i> Pscheidt, Esser & Cordeiro	2017
Asteraceae	<i>Lessigianthus concepcionis</i> M.B. Angulo & Dematteis	2016
Convolvulaceae	<i>Ipomoea itapuensis</i> J.R.I. Wood & R. Degen	2016
Asteraceae	<i>Fleischmannia hassleri</i> H. Rob.	2015
Bromeliaceae	<i>Deuterocohnia meziana</i> subsp. <i>vogtii</i> N. Schutz	2014
Malvaceae	<i>Sida tapiraguensis</i> Krapov.	2014
Apocynaceae	<i>Araujia hassleriana</i> (Malme) Fontella & Goyder	2011
Euphorbiaceae	<i>Euphorbia guaraniorum</i> P. Carrillo & V.W. Steinm.	2011
Urticaceae	<i>Pouzolzia amambaiensis</i> Friis & Wilmot-Dear	2011
Rubiaceae	<i>Staelia nelidae</i> R.M. Salas & E.L. Cabral	2010
Rubiaceae	<i>Mitracarpus bacigalupoae</i> E.L. Cabral, W.A. Medina & E.B. Souza	2009
Bromeliaceae	<i>Tillandsia mereliana</i> Schinini	2008

Knowing the distribution of endemic species has been considered crucial to the understanding and conservation of biological diversity (Myers 1998, Myers *et al.* 2000) and it has been an important target for global conservation initiatives, together with total species richness. However, methods to set conservation priorities are complex and should consider not only the number of endemics, but other factors too (Orme *et al.* 2005, Lamoreux *et al.* 2006). Some studies of birds and other vertebrates suggest that, although broad correlations between richness and endemism are weak, endemism hotspots contain large numbers of total species and were useful for conservation prioritization (Orme *et al.* 2005, Lamoreux *et al.* 2006). We are aware that although endemic species are not the only criterion for setting conservation priorities, this list will contribute towards the knowledge of the Paraguayan flora and will be useful when setting national conservation policies.

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Checklist of the endemic vascular plants of Paraguay

Polypodiopsida

Lomariopsidaceae

Elaphoglossum hassleri H.Christ., Bull. Herb. Boissier, sér. 2(7): 925. 1907.

Syn.: *Elaphoglossum latifolium* auct. non (Sw.) J.Sm.

Epiphyte.

Vouchers: **Canindeyú**: Hassler 5660 (G). **Cordillera**: Hassler 32 (S).

Elaphoglossum subcochleare H.Christ., Bull. Herb. Boissier, sér. 2(7): 925. 1907.

Epiphyte.

Vouchers: **Amambay**: Rojas 3869 (BM). **Canindeyú**: Hassler 5661, type (BM). **Cordillera**: Hassler 34, type (unknown); Hassler 3996 (BM); Hassler 6366, type (BM). **Guairá**: Rojas 4797 (AS, MO). **Paraguarí**: Rojas 6118 (AS, MO).

Schizaeaceae

Anemia trichorhiza Hook. f. var. *paraguariensis* Hassl., Trab. Inst. Bot. Farmacol. 45: 83. 1928.

Terrestrial.

Vouchers: **Central**: (Zuloaga *et al.* 2015). **Cordillera**: (Zuloaga *et al.* 2015). **Guairá**: (Zuloaga *et al.* 2015). **Unknown**: Jorgensen 1393 (F, MO, US).

Selaginellaceae

Selaginella parviarticulata W.R.Buck, Brittonia 38(1): 45. 1986.

Herb.

Vouchers: **Paraguarí**: Buck 12012, type (NY, PY).

Angiosperms

Magnoliids

Annonaceae

Annona calophylla R.E.Fr., Acta Horti Berg. 10(2): 233, t. 13. 1931.

Subshrub.

Vouchers: **Alto Paraná**: Schinini & Caballero Marmorini 29950 (CTES, G). **Amambay**: Basualdo & Soria 5926 (FCQ); Degen 2207 (FCQ); Krapovickas *et al.* 45945 (CTES, K); Rojas 6423 (AS, SP); Schinini & Dematteis 35121 (CTES, G); Soria 4474 (FCQ); Soria 4670 (CTES, FCQ); Soria 4979b (FCQ); Soria 5563 (CTES, FCQ); Soria 6017 (FCQ). **Caaguazú**: Fernández Casas & Schinini 7448 (G); Hassler 4839, type (B, BM, F, G, K, S, UC); Hassler 5117 (G); Hassler 5364 (BM, G); Hassler 9465 (G); Schinini 22947 (CTES); Zardini & Chaparro 60307 (MO); Zardini & Guerrero 44060 (MO, PY); Zardini & Velásquez 25875 (AS, MO). **Canindeyú**: (Zuloaga *et al.* 2015). **Concepción**: Degen 2095 (FCQ); Degen 2305 (FCQ); Degen 2403 (FCQ); Hassler 8174 (BM, G); Hassler 8174a (BM); Mereles 4245 (FCQ); Schinini 29950 (CTES, G); Soria 4774 (FCQ). **San Pedro**: Krapovickas *et al.* 45816 (CTES, G, K); Soria 5374 (FCQ); Zardini & Zavala 45647 (AS, MO).

Annona campestris R.E.Fr., Acta Horti Berg. 10(2): 221, t. 11. 1931.

Subshrub.

Vouchers: **Alto Paraná**: Fiebrig 6416 (G, SP); Schinini 22962 (CTES, G); Schinini *et al.* 28228 (CTES, G, MO); Vera & Guerrero 2455 (FCQ). **Amambay**: Basualdo 5822 (FCQ); Basualdo 5926 (FCQ). **Caaguazú**: Basualdo 5822 (FCQ); Fernández Casas & Molero 6379 (G); Fernández Casas & Molero 6379 (G); Fernández Casas & Schinini

7471 (G); Hassler 9495, type (B, BM, F, G, K, S, UC); Hassler 9495a (B, BM, G); Rojas 5123 (AS); Schinini 22962 (CTES, G); Zardini & Velásquez 25887 (AS, MO). **Paraguari:** Balansa 2298 (G); Zardini 15434 (G, MO). **San Pedro:** Zardini & Guerrero 45529 (AS, MO). **Unknown:** Fiebrig 6266 (G); Jörgensen 4872 (SI).

Annona glaucophylla R.E.Fr., Bull. Herb. Boissier sér. 4: 1172. 1904.

Subshrub.

Vouchers: **Amambay:** Bernardi 18938 (G); Hassler 12033 (G); Meyer 18559 (LIL); Zardini & Vera 54335 (MO); Zardini & Guerrero 54039 (MO). **Concepción:** Hassler 8119, type (B, F, G, K, S, UC).

Annona paraguayensis R.E.Fr., Bull. Herb. Boissier sér. 2(4): 1171. 1904.

Subshrub.

Vouchers: **Concepción:** Hassler 8097, type (G, MO); Kiesling et al. 9632 (CTES).

Piperaceae

Piper asperilimum C.DC., Proc. Amer. Philos. Soc. 75(8): 700. 1935.

Shrub.

Vouchers: **Canindeyú:** Hassler 5215, type (A, G, G-DC, F, K, MO, MPU, P, UC); Hassler 5218, type (G, G-DC, NY); Marín & Jiménez 345 (BM, CTES, MO, PY).

Piper hassleri C.DC., Bull. Herb. Boissier, sér. 2(3): 397. 1903.

Tree.

Vouchers: **Amambay:** Hassler 10233 (G, K). **Caaguazú:** Hassler 8942 (B, BM, K); Hassler 9570 (K). **Canindeyú:** Hassler 4899, type (G, K, P); Hassler 5217, type (A, BM, F, G, K, MPU, NY, P, UC); Hassler 5379, type (BM, NY); Hassler 5720, type (A, BM, G, K, NY, P, UC); Jiménez 1530 (BM, CTES, G, MO, PY). **Unknown:** Hassler 8492 (G, K).

Eudicots

Acanthaceae

Dyschoriste sagittata Kobuski, Ann. Missouri Bot. Gard. 15: 45, pl 12. 1928.

Herb.

Vouchers: **Alto Paraná:** Fiebrig 6383, type (G, LIL, SI).

Ruellia woolstonii C.Ezcurra, Brittonia 50(3): 339, f.1. 1998.

Herb.

Vouchers: **Caazapá:** Vera et al. 3490 (FCQ). **Canindeyú:** Hassler 5092 (BM, NY). **Concepción:** Woolston 989, type (K, NY, SI, US); Woolston 118 (NY, US); Woolston 1252 (US); Woolston 1657 (K, NY). **San Pedro:** Hassler 4281 (BM, G, NY, P); Hassler 5980 (G); Krapovickas & Cristóbal 44900, type (CTES, SI).

Achatocarpaceae

Achatocarpus brevipedicellatus H.Walter, Pflanzenr. IV, 83 (Heft 39): 138. 1909.

Tree.

Vouchers: **Cordillera:** Fiebrig 5866 (G, K); Hassler 5926 (G). **Paraguari:** Hassler 6926, type (BM, F, G, K, MO, P, S).

Achatocarpus hasslerianus Heimerl, Verh. Zool.-Bot. Ges. Wien. 12: 14. 1912.

Tree.

Vouchers: **Alto Paraná:** Fiebrig 6139 (G). **Caaguazú:** Hassler 8878, type (BM, G, K, W); Hassler 8878a, type (BM, G, S).

Amaranthaceae

Alternanthera hirtula (Mart.) R.E.Fr. var. *hirsuta* Pedersen, Bonplandia 10: 84. 2000.

Herb.

Vouchers: **Alto Paraná:** *Bertoni 851* (G); *Caballero Marmorì 847* (CTES, K, MO); *Caballero Marmorì s.n.* (CTES). **Canindeyú:** *Bernardi 18341* (G, MO); *Hassler 5170* (CTES, G, K, MO, P); *Marín & Jiménez 1608*, type (BM, PY, CTES, G, MO).

Alternanthera hirtula (Mart.) R.E.Fr. var. *nitens* Pedersen, Bonplandia 10: 84. 2000.

Herb.

Vouchers: **Amambay:** *Basualdo 6401* (FCQ); *Brunner et al. 970* (G, MO); *Ferrucci et al. 1684* (G); *Ferrucci et al. 642*, type (CTES, G, K, LIL); *Fortunato et al. 963* (BAB); *Krapovickas & Cristóbal 44954* (CTES, G); *Krapovickas et al. 45961* (CTES, K); *Mereles 1477* (FCQ, G); *Schinini & Bordas 20257* (CTES); *Schinini & Dematteis 33839* (CTES); *Soria 1674* (FCQ, MO); *Soria 5937* (FCQ); *Soria 5590* (FCQ); *Vanni et al. 1312* (CTES); *Zardini et al. 4178* (CTES, FCQ).

Alternanthera inaccessa Pedersen, Adansonia, sér. 3, 19: 219-220, f. 2. 1997.

Shrub.

Vouchers: **Alto Paraguay:** *Degen & Mereles 3278* (CTES, FCQ); *Ramella 2836* (G); *Ramella 2846*, type (C, CTES, G).

Alternanthera kurtzii Schinz ex Pedersen subsp. *sclerosperma* Pedersen, Bonplandia 10: 86, F. 2. 2000.

Herb.

Vouchers: **Alto Paraguay:** *Ramella 2340*, type (G); *Schinini & Bordas 17884* (CTES, G); *Schinini & Bordas 18048* (CTES, G, K). **Boquerón:** *Krapovickas et al. 45387* (CTES, G); *Schinini & Bordas 16514* (CTES, G); *Schmeda 109* (FCQ); *Soria 1238* (CTES, FCQ). **Central:** *Zardini & Tillería 33931* (CTES).

Alternanthera piptantha Pedersen, Bonplandia 10: 88. 2000.

Subshrub.

Vouchers: **Alto Paraguay:** *Charpin & Ramella 21682* (CTES, G); *Fortunato et al. 3785*, type (G); *Hahn et al. 1522* (C, CTES); *Ramella et al. 2968* (G); *Spichiger 2750* (G); *Spichiger et al. 2336* (CTES, G); *Spichiger et al. 2375* (CTES, G); *Spichiger et al. 2968* (G).

Alternanthera serpens Pedersen, Adansonia, sér. 3, 19(2): 224. 1997.

Herb.

Vouchers: **Alto Paraguay:** *Vanni et al. 2608*, type (CTES, G, K). **Boquerón:** *Krapovickas & Cristóbal 44375* (CTES); *Krapovickas et al. 45280* (CTES, G, MA, MO); *Mereles & Degen 5633* (CTES); *Nicora et al. 9724* (G, SI); *Schinini & Palacios 25552* (CTES, FCQ, MO); *Schmeda 128* (FCQ). **Presidente Hayes:** *Peña-Chocarro et al. 1670* (BM, FCQ).

Froelichia paraguayensis Chodat, Bull. Herb. Boissier sér 7(App. 1): 63. 1899.

Herb.

Vouchers: **Amambay:** *Hassler 7943* (BM, C, F, G, GH, MPU, MO, P); *Hassler 8152* (BM, G). **Central:** *Morong 850* (MO). **Concepción:** *Fiebrig 4720*, type (BM, G, L, SI, Z). **Paraguari:** *Hassler 1494*, type (BM, G, K, NY).

Gomphrena guaranitica Chodat, Bull. Herb. Boissier ser. 2, 3: 387. 1903.

Herb.

Vouchers: **Central:** *Pedersen 9322* (C, CTES). **Cordillera:** *Arbo et al. 1712* (CTES); *Balansa 3198* (BAF, G); *Charpin & Ramella 21307* (G); *Krapovickas et al. 45221* (CTES); *Pedersen 7591* (C, CTES); *Schinini 1405* (CTES); *Schinini 14782* (CTES); *Schinini 4372* (CTES, G). **Paraguari:** *Hassler 6606*, type (BM, G); *Pedersen 9298* (C, CTES); *Pérez 394* (CTES).

Gomphrena paraguayensis Chodat subsp. *chacoensis* Pedersen, Adansonia, sér. 3 19(2): 232. 1997.

Herb.

Vouchers: **Alto Paraguay**: *Brunner 1224*, type (G).

Gomphrena paranensis R.E.Fr. subsp. *paraguariensis* Pedersen, *Adansonia* 12: 86. 1990.

Herb.

Vouchers: **Amambay**: *Bernardi 18989* (BM). **Central**: *Zardini & Tillería 33687* (AS, CTES, MO). **Misiones**: *Zardini & Guerrero 55372* (BONN, MO). **Paraguarí**: *Mereles et al. 8051* (G); *Pedersen 9539*, type (CTES, G, MBM).

Gomphrena vitellina Pedersen, *Adansonia* 12: 87. 1990.

Herb.

Vouchers: **Amambay**: *Ferrucci et al. 641*, type (CTES, G, SI); *Mereles 1473* (FCQ, G); *Mereles 3265* (G).

Pfaffia nudicaulis Suess., *Mitt. Bot. Staatssamml. München heft 2*: 63. 1950.

Herb.

Vouchers: **Amambay**: *Rojas 6311*, type (C, CTES, M, LIL, S).

Anacardiaceae

Astronium gracile Engl. var. *acuminatum* (Chodat & Hassl.) F.A.Barkley, *Phytologia* 16:123. 1968.

Syn.: *Astronium gracile* Engl. f. *acuminatum* Chodat & Hassl.

Tree.

Vouchers: **Alto Paraná**: *Duarte s.n.* (G). **Central**: *Pavetti & Rojas 10641* (AS, LIL, LP). **Cordillera**: *Hassler 6624*, type (BM, G); *Osten 9009* (BAF, LIL); *Zardini 4332* (FCQ, MO); *Zardini 6363* (FCQ, MO). **Paraguarí**: *Hassler 3142* (BM, G, LIL, MO).

Schinus weinmannifolius Endl. var. *hassleri* (F.A.Barkley) F.A.Barkley, *Lilloa* 28: 92. 1957.

Syn.: *Schinus molle* L. var. *hassleri* F.A.Barkley; *S. weinmannifolius* Engl. var. *angustifolius* F.A.Barkley.

Shrub.

Vouchers: **Amambay**: *Bernardi 19393* (B, BM, G); *Fernández Casas & Molero 4068* (G); *Ferrucci et al. 1476* (G); *Hassler 12023* (BAF, BM, G, NY); *Schinini 21348* (G); *Simonis et al. 158* (G); *Soria 1712* (G); *Soria 4954* (FCQ); *Soria 4982a* (FCQ); *Soria 5019* (FCQ); *Stevens et al. 26177* (FCQ, MO). **Caaguazú**: *Fernández Casas 7375* (G); *Schinini 22882* (G); *Sparre & Vervoort 2101* (LIL); *Zardini & Guerrero 44057* (MO, PY). **Caazapá**: *Schinini et al. 27842* (G). **Canindeyú**: *Arenas 628* (CTES, SI); *Fernández Casas & Molero 5879* (G); *Hassler 5422*, type (BM, G, NY); *Hassler 5485*, type of *S. lenticifolius* var. *angustifolius* Chodat & Hassl. (A, BM, G, K, LIL, MO, NY, S); *Zardini & Vera 47858* (AS, MO); *Zardini & Vera 47897* (AS, MO); *Zardini & Vera 47924* (AS, MO). **Concepción**: *Eliceche 111* (FCQ); *Eliceche 348* (FCQ); *Hassler 5959*, type (A, BM, G, NY); *Hassler 7909*, type (A, BM, G, LIL, MO, NY, S). **San Pedro**: *Basualdo 4095* (FCQ, G); *Basualdo 4849* (FCQ); *Bernardi 19600* (G); *Krapovickas & Schinini 32542* (CTES, MO); *Rojas 4253* (AS, BAF, F, LIL); *Schinini 22882* (G); *Schinini 32542* (CTES, MO); *Soria 6469* (FCQ); *Woolston 459* (K, NY, S, SI, U, US); *Zardini & Guerrero 46650* (AS, MO); *Zardini & Guerrero 48351* (AS, G, MO); *Zardini & Zavala 46815* (AS, MO).

Apiaceae

Eryngium plantaginifolium H.Wolff, *Bot. Jahrb. Syst.* 40(3): 297. 1908.

Herb.

Vouchers: **Amambay**: *Rojas 6646* (AS); *Rojas 9935* (BM, LIL, K). **Caaguazú**: *Hassler 9301*, type (BM, G, NY); *Hassler 9561*, type (BM, F, G, GH, K, MPU, NY, P, S).

Eryngium rojasii H.Wolff, *Pflanzenr. (Engler)* 4, *Fam.* 228: 248. 1913.

Herb.

Vouchers: **Amambay**: *Hassler 10075*, type (BM, G, MPU); *Hassler 10075a*, type (BM).

Apocynaceae

Araujia hassleriana (Malme) Fontella & Goyder, *Phytotaxa* 26: 11. 2011.

Syn.: *Morrenia hassleriana* Malme

Vine.

Vouchers: **Alto Paraguay**: *Fiebrig 1404* (G); *Fiebrig 1484*, type of *Morrenia hassleriana* (G); *Fiebrig 1498* (G, K, S).

Concepción: *Hassler 10803*, type (G, S).

Astephanus streptocarpus E.Fourn., Ann. Sci. Nat. Bot., sér. 6, 14: 367. 1882.

Vine.

Vouchers: **Guairá**: *Balansa 1366*, type (G, P). **Paraguarí**: *Balansa 1347* (G); *Balansa 4642* (BM, G).

Blepharodon angustifolius Malme, Bih. Kongl. Svenska Vetensk.-Akad. Handl. 27, Afd. 3, No. 8: 32. 1901.

Vine.

Vouchers: **Cordillera**: *Balansa 4641* (G); *Chodat 185* (G); *Degen & Zardini 362* (FCQ, MO); *Degen & Zardini 532* (FCQ, G, MO); *Fiebrig 696* (MO); *Hassler 4008*, type (BM, G, GH, K, MO, NY, P, S); *Hassler 6223* (BM, G); *Soria 3201* (MO); *Stevens et al. 31333* (MO, PY); *Zardini & Degen 3658* (FCQ, G, MO); *Zardini & Degen 3864* (FCQ, MO); *Zardini 26276* (FCQ, K, MO); *Zardini 3999* (FCQ, MO); *Zardini 4306* (FCQ, MO); *Zardini 7599* (FCQ, MO); *Zardini 7652* (FCQ, MO, SI).

Marsdenia altissima (Jacq.) Dugand supsp. *faucinuda* Dugand, Caldasia 9(45): 425-426. 1966.

Syn.: *Marsdenia burchellii* E.Fourn.; *M. caulantha* S.Moore; *M. imthurnii* Hemsl.

Vine.

Vouchers: **Amambay**: *Bernardi 20634* (G); *Hassler 10608* (BM, K); *Hassler 11118*, type (BM, K, MO, US).

Concepción: *Hassler 7625* (G).

Marsdenia guaranitica Malme, Bih. Kongl. Svenska Vetensk.-Akad. Handl. 27(Afd. 3, n. 8): 35-36, f. 7b-8, t. 1, f. 7. 1901.

Vine.

Vouchers: **Amambay**: *Fernández Casas & Molero 4064* (G, MA, MO); *Hassler & Rojas 10642* (G, K); *Hassler 5331* (BM); *Soria 6803* (MO); *Stevens et al. 31109* (MO, PY). **Caaguazú**: *Hassler 9549*, type (BM, G, MO). **Canindeyú**: *Zardini & Ramírez 51396* (AS, K, MO). **Concepción**: *Chodat 184* (G). **Guairá**: *Hassler 4422*, type (BM, G, K); *Hassler 4466* (G). **San Pedro**: *Soria 6570* (MO); *Zardini & Zavala 46813* (AS, K, MO).

Marsdenia paraguayensis Morillo, Anales Jard. Bot. Madrid 51(1): 62. 1993.

Vine.

Vouchers: **Alto Paraguay**: *Spichiger 2528* (FCQ, G); *Spichiger 2579* (FCQ, G). **Boquerón**: *Schmeda 1306*, type (US).

Oxypetalum acerosum Malme, Bull. Herb. Boissier, sér. 2, 8: 106. 1908.

Herb.

Vouchers: **Caaguazú**: *Hassler 9524*, type (BM, G, K, P, W); *Hassler 9524a*, type (BM, G, K).

Oxypetalum brachystephanum (Malme) Malme, Ark. Bot. 3(8): 7. 1904.

Syn.: *Oxypetalum arnottianum* H.Buek var. *brachystephanum* Malme; *O. paraguayense* auct. non Schltr.

Herb or subshrub.

Vouchers: **Canindeyú**: *Hassler 9684a* (G). **Central**: *Stevens 25955* (MO); *Solomon & Vavrek 6766* (MO, PY). **Concepción**: *Fiebrig s.n.* (G). **Cordillera**: *Hassler 11554* (G); *Hassler 1939*, type of *Oxypetalum paraguayense* Chodat (G); *Hassler 3252*, type of *Oxypetalum arnottianum* var. *brachystephanum* (BM, G); *Hassler 6192* (G); *Hassler 7128* (G, K, MO); *Hassler 8755* (BM, G); *Krapovickas et al. 45676* (CTES, K). **Unknown**: *Hassler 6655* (G, MO).

Oxypetalum ceratostemma Malme, Bull. Herb. Boissier, sér. 2(8): 104-105. 1908.

Herb.

Vouchers: **Caaguazú**: *Hassler 9522*, type (BM, G, K, P, W); *Hassler 9522a*, type (G).

Oxypetalum filamentosum Malme, Bull. Herb. Boissier, sér. 2(8): 103-104. 1908.

Herb.

Vouchers: **Cordillera**: Hassler 6336, type (G). **Itapúa**: Zardini & Rodríguez 51606 (AS, K, MO); Zardini & Rodríguez 52110 (AS, MO).

Oxypetalum glabrescens Malme, Bull. Herb. Boissier, sér. 2(8): 102-103. 1908.
Herb.

Vouchers: **Caaguazú**: Hassler 9592, type (G, MO).

Oxypetalum martii E.Fourn. var. **nanum** (Malme) Fontella & S.A.Cáceres, Candollea 65(2): 400. 2010.

Syn.: *Oxypetalum nanum* Malme

Herb.

Vouchers: **Caaguazú**: Hassler 9493, type of *Oxypetalum nanum* (B, G, MO, SI).

Oxypetalum ophiuroideum Malme, Bih. Kongl. Svenska Vetensk.-Akad. Handl. 27(Afd. 3, n. 8): 24–25, t. 1, f. 2. 1901.

Herb.

Vouchers: **Canindeyú**: Hassler 4983, type (G, MO).

Oxypetalum rojasianum Malme, Bull. Herb. Boissier, sér. 2, 8: 400. 1908.

Herb.

Vouchers: **Amambay**: Hassler & Rojas 9851, type (G); Hassler 9869 (G); Hassler & Rojas 10705, type (BM, G, K); Hassler & Rojas 10705a, type (BM, G, MO, P); Hassler 11192 (BM, G, K, MO).

Asteraceae

Acanthospermum consobrinum S.F.Blake, Contr. U.S. Natl. Herb. 20(10): 389–390. 1921.

Herb.

Vouchers: **Central**: Balansa 874a, type (BM, GH).

Aspilia leucanthema Chodat, Bull. Herb. Boissier, sér. 2(2): 391. 1902.

Subshrub.

Vouchers: **Amambay**: Basualdo 4875 (FCQ); Brunner et al. 968 (MO, PY); Hassler 9740 (K); Krapovickas et al. 45928 (CTES, K); Krapovickas et al. 46013 (CTES, K); Schinini & Dematteis 33438 (CTES, FCQ, K, MO, SI); Solomon et al. 7064 (MO, PY); Soria 5659 (MO); Soria 5772 (FCQ, K, MO); Soria 6072 (MO); Soria 6295 (FCQ); Soria 7238 (FCQ); Soria 7385 (FCQ, MO); Stevens et al. 26042 (FCQ, K, MO); Zardini & Báez 52220 (AS, MO); Zardini et al. 4163 (FCQ, K, MO). **Canindeyú**: Hassler 4988, type (K). **San Pedro**: Zardini & Guerrero 45538 (AS, MO); Zardini & Guerrero 46668 (AS, K, MO); Zardini & Guerrero 46941 (AS, K, MO); Zardini & Guerrero 48169 (AS, MO); Zardini & Guerrero 48369 (AS, MO); Zardini & Vargas 43625 (MO, PY); Zardini & Vargas 43631 (MO, PY); Zardini & Zavala 44195 (AS, MO); Zardini & Zavala 46871 (AS, K, MO).

Baccharis amambayensis Zardini & Soria, Candollea 46: 535. 1991.

Shrub.

Vouchers: **Amambay**: Hassler 10285 (G); Hassler 10285a, type (A, BM, F, G, GH, NY, P); Schinini & Dematteis 33760 (G).

Baccharis illinitoides Malag., Mem. Soc. Ci. Nat. La Salle 37: 138. 1977.

Shrub.

Vouchers: **Amambay**: Hassler & Rojas 10049 (G); Hassler & Rojas 10049a (BM, G); Hassler & Rojas 10049b (G); Hassler & Rojas 10392 (G); Hassler & Rojas 10392a, type (G); Schinini et al. 29271 (CTES, FCQ, G); Soria 7606 (FCQ); Zardini & Cardozo 45205 (AS, MO). **Caaguazú**: Hassler 9054 (G); Hassler 9054a (G).

Baccharis isabelae Soria & Zardini, Candollea 46(2): 537.

Shrub.

Vouchers: **Central**: Hassler 11831 (BM, G); Hassler 11831a (BM, G); Hassler 361 (G). **Cordillera**: Hassler 2809 (BM, G); Osten & Rojas 8796 (G); Osten & Rojas 8797 (G); Soria & Ortiz 4247, type (CTES, FCQ, G, LP, MA, MO). **Paraguari**: Hassler 305 (G). **Unknown**: Rojas 1305 (G); Rojas 1305a (G).

Bidens chodatii Hassl., Repert. Spec. Nov. Regni Veg. 12: 369. 1913.

Herb.

Vouchers: **Amambay**: Basualdo 4885 (FCQ). **Paraguarí**: Fiebrig 571, type (BM, G, K); Hassler 3757, type (G). **San Pedro**: Basualdo 4831 (G).

Calea formosa Chodat, Bull. Herb. Boissier, sér. 2(2): 396. 1902.

Herb.

Vouchers: **Amambay**: Hassler 9785 (F); Solomon 6882 (SI). **Canindeyú**: Hassler 4943 (BM, G, K, P, S). **Concepción**: Pedersen 14644 (SI).

Calea rojasiana Chodat, Bull. Herb. Boissier sér. 2(3): 728. 1903.

Herb.

Vouchers: **Concepción**: Hassler 7390, type (G). **Cordillera**: Mereles 1247 (SI). **Misiones**: Soria 665 (FCQ). **Paraguarí**: Hicken & Rojas 5449, type (AS, LP, SI).

Chromolaena rojasii (Hassl.) R.M.King. & H.Rob., Phytologia 20(3): 205. 1970.

Syn.: *Eupatorium rojasii* Hassl.

Subshrub.

Vouchers: **Amambay**: Hassler & Rojas 10103, type (BM, F, G, GH, K, LIL, MICH, NY, P, S, UC); Hassler 10226, type (K).

Dasyphyllum maria-lianae Zardini & Soria, Novon 4: 80. 1994.

Shrub.

Vouchers: **Guairá**: Zardini & Velázquez 13263 (FCQ, MO); Zardini & Soria 32470, type (FCQ, MO). **San Pedro**: Zardini & Vera 45480 (K, MO).

Dimerostemma indutum (Chodat) M.D.Moraes, Phytologia 89(1): 118. 2007.

Syn.: *Aspilia induta* Chodat, *Zexmenia induta* (Chodat) Hassl., *Angelphytum indutum* (Chodat) H.Rob.

Subshrub.

Vouchers: **Caaguazú**: Zardini & Velázquez 25477 (AS, MO). **Central**: Pérez 694 (AS, MO). **Cordillera**: Hassler 4021, type of *Aspilia induta* (G, K); Soria 1650 (FCQ, MO); Zardini & Degen 3775 (FCQ, MO); Zardini & Velázquez 27026 (FCQ, MO); Zardini & Velázquez 27247 (FCQ, MO); Zardini & Velázquez 26272 (FCQ, G, MO); Zardini 26181 (FCQ, MO); Zardini 3473 (FCQ, G, MO); Zardini 4346 (FCQ, MO); Zardini 5981 (FCQ, MO); Zardini 6717 (FCQ, MO); Zardini 6741 (FCQ, MO). **Guairá**: Zardini & Velázquez 13766 (FCQ, MO).

Eupatorium amambayense Cabrera, Candollea 48(1): 237. 1993.

Subshrub.

Vouchers: **Amambay**: Hassler & Rojas 9762 (BM, G); Hassler & Rojas 10089, type (BM, F, G, MICH, MPU, P).

Eupatorium areniscopilum Cabrera, Candollea 48(2): 516. 1993.

Subshrub.

Vouchers: **Caaguazú**: Sparre & Vervoort 1980 (LIL). **Cordillera**: Pérez de Molas & Brunner 968, type (PY, MO).

Eupatorium gnaphalioides Cabrera, Candollea 48(2): 520. 1993.

Subshrub.

Vouchers: **Guairá**: Jörgensen 4105, type (LIL).

Fleischmannia hassleri H.Rob., PhytoKeys 57: 64. 2015.

Subshrub.

Vouchers: **Caaguazú**: Hassler 9069 (BM, G, US). **Central**: Bordas 3750 (US); Hassler 11537, type (BM, G, US); Zardini & Jara 36127 (AS, MO, US). **Cordillera**: Bordas 3669 (US). **Unknown**: Jörgensen 54268 (US).

Lessigianthus concepcionis M.B.Angulo & Dematteis, Phytotaxa 265 (3): 267-272. 2016.

Shrub.

Vouchers: **Concepción:** *Dematteis et al. 3230*, type (CTES, FCQ, SI); *Dematteis et al. 3300* (CTES, FCQ, SI); *Keller et al. 6652* (CTES).

Mesanthophora brunneri H.Rob., *Novon* 2(2): 172. 1992.

Syn.: *Vernonia brunneri* (H.Rob.) Cabrera

Herb.

Vouchers: **Concepción:** *Brunner 1720*, type (G, MO, PY, US); *González & Mora 932* (FCQ); *Zardini 38883* (G).

Mikania calcarulata B.L.Rob., *Contr. Gray Herb.* 104: 33. 1934.

Vine.

Vouchers: **Amambay:** *Hassler & Rojas 10548*, type (BM, G, GH, P).

Mikania pilcomayensis (Hassl.) B.L.Rob., *Contr. Gray Herb.* 104: 64. 1934.

Syn.: *Mikania scandens* (L.) Willd. var. *pilcomayensis* Hassl.

Vine.

Vouchers: **Presidente Hayes:** *Rojas 268*, type of *Mikania scandens* var. *pilcomayensis* (G).

Mikania pseudorimachii W.C.Holmes & McDaniel, *Candollea* 44: 32. 1989.

Vine.

Vouchers: **Central:** *Hassler 11750*, type (BM, G, MO, US). **Guairá:** *Zardini & Velásquez 13276* (FCQ, MO).

Paraguari: *Zardini 4722* (G); *Zardini 5885* (MO, PY); *Zardini 12694* (MO, PY); *Zardini et al. 12740* (MO, PY); *Zardini 12869* (MO, PY). **Presidente Hayes:** *Soria 4587* (FCQ); *Zardini et al. 2609* (CTES, FCQ, G).

Pectis guaranitica Chodat, *Bull. Herb. Boissier, sér. 2(3):* 731. 1903.

Herb.

Vouchers: **Alto Paraguay:** *Rojas 13663* (LP). **Amambay:** *Hassler 8094*, type (BM, F, G, K, MO, NY, P, S, UC); *Hassler 10806* (BM). **Concepción:** *Fiebrig 4200* (BM).

Porophyllum hasslerianum Chodat, *Bull. Herb. Boissier, sér. 2(3):* 730. 1903.

Subshrub.

Vouchers: **Amambay:** *Hassler 8086*, type (BM, NY, S, UC). **Concepción:** (*Zuloaga et al. 2015*).

Spilanthes paraguayensis R.K.Jansen, *Syst. Bot.* 6(3): 250. 1981.

Syn.: *Spilanthes urens* Jacq. var. *typica* Hassl.

Herb.

Vouchers: **Alto Paraguay:** *Fiebrig 1410* (Glat.); *Rojas 2716* (SI); *Rojas 2865* (SI, US). **Boquerón:** *Pedersen 4034* (C, LP, NY). **Presidente Hayes:** *Hassler 2632*, type of *Spilanthes urens* var. *typica* (BM, F, G, MPU); *Schinini & Palacios 25832* (G); *Soria & Degen 2711* (FCQ).

Stenachaenium megapotamicum (Spreng.) Baker var. *pedunculata* Chodat, *Bull. Herb. Boissier sér. 2(2):* 388. 1902.

Herb.

Vouchers: **San Pedro:** *Hassler 4277* (G).

Stevia amambayensis B.L.Rob., *Contr. Gray Herb.* 90: 6. 1930.

Herb.

Vouchers: **Amambay:** *Hassler & Rojas 10111b*, type (BM, G).

Stevia ammotropha B.L.Rob., *Contr. Gray Herb.* 90: 7. 1930.

Subshrub.

Vouchers: **Caaguazú:** *Hassler 9347*, type (BM, F, G, GH, LIL, MO, MPU, NY, P, TEX); *Jørgensen 4902* (MO, SI); *Rojas 5031* (AS, LP, MO). **Central:** *Schinini 8792* (CTES). **Misiones:** *Pedersen 5928* (LP).

Stevia amplexicaulis Hassl., Repert. Spec. Nov. Regni Veg. 11: 165. 1912.

Herb.

Vouchers: **Amambay**: Hassler & Rojas 10111, type (BM, F, G, GH, K, P, S); Hassler & Rojas 10111a (BM, G); Rojas 6860a (LP).

Stevia apensis B.L.Rob., Contr. Gray Herb. 90: 7. 1930.

Subshrub.

Vouchers: **Alto Paraná**: Fiebrig 6002 (BM, G, GH, K, SI). **Caaguazú**: Hassler 9267 (BM, K, MO). **Concepción**: Hassler 11079, type (BAF, BM, F, G, GH, K, MICH, MPU, NY, P, TEX). **Paraguarí**: Rojas 3387 (BAF, K, G, LIL).

Stevia cuneata Hassl., Repert. Spec. Nov. Regni Veg. 11: 166. 1912.

Subshrub.

Vouchers: **Amambay**: Basualdo & Soria 6644 (FCQ); Hassler & Rojas 10286, type (BM, K, F, G, GH, MICH, NY, P, S, UC); Hassler 10285 (MO); Hassler 10286a (BM); Rojas 6860 (LP). **Presidente Hayes**: Zardini & Fernández Casas 45996 (AS, MO).

Stevia estrellensis B.L.Rob., Contr. Gray Herb. 90: 83. 1930.

Herb.

Vouchers: **Amambay**: Fiebrig 4474 (K); Hassler & Rojas 10196, type (G, GH, K, LIL, NY, S); Schinini et al. 36098 (CTES, PY). **Caaguazú**: Hassler 9342 (BM, G, K); Hassler 9342a (BM, K); Hassler 9342b (BM, G, K). **San Pedro**: Hassler 5955 (BM, G, K).

Stevia rojasii Hassl., Repert. Spec. Nov. Regni Veg. 11: 167. 1912.

Subshrub.

Vouchers: **Amambay**: Hassler 7822 (G); Hassler & Rojas 10185, type (BM, G, GH, LIL, MICH, MO, MPU, NY, P); Hassler & Rojas 10375, type (BM, G, K, LIL).

Tessaria dodoneifolia (Hook. & Arn.) Cabrera subsp. *plucheoides* (Hassl.) S.E.Freire, Candollea 52: 214. 1997.

Shrub.

Vouchers: **Central**: Schinini 9527 (G, LP). **Presidente Hayes**: Hassler & Rojas 2685 (BM, G, K, MO).

Trichogonia chodatii (Hassl.) R.M.King & H.Rob., Phytologia 24(3): 178. 1972.

Syn.: *Eupatorium chodatii* Hassl.

Subshrub.

Vouchers: **Amambay**: Hassler & Rojas 10178a (BM, G); Hassler & Rojas 10178b (G); Rojas 4038 (LP). **Caaguazú**: Balansa 814 (G, K, LIL); Hassler 9087, type of *Eupatorium chodatii* (BM, G, K, SPF, US).

Trichogonia phlebodes (B.L.Rob.) R.M.King & H.Rob., Phytologia 24: 178. 1972.

Syn.: *Eupatorium phlebodes* B.L.Rob.

Herb.

Vouchers: **Amambay**: Hassler & Rojas 10178c, type (BM, G, GH, LIL).

Trixis hassleri Chodat, Bull. Herb. Boissier, sér. 2, 3: 782. 1903.

Shrub.

Vouchers: **Amambay**: Hassler 8318, type (BM, F, G, GH, K, MICH, MO, NY, P, S, UC); Hassler 10954 (BM, G, K, P); Krapovickas & Schinini 32645 (CTES, SI). **Paraguarí**: Zardini & Florentín Peña 6884 (MO, PY); Zardini & Florentín Peña 6969 (MO, PY); Zardini et al. 9183 (MO, PY); Zardini et al. 12793 (MO, PY); Zardini et al. 12794 (MO, PY).

Trixis ophiorhiza Gardner subsp. *glandulifera* (Hassl.) Katinas, Darwiniana 34: 78. 1996.

Syn.: *Trixis ophiorhiza* Gardner var. *glandulifera* Hassl.

Subshrub.

Vouchers: **Amambay**: Hassler & Rojas 10547, type (BM, G).

Verbesina caleaeifolia Cabrera, Notas Mus. La Plata 18: 59. 1955.

Subshrub.

Vouchers: **Amambay**: Rojas 6358, type (LP); **Soria** 6800 (FCQ); **Stevens et al.** 26043 (FCQ, MO).

Verbesina guaranitica Chodat, Bull. Herb. Boissier, sér. 2(3): 722. 1903.

Syn.: *Zexmenia guaranitica* (Chodat) S.F.Blake

Shrub.

Vouchers: **Caaguazú**: Hassler 9002 (BM). **Canindeyú**: Hassler 5647 (BM). **Concepción**: Fiebrig 4411 (K); Hassler 8132, type (BM, GH, K, NY, P).

Verbesina rugosa Chodat, Bull. Herb. Boissier, sér. 2(2): 393. 1902.

Shrub.

Vouchers: **Canindeyú**: Hassler 4960 (G).

Verbesina sordescens DC. var. *glabrata* Chodat, Bull. Herb. Boissier, sér. 2(3): 724. 1903.

Herb.

Vouchers: **Canindeyú**: Hassler 5962, type (BM, K, MO, NY, P, S).

Vernonia bellula Dematteis, Candollea 55: 308. 2000.

Subshrub.

Vouchers: **Canindeyú**: Fernández Casas & Molero 5989, type (BM, BR, COL, CTES, G, MA).

Vernonia cichoriiflora Chodat, Bull. Herb. Boissier sér. 2(2): 300. 1902.

Syn.: *Vernonanthura cichoriiflora* (Chodat) H.Rob.

Shrub.

Vouchers: **Canindeyú**: (Zuloaga et al. 2015). **San Pedro**: Hahn et al. 1371 (G, MO, PY); Hassler 5928, type (BM, G); Krapovickas & Cristóbal 34263 (CTES, LP, SI); Pedersen 11052 (CTES, SI).

Vernonia cupularis var. *oligocephala* Chodat, Bull. Herb. Boissier sér. 2(2): 300. 1902.

Subshrub.

Vouchers: **Cordillera**: Hassler 6050, type (G).

Vernonia hystrix Chodat, Bull. Herb. Boissier, sér. 2(2): 298. 1902.

Herb.

Vouchers: **Amambay**: Atschbach & Callejas 47256 (G); Callejas et al. 1942 (G, K); Dematteis & Schinini 852 (CTES, G); Fernández Casas & Molero 6000 (G, K); Hassler & Rojas 10071 (BM, K, G). **Caazapá**: Zardini & Britez 52927 (K, MO). **Canindeyú**: Basualdo 5948 (FCQ); Hassler & Rojas 4297 (BM, G); Múlgura de Romero et al. 3590 (FCQ, SI); Rolón et al. CR41 (FCQ); Rolón et al. CR66 (FCQ); Zardini & Chaparro 50651 (K, MO); Zardini & Ramírez 51359 (K, MO). **Cordillera**: Matta & Rojas 546 (CTES). **Misiones**: Burkart 18719 (SI); Pedersen 9591 (SI). **Paraguarí**: Balansa 922 (unknown).

Vernonia lanata (Chodat) Cabrera, Hickenia 2(35): 155. 1995.

Herb.

Vouchers: **Caaguazú**: Schinini et al. 36144 (G). **Cordillera**: Hassler 6867a (BM, G); Schinini 2211 (CTES); Schinini 2632 (CTES, G); Schinini 2633 (CTES). **Guairá**: Balansa 774, type (G). **Paraguarí**: Dematteis et al. 2803 (FCQ); Hassler 6867 (BM, G).

Vernonia platyphylla Chodat, Bull. Herb. Boissier, sér. 2(2): 299. 1902.

Syn.: *Lessigianthus plalyphyllus* (Chodat) H.Rob.

Subshrub.

Vouchers: **Alto Paraná**: Fiebrig 6031 (BM, G). **Amambay**: Dematteis & Schinini 865 (CTES, G); Hassler & Rojas 9971 (G). **Canindeyú**: Hassler 4777, type (G).

Vernonia profusa Dematteis & Cabrera, *Candollea* 54: 105. 1999.

Subshrub.

Vouchers: **Amambay**: *Dematteis et al.* 3398 (FCQ); *Schinini et al.* 30440, type (G, MO); *Soria* 6167 (FCQ). **Canindeyú**: *Dematteis et al.* 2843 (FCQ). **Cordillera**: *Zardini & Degen* 4285 (FCQ, MO).

Vernonia ramellae Cabrera, *Hickenia* 2(35): 159. 1995

Syn.: *Vernonia sessilifolia* var. *auriculata* Chodat; *Lessigianthus ramellae* (Cabrera) H. Rob.

Subshrub.

Vouchers: **Paraguari**: *Hassler* 6674, type of *Vernonia sessilifolia* var. *auriculata* (BM, G).

Vernonia valenzuelae Chodat, *Bull. Herb. Boissier*, sér. 2(3): 641. 1903.

Subshrub.

Vouchers: **Cordillera**: *Fiebrig* 859 (G, K); *Hassler* 6696 (BM, G, K); *Soria* 3194 (FCQ, SI). **Paraguari**: *Balansa* 3058 (BAF).

Viguiera amphichlora S.F. Blake, *Contr. Gray Herb.* 54: 166. 1918.

Syn.: *Aldama amphichlora* (S.F. Blake) E.E. Schill. & Panero

Herb.

Vouchers: **Canindeyú**: *Hassler* 5160, type (BM, G).

Viguiera densifolia Baker, *Fl. Bras. (Martius)* 6(3): 219. 1884.

Syn.: *Aldama densifolia* (Baker) E.E. Schill. & Panero

Herb.

Vouchers: **Amambay**: *Hassler* 9889 (MO). **Caaguazú**: *Balansa* 858, type (G, GH, K, LL, P); *Hassler* 9075 (BM, G); *Zardini & Guerrero* 49127 (K).

Viguiera rojasii S.F. Blake, *Bot. J. Linn. Soc.* 167(3): 325. 2011.

Syn.: *Aldama rojasii* (S.F. Blake) E.E. Schill. & Panero; *Rhysolepis rojasii* (S.F. Blake) H. Rob. & A.J. Moore

Herb.

Vouchers: **Amambay**: *Múlgura de Romero* 3666 (CTES, FCQ, SI); *Rojas* 10367 (BM, P); *Soria* 6065 (FCQ, MO); *Zardini & Guerrero* 46442 (AS, MO); *Zardini & Guerrero* 46540 (AS, MO). **Caaguazú**: *Zardini & Guerrero* 49127 (AS, MO). **Canindeyú**: *Schinini & Dematteis* 33327 (CTES, SI); *Zardini & Guerrero* 47980 (AS, MO). **Central**: *Pérez* 187 (AS, MO). **San Pedro**: *Zardini & Guerrero* 46922 (AS, MO); *Zardini & Guerrero* 48324 (AS, MO); *Zardini & Vargas* 42117 (MO, PY); *Zardini & Vargas* 43555 (MO, PY); *Zardini & Zavala* 44204 (AS, MO); *Zardini & Zavala* 46819 (AS, MO); *Zardini & Zavala* 46821 (AS, MO).

Viguiera simulans S.F. Blake, *Contr. Gray Herb.* 54: 127. 1918.

Subshrub.

Vouchers: **Amambay**: *Soria* 7486 (FCQ). **Canindeyú**: *Hassler* 4367, type (BM, G, GH, K, NY, P).

Begoniaceae

Begonia balansae C. DC. var. *glabrior* C. DC., *Bull. Soc. Bot. Genève*, sér. 2(3): 404. 1903.

Herb.

Vouchers: **Cordillera**: *Degen* 753 (FCQ), *Fiebrig* 750 (K). **Unknown**: *Hassler* 6442 (BM, G)

Begonia fiebrigii C. DC., *Bull. Soc. Bot. Genève*, sér. 2(6): 123, pl. 5. 1914.

Herb.

Vouchers: **Alto Paraná**: *Fiebrig* 6313, type (B, BM, G, GH, US).

Begonia lucidissima Golding & Kareg., *Phytologia* 54: 496. 1984.

Syn.: *Begonia lucida* D. Parodi, nom. illeg.

Herb.

Vouchers: **Central**: *Parodi -1* (Golding & Wasshausen 2002).

Begonia maracayuensis D.Parodi, Anales Soc. Ci. Argent. 5: 209. 1878.

Herb.

Vouchers: **unknown** (Golding & Wasshausen 2002).

Begonia obovatistipula C.DC., Bull. Soc. Bot. Genève, sér. 2(6): 124, pl. 6. 1914.

Herb.

Vouchers: **Concepción:** *Fiebrig 4514*, type (G, K). **Unknown:** *Mereles 281* (FCQ).

Begonia subvillosa Klotzsch var. *leptotricha* (C.DC.) L.B.Sm. & Wassh., Phytologia 52: 446. 1983.

Herb.

Vouchers: **Alto Paraná:** *Fiebrig 5354* (K, SI); *Fiebrig 5707* (SI)

Boraginaceae

Euploca cerroleonensis (R.Degen) R.Degen, Candollea 67(2): 368. 2012.

Syn.: *Heliotropium cerroleonense* R.Degen

Herb.

Vouchers: **Alto Paraguay:** *Hahn 1554* (FCQ, MO, PY); *Mereles & Ramella 2646*, type (G); *Ramella & Mereles 2436* (G); *Ramella 2746* (G).

Euploca distantiflora (I.M.Johnst.) J.I.M.Melo & R.Degen, Candollea 67(2): 368. 2012.

Syn.: *Heliotropium distantiflorum* I.M.Johnst.

Herb.

Vouchers: **Amambay:** *Hassler 10094* (G, K); *Hassler 9777* (B, BM, G, K); *Hassler 9777a* (B). **Caaguazú:** *Balansa 2034* (G); *Hassler 9023*, type (B, BM, F, G, GH, K, NY, P, S). **Canindeyú:** *Fernández Casas & Molero 5992* (G); **Paraguarí:** *Hatschbach 47285* (MO).

Euploca dunaensis (R.Degen) R.Degen, Candollea 67(2): 368. 2012.

Syn.: *Heliotropium dunaense* R.Degen

Herb.

Vouchers: **Boquerón:** *Mereles & Degen 5153* (FCQ); *Zardini & Duarte 49820* (AS, MO). **Presidente Hayes:** *Brunner 1683* (G, MO, PY); *Degen & Mereles 2911*, type (FCQ, MO); *Degen & Mereles 2976*, type (CTES, FCQ, G); *Schinini & Palacios 25675* (CTES, G).

Euploca margaritensis (I.M.Johnst.) J.I.M.Melo & R.Degen, Candollea 67(2): 368. 2012.

Syn.: *Heliotropium margaritense* Hassl. ex I.M.Johnst.

Herb.

Vouchers: **Concepción:** *Hassler 10992*, type of *Heliotropium margaritense* (B, BM, G, GH, K, MO, MPU, P, S); *Stevens et al. 26220* (FCQ, MO).

Cactaceae

Cereus paraguayensis K.Schum., Bull. Herb. Boissier sér 3: 249. 1903.

Syn.: *Cereus lanosus* (F.Ritter) P.J.Braun

Succulent shrub.

Vouchers: **Caaguazú:** *Hassler 9627* (G). **Concepción:** *Pin 723B* (FCQ). **Cordillera:** *Hassler 7079*, type (G); *Hassler 7079a* (G); *Pin 679B* (FCQ); *Pin 680B* (FCQ); *Pin 683B* (FCQ). *Zappi 103* (FCQ); *Zardini & Degen 3853* (FCQ); *Zardini & Salinas 26094* (FCQ, MO); *Zardini & Velázquez 26261* (FCQ, MO); *Zardini 4323* (FCQ). **Guairá:** *Zardini & Aguayo 8513* (FCQ). **Paraguarí:** *Pin 685B* (FCQ).

Gymnocalycium eurypleurum F.Ritter, Kakt. Südamer. 1: 268. 1979.

Succulent herb.

Vouchers: **Alto Paraguay:** *Schinini 17823* (CTES).

Gymnocalycium paediophilum F.Ritter, Kakt. Südamer. 1: 269, fig. 1979.

Succulent herb.

Vouchers: **Alto Paraguay**: *Schinini 21183* (CTES)

Gymnocalycium paraguayense (K.Schum.) Hosseus f. ***fleischerianum*** Mereg., Metzinger & R.Kiesling, Candollea 57(2): 313. 2002.

Syn.: *Echinocactus denudatus* Link & Otto var. *andersohnianus* F.Haage; *E. denudatus* var. *anisitsii* Fric; *E. denudatus* var. *bruennowianus* F.Haage.; *E. denudatus* var. *delaetianus* F.Haage; *E. denudatus* var. *golzianus* Mundt; *E. denudatus* var. *heuschkelianus* F.Haage; *E. denudatus* var. *meiklejohnianus* F.Haage; *E. denudatus* var. *paraguayensis* Mundt; *E. denudatus* var. *scheidelianus* F.Haage; *E. denudatus* var. *wagnerianus* F. Haage; *E. denudatus* var. *wieditzianus* F.Haage; *E. paraguayensis* K.Schum.; *Gymnocalycium fleischerianum* Backeb.

Succulent herb.

Vouchers: **Cordillera**: (Zuloaga *et al.* 2015). **Paraguari**: *Metzinger et al. 4*, type (SI).

Gymnocalycium paraguayense (K.Schum.) Hosseus f. ***paraguayense***, Arch. Esc. Farm. Fac. Ci. Med. Cordoba 9: 106. 1939.

Syn.: *Echinocactus paraguayensis* K.Schum. ex Chodat & Hassl.; *E. denudatus* Link & Otto var. *roseiflorus* K.Schum.; *E. denudatus* var. *scheidelianus* F.Haage; *E. denudatus* var. *wagnerianus* F.Haage; *E. denudatus* var. *wieditzianus* J.N.Haage; *E. denudatus* var. *bruennowianus* F.Haage; *E. denudatus* var. *delaetianus* N.J.Haage; *E. denudatus* var. *paraguayensis* (K.Schum.) Mundt ex K.Schum.; *Gymnocalycium paraguayense* (K.Schum. ex Chodat & Hassl.) Hosseus var. *roseiflorum* (K.Schum.) Schutz; *G. denudatum* (Link & Otto) Pfeiff. ex Mittler var. *roseiflorum* (Hildm. ex K.Schum.) Borg; *G. paraguayense* var. *scheidelianum* (F.Haage) Schutz; *G. denudatum* var. *scheidelianum* F.Haage; *G. paraguayense* var. *wagnerianum* (F.Haage) Schutz; *G. paraguayense* var. *wieditzianum* (F.Haage) Schutz; *G. denudatum* var. *golzianus* Mundt, *G. denudatum* var. *paraguayense*

Succulent herb.

Vouchers: **Cordillera**: (Zuloaga *et al.* 2015). **Paraguari**: *Hassler 6693A*, type of *Echinocactus paraguayensis* (G).

Harrisia hahniana (Backeb.) Kimnach & Hutchison, Cact. Succ. J. 59(2): 59. 1987.

Syn.: *Mediocactus hahnianus* Backeb.; *Echinopsis hahniana* (Backeb.) R.S.Wallace

Succulent herb.

Vouchers: **Concepcion**: *Rojas 8499* (MO, US).

Parodia nigrispina (K.Schum.) F.H.Brandt, Kakt. Orchid. Rundschau 1982(4): 61. 1982.

Syn.: *Echinocactus nigrispinus* K.Schum.; *Eriocactus nigrispinus* (K.Schum.) F.Ritter, *nom. inval.*; *Malacocarpus nigrispinus* (K.Schum.) Britton & Rose; *Notocactus nigrispinus* (K.Schum.) Buining, *nom. inval.*; *N. schumannianus* (Nicolai) A.Berger var. *nigrispinus* (J.N.Haage) Backeb.; *N. schumannianus* (Nicolai) A.Berger f. *nigrispinus* (K.Schum.) Neduchal

Succulent herb.

Vouchers: **Cordillera**: *Schinini & Bordas 21253*, type (CTES, SI); *Zappi 105* (FCQ); *Zardini & Degen 3660* (FCQ, G, MO). **Guaira**: (Zuloaga *et al.* 2015).

Cleomaceae

Cleome chodatiana Iltis, Brittonia 11: 161. 1959.

Syn.: *Physostemon hasslerianum* Chodat

Herb.

Vouchers: **Caaguazu**: *Fernandez Casas & Molero 6372* (G); *Hassler 9506* (BM). **San Pedro**: *Hassler 4434*, type of *Physostemon hasslerianum* (B, BM, GH, K, P, WIS).

Cleome guaranitica (Chodat & Hassl.) Briq., Annuaire Conserv. Jard. Bot. Geneve 17: 371. 1914.

Syn.: *Cleome rosea* Vahl ex DC. var. *guaranitica* Vahl ex DC.

Herb.

Vouchers: **Cordillera**: *Hassler 6423*, type of *Cleome rosea* var. *guaranitica* (BM, G, K); *Hassler 6707*, type of *C.*

rosea var. *guaranitica* Chodat & Hassl. (BM, K).

Convolvulaceae

Cuscuta longiloba Yunck., Svensk Bot. Tidskr. 55: 229. 1961.

Vine.

Vouchers: **Alto Paraguay**: *Rojas 13877*, type (S).

Evolvulus chamaepitys Mart. var. *paraguayensis* Ooststr., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 14: 206. 1934.

Herb.

Vouchers: **Amambay**: *Hassler 11103*, type (B, BM, K, P, S, U); *Hassler 11103a*, type (B, BM, K, NH, NY, S); *Soria 5655* (FCQ).

Evolvulus hasslerianus Chodat, Bull. Herb. Boissier, sér. 2(5): 685. 1905.

Herb.

Vouchers: **Alto Paraguay**: *Mereles & Degen 6362* (FCQ). **Amambay**: (Zuloaga *et al.* 2015). **Concepción**: *Hassler 7836*, type (F, G, K, MO, NH, NY, P, S).

Ipomoea aemilii (O'Donell) J.R.I. Wood & R. Degen, Kew Bulletin 71: 25. 2016.

Syn.: *Ipomoea malpighipila* var. *aemilii* O'Donell; *I. aurita* Hassl., *nom. nud.*

Herb.

Vouchers: **Alto Paraná**: *Caballero Marmorini 1423* (CTES); *Fiebrig 5684*, type (GH, LIL, SI, US); *Fiebrig 6095* (LIL, US); *Itaipú Binacional 1046* (MO); *Romero Pereira 14* (SCP); *Schinini 28152* (CTES).

Ipomoea altoparanaensis O'Donell, Arq. Mus. Paranaense 9: 210, t. 3. 1952.

Herb.

Vouchers: **Alto Paraná**: *Fiebrig 5812*, type (GH, K, LIL, SI, US).

Ipomoea chodatiana O'Donell, Lilloa 23: 484, t. 10. 1950.

Syn.: *Ipomoea uruguayensis* Meisn. var. *elliptica* Chodat & Hassl., *I. uruguayensis* Meisn. var. *glabrata* Chodat & Hassl., *I. uruguayensis* Meisn. var. *sericea* Chodat & Hassl., *I. uruguayensis* Meisn. f. *retusa* Chodat & Hassl., *I. polymorpha* Riedel ex Meisn. var. *discolor* Hassl., *I. polymorpha* Riedel ex Meisn. f. *canescens* Hassl., *I. polymorpha* Riedel ex Meisn. f. *argentea* Hassl.

Herb or vine.

Vouchers: **Amambay**: (Zuloaga *et al.* 2015). **Caaguazú**: (Zuloaga *et al.* 2015). **Canindeyú**: *Hassler 4667*, type of *Ipomoea uruguayensis* var. *sericea* (G, K); *Hassler 4667a*, type of *Ipomoea uruguayensis* var. *elliptica* (BM, G); *Hassler 4681*, type of *Ipomoea uruguayensis* var. *glabrata* (BM, G, K); *Hassler 5747*, type of *Ipomoea uruguayensis* var. *glabrata* (BM, G). **Central**: (Zuloaga *et al.* 2015).

Ipomoea cordillerae J.R.I. Wood & Scotland, Kew Bull. 72(1)-9: 11. 2017.

Subshrub.

Vouchers: **Cordillera**: *Balansa 4391*, type (G, P); *Hassler 1903* (K, P). **Guairá**: *Hassler 8714* (GH). **Paraguarí**: *Hassler 285* (BM, K, P).

Ipomoea estrellensis O'Donell, Arq. Mus. Paranaense 9: 220. 1952.

Subshrub.

Vouchers: **Amambay**: *Hassler & Rojas 10052* (BM, G, K); *Hassler 9819* (BM); *Rojas 6260*, type (LIL); *Rojas 6362* (LIL).

Ipomoea fiebrigii Hassl. ex O'Donell, Lilloa 14. 169. 1948.

Subshrub.

Vouchers: **Alto Paraná**: *Fiebrig 5675*, type (G, LIL, SI, US); *Fiebrig 6706* (LIL); *Itaipú Binacional 1081* (MO).

Ipomoea homotrichoidea O'Donell, Lilloa 14: 173. 1948.

Syn.: *Ipomoea bonariensis* Hook. f. *subintegra* Hassl.; *I. bonariensis* f. *trichosepala* Hassl.

Herb.

Vouchers: **Amambay**: Rojas 4051, type (LIL). **Caaguazú**: Hassler 9535 (BM); Hassler 9535a, type of *Ipomoea bonariensis* f. *lobata* Hassl. (BM); Jörgensen 4858 (NY, S). **Canindeyú**: Hassler 4310, type of *Ipomoea heterotricha* f. *suborbiculata* Hassl. (BM); Hassler 4800 (G); Hassler 5073, type of *Ipomoea heterotricha* f. *subtriloba* Hassl. (BM); Hassler 5872, type of *Ipomoea heterotricha* f. *cordifolia* Hassl. (BM); Hassler 5931, type of *Ipomoea heterotricha* f. *dentata* Hassl. (BM); Hassler 6005, type of *Ipomoea heterotricha* f. *suborbiculata* Hassl. (BM); **Unknown**: Hassler 4526, type of *Ipomoea bonariensis* ssp. *aspera* var. *pubescens* f. *trichosepala* (G).

Ipomoea itapuensis J.R.I.Wood & R.Degen, Kew Bulletin 71: 25. 2016.

Herb.

Vouchers: **Caazapá**: Jiménez BJ208 (FCQ); Pavetti s.n (SCP); Vera 167 (FCQ). **Itapúa**: Caballero Marmori 3906 (MBM); Jörgensen 4662, type (F, GH, S, US); Parra et al. 116 (FCQ).

Ipomoea megalantha J.R.I.Wood & Scotland, Kew Bull. 72(1)-9: 18. 2017.

Subshrub.

Vouchers: **Caaguazú**: Balansa 1174 (P); Hassler 9114, type (BM, K, MO, NY, S, SI, US); Jörgensen 4859 (A, F, S); Krapovickas et al. 45769 (CTES, K).

Ipomoea morongii Britton, Ann. New York Acad. Sci. 7: 171. 1893.

Subshrub.

Vouchers: **Central**: Morong 303, type (BM, GH, MO, NY, PH, US, WIS). **Cordillera**: Basualdo 1021 (FCQ); Mereles 1136 (FCQ); Ortiz 690 (FCQ); Rojas 11473 (BAF); Rojas 1694 (BAF, LIL, MONT, NY, SI); Soria 3456 (FCQ); Wood et al. 28145 (FCQ); Wood et al. 28146 (FCQ).

Ipomoea oblongifolia (Hassl.) O'Donell, Lilloa 23: 493. 1950.

Syn.: *Ipomoea argyreia* (Choisy) Meisn. f. *oblongifolia* Hassl.

Subshrub.

Vouchers: **Amambay**: Dematteis et al. 36029 (G); Rojas 6545 (LIL); Rojas 9821, type (BM, G, K, LIL); Rojas 9821a, type (G).

Ipomoea paraguariensis Peter, Nat. Pflanzenfam. IV(3a): 29. 1891.

Syn.: *Ipomoea argyreia* (Choisy) Meisn. var. *paraguariensis* (Peter) Chodat & Hassl., *I. argyreia* (Choisy) Meisn. f. *intermedia* Chodat & Hassl., *I. argyreia* (Choisy) Meisn. var. *discolor* Hassl., *I. argyreia* (Choisy) Meisn. f. *salicifolia* Hassl., *nom. illeg.*

Subshrub.

Vouchers: **Caaguazú**: Sparre & Vervoort 2195 (LIL). **Canindeyú**: Hassler 4599, type of *I. argyreia* f. *salicifolia* (BM, G); Hassler 5229 (G); Hassler 5691 type of *I. nis* Chodat & Hassl. (G); Hassler 5748, type of *Ipomoea argyreia* f. *intermedia* (G); Hassler 5748a (BM, G). **Guairá**: Balansa 1074, type (G, GOET, K); Degen et al. 4010 (FCQ); Hassler 8714 (BM); Jörgensen 4297 (NY, S, SI); Mereles 3376 (FCQ); Rojas 4846 (LIL, NY, S, SI). **Paraguarí**: Rojas 9475 (FCQ).

Ipomoea rojasii Hassl., Feddes Repert. Spec. Nov. Regni Veg. 9: 152. 1911.

Vine.

Vouchers: **Amambay**: Brunner 1416 (MO, PY); Hassler & Rojas 10752, type (BM, G); Hassler & Rojas 10891 (BM, G, K); Schinini & Dematteis 33798 (CTES, FCQ, G); Soria 6377 (FCQ, MO); Soria 6400 (FCQ); Soria 7667 (FCQ). **Caazapá**: Ortiz 852 (MO). **Cordillera**: Degen 1385 (FCQ).

Ipomoea theodori O'Donell, Lilloa 14: 191, t. 12. 1948.

Herb.

Vouchers: **Caaguazú**: Rojas 5036, type (LIL); Schinini & Caballero Marmori 30164 (CTES, G).

Ipomoea valenzuelensis Chodat & Hassl., Bull. Herb. Boissier, sér. 2(5): 687. 1905.

Herb.

Vouchers: **Cordillera:** Hassler 7035 (BM, G); Vanni et al. 1154 (G, MO). **Guairá:** Hassler 8577 (BM); Hassler 8827 (BM, G); Mereles 7561 (FCQ); Soria 4233 (FCQ); Zardini & Aguayo 14896 (FCQ, MO). **Paraguarí:** Hassler 7036, type (BM, G, MO).

Jacquemontia anomala O'Donell, Lilloa 23: 460. 1950.

Vine.

Vouchers: **Alto Paraná:** Fiebrig 6278, type (BM, SI).

Jacquemontia paraguayensis Britton, Ann. New York Acad. Sci. 7: 172. 1893.

Syn.: *Jacquemontia fusca* (Meisn.) Hallier f. var. *altosiana* Chodat & Hassl., *J. fusca* (Meisn.) Hallier f. f. *glabrior* Chodat & Hassl.

Subshrub.

Vouchers: **Central:** Hassler 6068 (BM), Morong 594, type (MO, NY, PH, US, WIS). **Cordillera:** Archer & Rojas 4868 (LIL); Hassler 11893 (BM, GH); Rojas & Pavetti 10659 (LIL); Rojas 7561 (LIL); Soria 1904 (FCQ). **Guairá:** (Zuloaga et al. 2015). **Paraguarí:** Hassler 3270 (BM, GH). **Unknown:** Hassler 448 (K).

Jacquemontia turneroides (Chodat & Hassl.) Hassl., Repert. Spec. Nov. Regni Veg. 9: 194. 1911.

Syn.: *Ipomoea turneroides* Chodat & Hassl.

Herb.

Vouchers: **Amambay:** Basualdo 4877 (FCQ); Soria 7681 (FCQ, MO). **Canindeyú:** Hassler 5849, type of *Ipomoea turneroides* (BM, G, GH, K, MO, S). **San Pedro:** Soria 5112 (FCQ).

Erythroxylaceae

Erythroxylum pachyneurum O.E.Schulz, Repert. Spec. Nov. Regni Veg. 6: 352. 1909.

Syn.: *Erythroxylum hasslerianum* Chodat f. *ellipticum* Chodat & Hassl.

Shrub.

Vouchers: **Caaguazú:** Fernández Casas & Molero 6344 (MO); Hassler 5773, type (BM, G, NY); Hassler 9623, type (A, BM, G, K, MO, MPU, NY, P).

Erythroxylum paraguariense (Chodat & Hassl.) O.E.Schulz, Pflanzenr. IV. 134(Heft 29): 59. 1907.

Syn.: *Erythroxylum distortum* Mart. var. *paraguariense* Chodat & Hassl.

Shrub.

Vouchers: **Alto Paraguay:** Rojas 2802 (SI). **Concepción:** Fiebrig 4080 (BM, K); Fiebrig 4571 (BM, K); Hassler 7458, type of *Erythroxylum distortum* var. *paraguariense* (BM, K, MO, NY, P, W); Hassler 7675, type of *Erythroxylum distortum* var. *paraguariense* (BM, K, NY, P, W). **Cordillera:** (Zuloaga et al. 2015). **San Pedro:** Pedersen 9486 (MO, K).

Euphorbiaceae

Acalypha hassleriana Chodat, Bull. Herb. Boissier, sér. 2(5): 606. 1905.

Syn.: *Acalypha glandulosa* Chodat & Hassl.; *A. hassleriana* var. *glandulosa*; *A. glandulosa* var. *brevistachya*.

Herb.

Vouchers: **Canindeyú:** Hassler 5678, type (BM, G, GH, K, NY, P, UC, W). **Cordillera:** Balansa 1698c (P); Fiebrig 837 (GH, K); Hassler 6689, type of *A. hassleriana* var. *glandulosa* (Chodat & Hassl.) Pax & K. Hoffm (BM, G, K, NY, P, UC, W); Hassler 6689a, type of *A. glandulosa* var. *brevistachya* Chodat & Hassl. (G, K). **Unknown:** Weddell 3223 (NY, P).

Astraea aureomarginata (Chodat & Hassl.) P.E.Berry, Darwiniana 45: 238. 2007.

Syn.: *Croton aureomarginatus* Chodat & Hassl.

Subshrub.

Vouchers: **Canindeyú:** Hassler 5010, type (G).

Bernardia hassleriana Chodat, Bull. Herb. Boissier, sér. 2(1): 397. 1901.

Syn.: *Bernardia hassleriana* Chodat var. *tobatyensis* Chodat & Hassl.

Shrub.

Vouchers: **Cordillera**: *Fiebrig 477* (K); *Hassler 1582* (G). **Unknown**: *Hassler 6345*, type of *Bernardia hassleriana* var. *tobatyensis* (BM, F, K, P, S, UC).

Note: listed in the Catalogue of vascular plants of Bolivia under tentative identification.

Bernardia leptostachys Chodat & Hassl., Bull. Herb. Boissier, sér. 2(5): 506. 1905.

Subshrub.

Vouchers: **Canindeyú**: *Hassler 5081*, type (G).

Bernardia polymorpha Chodat & Hassl. var. ***curuguatensis*** Chodat, Bull. Herb. Boissier, sér. 2(5): 506. 1905.

Syn: *Bernardia polymorpha* f. *latifolia* Chodat & Hassl.; *B. polymorpha* f. *salicina* Chodat & Hassl.

Shrub.

Vouchers: **Amambay**: *Fiebrig 4971* (BM, K); *Hassler 7639*, type of *Bernardia polymorpha* var. *curuguatensis* f. *salicina* (BM, F, K, NY, UC). **Canindeyú**: *Hassler 4611*, type of *Bernardia polymorpha* var. *curuguatensis* (unknown); *Hassler 5269*, type of *Bernardia polymorpha* var. *curuguatensis* f. *latifolia* (unknown).

Bernardia polymorpha Chodat & Hassl. var. ***setosa*** Chodat & Hassl., Bull. Herb. Boissier, sér. 2(5): 506. 1905.

Syn.: *Bernardia polymorpha* f. *angustifolia* Pax & K.Hoffm., *B. polymorpha* f. *elliptica* Pax & K.Hoffm.

Shrub.

Vouchers: **Amambay**: *Krapovickas et al. 46071* (CTES). **Canindeyú**: *Hassler 5314* (unknown).

Bernardia simplex Chodat & Hassl., Bull. Herb. Boissier, sér. 2(5): 505. 1905.

Herb or subshrub.

Vouchers: **Amambay**: *Krapovickas et al. 46057* (K). **Canindeyú**: *Hassler 4569*, type of *B. simplex* (BM, NY).

Caperonia altissima Eskuche, Candollea 57(2): 288. 2002.

Herb.

Vouchers: **San Pedro**: *Eskuche & Ahumada 6139*, type (G).

Caperonia capiibarensis Eskuche, Candollea 57(2): 290. 2002.

Herb.

Vouchers: **Guairá**: *Schinini 5877* (CTES); *Schinini 5892* (CTES). **San Pedro**: *Eskuche & Ahumada 6404*, type (G); *Krapovickas et al. 14304* (CTES).

Caperonia paraguayensis Pax & K.Hoffm., Pflanzenr., IV, 147, VI: 35. 1912.

Herb.

Vouchers: **San Pedro**: *Hassler 8102*, type (BM, F, GH, K, P, S); *Zardini & Guerrero 46619* (AS, MO).

Cnidoscolus hasslerianus (Pax) Pax & K.Hoffm., Nat. Pflanzenfam., ed. 2, 19c: 164. 1931.

Syn.: *Jatropha hassleriana* Pax, *Cnidoscolus hasslerianus* (Pax) Pax ex Fern. Casas, *comb. superfl.*

Herb or shrub.

Vouchers: **Alto Paraguay**: (Fernández Casas 2002). **Central**: (Zuloaga *et al.* 2015). **Concepción**: (Fernández Casas 2002). **Cordillera**: *Hassler 11470* (G); *Hassler 1589* (unknown); *Hassler 3285*, type of *Jatropha hassleriana* (G); *Hassler 573*, type of *Jatropha hassleriana* (G); *Hassler 7090*, type of *Jatropha hassleriana* (G). **Guairá**: (Fernández Casas 2002). **Paraguarí**: (Fernández Casas 2002). **Unknown**: *Rojas 2180* (unknown).

Cnidoscolus leuconeurus (Pax & K.Hoffm.) Pax & K.Hoffm., Nat. Pflanzenfam., ed. 2, 19c: 164. 1931.

Syn.: *Jatropha leuconeura* Pax & K.Hoffm., *Cnidoscolus leuconeurus* (Pax & K.Hoffm.) Pax & K.Hoffm. ex Fern. Casas, *comb. superfl.*

Herb.

Vouchers: **Caaguazú**: *Hassler 8982a*, type of *Jatropha leuconeura* (G).

Cnidoscolus maracayensis (Chodat & Hassl.) Pax & K.Hoffm., Nat. Pflanzenfam., ed. 2, 19c: 164. 1931.

Syn.: *Jatropha maracayensis* Chodat & Hassl.

Herb.

Vouchers: **Canindeyú:** *Fernández Casas & Molero 5960* (MO); *Hassler 4931*, type (BM, F, G); *Jiménez & Marín 1327* (BM, PY); *Pérez 2256* (MO); *Spichiger & Loizeau 5103* (G, MO); *Zardini & Chaparro 47516* (AS, MO); *Zardini & Franco 54916* (MO); *Zardini & Ramírez 51123* (AS, MO); *Zardini & Vera 47915* (AS, MO).

Cnidoscolus pteroneurus Fern.Casas, Fontqueria 55: 187. 2004.

Herb or subshrub.

Vouchers: **Alto Paraguay:** *Caballero Marmorì 4114*, type (MBM).

Cnidoscolus serrulatus (Pax & K.Hoffm.) Pax & K.Hoffm., Nat. Pflanzenfam., 19c: 164. 1931.

Syn.: *Jatropha serrulata* Pax & K.Hoffm.

Herb or shrub.

Vouchers: **Amambay:** *Jørgensen 4675* (SI). **Caaguazú:** *Hassler 8982*, type of *Jatropha serrulata* (BM, G). **Canindeyú:** *Jiménez & Marín 1327BJ* (BM).

Cnidoscolus subinteger (Chodat & Hassl.) Pax & K.Hoffm., Nat. Pflanzenfam., 19c: 164. 1931.

Syn.: *Jatropha vitifolia* f. *subintegra* Chodat & Hassl.; *Jatropha subintegra* (Pax & K.Hoffm.) Pax & K.Hoffm.; *Cnidoscolus subinteger* (Chodat & Hassl.) Pax & K.Hoffm. ex Fern.Casas *comb. superfl.*

Herb or shrub.

Vouchers: **Itapúa:** *Hassler 6908*, type (BM, G).

Cnidoscolus tenuifolius (Pax & K.Hoffm.) I.M.Johnst., Contr. Gray Herb. 68: 86. 1923.

Syn.: *Jatropha tenuifolia* Pax & K.Hoffm. *nom. illeg.*

Herb or shrub.

Vouchers: **Alto Paraguay:** *Zardini & Godoy 50366* (MO). **Boquerón:** *Mereles & Degen 4856* (MO); *Pérez de Molas & Vera 2* (MO). **Presidente Hayes:** *Hassler 2490*, type (BM, G, GH, K, P).

Croton berberifolius Croizat, Darwiniana 6: 459. 1944.

Subshrub.

Vouchers: **Amambay:** *Hassler 10059* (BM, K); *Hassler 11211*, type of *Croton berberifolius* (BM, G, GH, K). **Paraguarí:** *Zardini & Guerrero 31055* (MO, PY).

Croton chodatii (Croizat) P.E.Berry, Darwiniana 45: 238. 2007.

Syn.: *Julocroton chodatii* Croizat, *J. pycnophyllus* Schltdl. f. *latifolia* Chodat & Hassl.

Shrub.

Vouchers: **Canindeyú:** *Hassler 4598*, type of *Julocroton chodatii* (A, BM, G, K, NY, P).

Croton curuguayensis Ahumada, Candollea 53: 122. 1998.

Syn.: *Croton pohlianus* Müll.Arg. var. *macrophyllus* Chodat & Hassl.

Shrub.

Vouchers: **Canindeyú:** *Hassler 4633*, type (BM, G); *Hassler 4633a* (BM, G).

Croton integrilobus Croizat, Darwiniana 6: 460. 1944.

Subshrub.

Vouchers: **Alto Paraguay:** *Rojas 3708* (A, GH).

Croton paraguayensis Chodat, Bull. Herb. Boissier, sér. 2(1): 396. 1901.

Shrub.

Vouchers: **Amambay:** *Hassler 11279* (BM, K). **Central:** *Hassler 4038*, type (A, BM, F, K); *Teague 15* (BM). **Cordillera:** *Balansa 4670* (BM, K); *Bordas 4371* (K); *Degen & Pin 4219* (FCQ); *Degen et al. 4198* (FCQ); *Ginzburg 433* (MO); *Ginzburg & Dávalos 432* (MO); *Hassler 1866*, type (G, K, NY, P); *Schinini & Bordas 21260* (G); *Vogt & Delmás 513* (FCQ); *Zardini 4042* (FCQ, MO); *Zardini 6718* (FCQ, MO); *Zardini & Degen 3624* (FCQ, MO); *Zardini & Salinas*

26101 (FCQ, MO). **Guairá:** (Zuloaga *et al.* 2015). **Paraguarí:** *Balansa 1649* (K); *Brunner & Duré 1039* (MO, PY); *Spichiger & Loizeau 1600* (G); *Teague 227* (BM); *Zardini 12654* (MO, PY); *Zardini 12657* (MO, PY); *Zardini 5041* (MO, PY); *Zardini 7218* (MO, PY); *Zardini 8668* (MO, PY); *Zardini 8861* (MO, PY); *Zardini & Garcete 29113* (MO, PY); *Zardini & Guerrero 34986* (MO, PY); *Zardini & Pérez de Molas 2781* (MO, PY); *Zardini & Pérez de Molas 2785* (MO, PY); *Zardini & Tillería 35079* (MO, PY); *Zardini & Velásquez 10191* (MO, PY); *Zardini & Velásquez 12508* (MO, PY); *Zardini & Velásquez 12510* (MO, PY); *Zardini & Velásquez 15537* (MO, PY); *Zardini et al. 10200* (MO, PY); *Zardini et al. 11887* (MO, PY); *Zardini et al. 9014* (MO, PY). **Unknown:** *Jørgensen 3519* (MO).

Croton pervicosus Croizat, *Darwiniana* 6: 458. 1944.

Subshrub.

Vouchers: **Amambay:** *Hassler 12042*, type (BM, G, K, MPU, P, S).

Croton ramellae Ahumada, *Candollea* 47: 255. 1992.

Subshrub.

Vouchers: **Alto Paraná:** *Degen 252* (FCQ, G); *Ortiz 602* (G); *Schinini 8047* (G). **Amambay:** *Hassler & Rojas 10275*, type (BM, G, K, LIL, P).

Croton senescens Croizat, *Darwiniana* 6: 461. 1944.

Syn.: *Croton fuscus* Müll.Arg. var. *microbracteata* Chodat & Hassl.

Subshrub.

Vouchers: **Caaguazú:** *Fernández Casas & Molero 3886* (MO); *Rojas 5098*, type (A, NY). **Cordillera:** *Fiebrig 848* (F).

Croton yacaensis Croizat, *Darwiniana* 6: 462. 1944.

Subshrub.

Vouchers: **Cordillera:** *Hassler 6804*, type (A, G, GH, K, P).

Croton yerbalium Chodat & Hassl., *Bull. Herb. Boissier*, sér. 2(5): 493. 1905.

Syn.: *Croton yerbalium* var. *hirsutus* Chodat & Hassl.; *C. yerbalium* f. *intermedius* Chodat & Hassl.; *C. yerbalium* var. *lanatus* Chodat & Hassl.

Shrub.

Vouchers: **Canindeyú:** *Hassler 5785*, type of *Croton yerbalium* var. *lanatus* (BM, F, G, GH, K, MPU, NY, P); *Hassler 5841*, type (BM, G, MPU, NY, P).

Dalechampia guaranitica Chodat & Hassl., *Bull. Herb. Boissier*, sér. 2(5): 608. 1905.

Subshrub.

Vouchers: **Caaguazú:** *Hassler 9518* (K). **Caazapá:** *Basualdo 2773* (FCQ). **Canindeyú:** *Zardini & Chaparro 50611* (AS, MO). **San Pedro:** *Hassler 4334*, type (G, K, NY, P, UC); *Zardini & Guerrero 43308* (MO, PY); *Zardini & Guerrero 44265* (AS, MO); *Zardini & Guerrero 44342* (AS, MO); *Zardini & Guerrero 46648* (AS, MO); *Zardini & Guerrero 46670* (AS, MO); *Zardini & Guerrero 48183* (AS, MO); *Zardini & Zavala 44180* (AS, MO); *Zardini & Zavala 45654* (AS, MO).

Dalechampia serrula Pax & K.Hoffm., *Pflanzenr.* IV. 147 XII(Heft 68): 44. 1919.

Syn.: *Dalechampia caperonioides* Baill. var. *lanceolata* Chodat & Hassl., *nom. illeg.*

Subshrub.

Vouchers: **Amambay:** *Soria 7489* (MO). **Canindeyú:** *Hassler 5296*, type (BM, G); *Zardini & Ramírez 51047* (AS, MO); *Zardini & Ramírez 51118* (AS, MO); *Zardini & Ramírez 51193* (AS, MO); *Zardini & Vera 47854* (AS, MO).

Euphorbia argillosa Chodat & Hassl., *Bull. Herb. Boissier*, sér. 2(5): 679. 1905.

Herb.

Vouchers: **Concepción:** *Hassler 7310*, type (BM, G).

Euphorbia guaraniorum P.Carrillo & V.W.Steinm., *Ann. J. Bot. Madrid* 68(2): 168, f. 1. 2011.

Herb.

Vouchers: **Itapúa:** *Peña-Chocarro et al. 1575* (BM, CTES, FCQ); *Pin et al. 198* (MO); *Quintana et al. 221* (PY). **Misiones:** *Bogado et al. 42102*, type (BCN, MA, PY); *Bogado et al. 42103* (BCN, MA, PY); *Bogado et al. 42106* (BCN, MA, PY).

Euphorbia invaginata Croizat, *J. Arnold Arbor.* 24: 180. 1943.

Herb.

Vouchers: **Alto Paraguay:** *Rojas 7268*, type (GH).

Jatropha dissecta (Chodat & Hassl.) Pax, *Pflanzenr.* IV. 147 I(Heft 42): 72. 1910.

Syn.: *Jatropha gossypifolia* L. var. *dissecta* Chodat & Hassl.; *J. gossypifolia* subsp. *heterophylla* var. *dissecta* Chodat & Hassl. f. *transiens* Chodat & Hassl.; *J. gossypifolia* subsp. *heterophylla* var. *palmata* f. *dissecta* Chodat & Hassl.; *J. gossypifolia* subsp. *heterophylla* var. *dissecta* Chodat & Hassl. f. *induta* Chodat & Hassl.; *J. gossypifolia* subsp. *heterophylla* var. *dissecta* f. *induta* subf. *flaviflora* Chodat & Hassl.; *J. gossypifolia* f. *angustiloba* Chodat & Hassl.; *J. brachypoda* Pax

Herb or subshrub.

Vouchers: **Amambay:** *Ferrucci et al. 647* (MO); *Hahn 1790* (DAV, MO); *Mereles 3830* (FCQ); *Schinini & Bordas 20375* (DAV, F); *Soria 6360* (FCQ); *Soria 6615* (FCQ); *Soria 7661* (FCQ). **Canindeyú:** *Hassler 3333*, type of *Jatropha gossypifolia* var. *dissecta* (F); *Soria 4803* (FCQ). **Central:** *Pavetti & Rojas 4849* (GH). **Cordillera:** *Archer & Rojas 4849* (GH); *Fiebrig 676*, type (K); *Hassler 12488* (BM, GH, UC); *Hassler 3741* (GH); *Hassler 6121*, type of *Jatropha gossypifolia* subsp. *heterophylla* var. *palmata* f. *dissecta* (BM, NY); *Hassler 7071* (BM, UC); *Sparre & Vervoorst 1314* (MICH); *Zardini & Salinas 26134* (FCQ, MO); *Zardini & Velásquez 26669* (FCQ, MO); *Zardini & Velásquez 26932* (FCQ, MO). **Paraguari:** *Hassler 1024*, type of *Jatropha gossypifolia* subsp. *heterophylla* var. *dissecta* f. *induta* (BM, G, K, NY, P); *Hassler 4333*, type of *Jatropha gossypifolia* f. *angustiloba* (F, G, GH, K, P); *Hassler 4468*, type of *Jatropha gossypifolia* subsp. *heterophylla* var. *dissecta* f. *induta* subf. *flaviflora* (G); *Hassler 4518*, type of *Jatropha gossypifolia* subsp. *heterophylla* var. *dissecta* f. *transiens* (BM, G, NY).

Note: there is one specimen in TROPICOS from Brazil (*Krapovickas & Cristóbal 34152*), but this species is not listed as present in Brazil in (<http://floradobrasil.jbrj.gov.br/jabot/listaBrasil/PrincipalUC/PrincipalUC.do>) neither in <http://apps.kew.org/wcsp/home.do>).

Jatropha guaranitica Speg., *Anales Soc. Ci. Argent.* 16: 93–94. 1883.

Syn.: *Jatropha gossypifolia* subsp. *heterophylla* var. *guaranitica* Chodat & Hassl.; *J. guaranitica* var. *stipularis* Pax & Hoffm.; *J. katharinae* Pax; *J. isabellei* var. *guaranitica* (Chodat & Hassl.) Pax; *J. ribifolia* var. *ambigua* Pax; *J. tacumbensis* Pax & Hoffm.

Herb.

Vouchers: **Alto Paraguay:** *Fiebrig 1367*, type of *Jatropha ribifolia* var. *ambigua* (G). **Alto Paraná:** *Fiebrig 5649*, type of *Jatropha guaranitica* var. *stipularis* (G, K); *Itaipú Binacional 1080* (MO); *Riemel 64* (SI); *von Gulich s.n.*, type (B, LP). **Amambay:** *Fernández Casas & Molero 5996* (MO); *Hassler 10104*, type of *Jatropha gossypifolia* subsp. *heterophylla* var. *guaranitica* Chodat & Hassl. (B, BM); *Jørgensen 4893* (SI); *Rojas 6256* (MO). **Caaguazú:** *Fernández Casas & Molero 6405* (MO); *Hassler 9078*, type of *Jatropha katharinae* (BM, K, NY, P, S, UC); *Krapovickas et al. 45749* (K); *Schinini et al. 21972* (UC); *Zardini & Velásquez 23830* (AS, MO); *Zardini & Velásquez 25665* (AS, MO). **Canindeyú:** *Fernández Casas & Molero 5971* (MO). *Hassler 4510*, type of *Jatropha isabellei* var. *guaranitica* (Chodat & Hassl.) Pax (B, NY); *Hassler 4518*, type of *Jatropha gossypifolia* subsp. *heterophylla* var. *guaranitica* (BM, K, NY); *Múlgura de Romero et al. 3568* (FCQ, SI); *Pérez de Molas & Aguayo 2437* (MO). **Central:** *Anisits 322*, type of *Jatropha tacumbensis* (B).

Manihot anomala Pohl subsp. ***glabrata*** (Chodat & Hassl.) D.J.Rogers & Appan, *Fl. Neotrop.* 13: 168. 1973.

Syn.: *Manihot pubescens* Pohl f. *glabrata* Chodat & Hassl., *M. glabrata* (Chodat & Hassl.) Pax & K.Hoffm., *M. multiflora* Pax & K.Hoffm., *M. multiflora* auct. non Pax & K.Hoffm., *M. pseudoheterophylla* Pax & K.Hoffm., *M. langsdorfii* Müll.Arg. var. *glabrata* Chodat & Hassl.; *M. klingensteinii* Pax & K.Hoffm.

Shrub.

Vouchers: **Alto Paraguay:** *De Egea et al. 1570* (BM, FCQ, G); *De Egea et al. 1581* (FCQ); *De Egea et al. 1582* (FCQ); *De Egea et al. 1604* (FCQ); *De Egea et al. 1605* (FCQ); *Insua 539* (FCQ); *Mereles et al. 8971* (FCQ); *Mereles et al. 8982* (FCQ); *Rojas 3667* (A); *Woolston 109* (UC, US); *Woolston 1304* (K). **Amambay:** *Basualdo 4921* (FCQ); *Basualdo 5828* (FCQ); *Basualdo 5945* (FCQ); *Basualdo & Soria 6813* (FCQ); *Basualdo & Spinzi 5809* (FCQ); *De*

Egea et al. 1467 (BM, FCQ, G); *De Egea et al. 1475* (BM, FCQ); *Hassler 10741* (BM, K, MO, NY, S, UC, W); *Hassler 7676* (BM, K, MO, NY, P, S, UC, W); *Hassler 7976*, type of *Manihot langsdorfii* var. *glabrata* (BM, K, MO, NY, P, S, UC, W); *Hassler 8121*, type of *Manihot klingensteinii* (A, BM, K, MO, NY, P, S, UC, W); *Keel 1139* (FCQ); *Keel 1207* (FCQ); *Keel & Spinzi 1847* (FCQ); *Krapovickas & Cristóbal 44949* (CTES); *Krapovickas & Cristóbal 44957* (CTES, G); *Krapovickas et al. 45981* (CTES, K); *Rojas 6809* (A); *Schinini 21336* (CTES); *Schinini & Barrail 31700* (CTES); *Schinini & Dematteis 33708* (CTES, K); *Solomon et al. 6845* (CTES, G, MO, PY); *Soria 5788* (FCQ); *Soria 5971* (FCQ); *Soria 6765* (CTES, FCQ); *Soria 7784* (CTES, FCQ); *Soria & Zardini 1973* (FCQ); *Vanni et al. 1375* (CTES, K); *Vanni et al. 325* (CTES, PY); *Zardini et al. 4092* (FCQ). **Boquerón:** *Mereles et al. 9142* (FCQ). **Canindeyú:** *Hassler 5516* (BM, K, NY, P, W); *Hassler 5517* (K); *Hassler 5649*, type (BM, F, K, NY, P, W); *Hassler 5730*, type of *Manihot pubescens* f. *glabrata* (BM, F, K, MPU, NY, P, S, UC, W.). **Central:** *Pedersen 7542* (CTES, K, SI). **Concepción:** *Degen 2485* (FCQ); *Fiebrig 4360*, type of *Manihot multiflora* (BM, F, G, K, L, M, P); *Fortunato et al. 836* (PY); *Keller et al. 6651* (CTES). **Cordillera:** *Bordas & Schmeda 4002* (CTES). **Paraguarí:** *Balansa 1715* (P); *De Egea et al. 1684* (BM, CTES, FCQ, G); *Hahn 2564* (CTES, G, MO, PY); *Krapovickas et al. 12287* (CTES); *Schinini 4220* (CTES). **Presidente Hayes:** *Arenas BACP151* (CTES). **San Pedro:** *De Egea et al. 1750* (BM, CTES, FCQ, G); *De Egea et al. 1751* (BM, FCQ); *Mereles 10328* (BM, FCQ); *Pérez de Molas 101* (CTES, MA, PY); *Woolston 304* (K). **Unknown:** *Hahn 2564* (G).

Manihot caerulescens Pohl subsp. *macrantha* (Pax & K.Hoffm.) D.J.Rogers & Appan, Fl. Neotrop. Monogr. 13: 245. 1973.

Syn.: *Manihot macrantha* Pax & K.Hoffm., *M. speciosa* Chodat & Hassl., nom. illeg.

Tree or shrub.

Vouchers: **Alto Paraguay:** (Zuloaga et al. 2015). **Amambay:** *Basualdo & Soria 6637* (FCQ); *Brunner 1450* (PY); *De Egea 1464* (BM, FCQ, G); *Ezcurra et al. 1835* (FCQ); *Keel et al. 1886* (FCQ); *Morrone & Pensiero 530* (FCQ); *Múlgura de Romero et al. 3696* (FCQ); *Ortiz 1497* (FCQ); *Rojas 6792* (A); *Schinini & Dematteis 33700* (CTES); *Schinini & Dematteis 33835* (CTES, FCQ); *Solomon et al. 6821* (CTES, G, MO, PY); *Soria 6333* (CTES, FCQ); *Soria 6367* (FCQ); *Soria 7368* (FCQ); *Soria 7528* (FCQ); *Soria 7893* (CTES, FCQ); *Stevens et al. 26152* (BM, FCQ); *Zardini et al. 4078* (FCQ); *Zardini et al. 4086* (FCQ). **Canindeyú:** *Hassler 5132*, type of *Manihot macrantha* (BM, F, G, NY, P, S, UC, W).

Manihot hassleriana Chodat, Bull. Herb. Boissier, sér. 2(5): 672. 1905.

Subshrub.

Vouchers: **Canindeyú:** *Hassler 4576*, type (G).

Manihot mirabilis Pax, Pflanzenr. IV,147,II: 91. 1910.

Tree.

Vouchers: **Amambay:** *Hassler 10711*, type (BM, F, NY, P, S, UC, W); *Hassler 10711a* (K).

Manihot pentaphylla Pohl subsp. *graminifolia* (Chodat & Hassl.) D.J.Rogers & Appan, Fl. Neotrop. Monogr. 13: 155. 1973.

Syn.: *Manihot graminifolia* Chodat & Hassl.

Shrub or subshrub.

Vouchers: **Amambay:** (Zuloaga et al. 2015). **Canindeyú:** *Hassler 5172*, type of *Manihot graminifolia* (BM, F, G, K, P, W).

Manihot populifolia Pax, Pflanzenr., IV, 147, II: 93. 1910.

Syn: *Manihot cordifolia* Pax

Subshrub.

Amambay: *Basualdo 5834* (FCQ); *Basualdo 6294* (FCQ); *De Egea et al. 1489* (BM, FCQ); *Ferrucci et al. 1578* (CTES, MA, MO); *Hassler 10896* (G); *Krapovickas et al. 45962* (CTES, K); *Soria 5580* (CTES, FCQ); *Soria 5658* (FCQ); *Zardini & Báez 52337* (AS, MO); *Zardini & Báez 52520* (AS, MO); *Zardini et al. 4170* (FCQ, MO). **Boquerón:** *Zardini & Acosta 42199* (AS, MO). **Concepción:** *Fiebrig 4669* (BM, K, L); *Fiebrig 5297* (G); *Vanni et al. 219* (PY); *Zardini & Guerrero 41514* (AS, MO); *Zardini & Quintana 53784* (AS, MO); *Zardini & Quintana 54531* (MO); *Zardini & Ramírez 41368* (AS, MO); *Zardini & Vera 40909* (AS, MO).

Microstachys dasycarpa Pscheidt, Esser & Cordeiro, Candollea 72(1): 27-30. 2017.

Subshrub.

Vouchers: **Boquerón**: *Schinini & Palacios 25685*, type (CTES, G, SP); *Zardini & Acosta 42235* (AS, M, MO); *Zardini & Acosta 42388* (AS, M, MO); *Zardini & Duarte 49716* (AS, M, MO).

Sebastiania longispicata Pax & K.Hoffm., Pflanzenr. IV. 147 V(Heft 52): 142. 1912.

Shrub.

Vouchers: **Amambay**: *Hassler 10612*, type (A, BM, F, G, LIL, K, MO, MPU, MICH, NY, P, S, SI, UC, US). **Guairá**: *Hassler 8818* (BM).

Sebastiania pachyphylla Pax & K.Hoffm., Pflanzenr. IV. 147 V(Heft 52): 142. 1912.

Subshrub.

Vouchers: **Canindeyú**: *Hassler 4350*, type (BM, F, G, GH, K, P).

Tragia caperonioides Pax & K.Hoffm., Pflanzenr. IV. 147 IX(Heft 68): 42. 1919.

Herb.

Vouchers: **Alto Paraguay**: *Fiebrig 1408* (K); *Fiebrig 1907*, type (G). **Caaguazú**: *Balansa 1645* (K).

Tragia hassleriana Chodat, Bull. Herb. Boissier, sér. 2(5): 606. 1905.

Subshrub.

Vouchers: **Canindeyú**: *Hassler 5107*, type (G).

FABACEAE

Acacia amambayensis Hassl., Repert. Spec. Nov. Regni Veg. 15: 152. 1919.

Shrub.

Vouchers: **Amambay**: *Hassler 10201* (K); *Rojas & Hassler 10602*, type (F, G, K, MPU, NY).

Aeschynomene falcata (Poir.) DC. var. *hassleri* Rudd, J. Wash. Acad. Sci. 49(2): 52. 1959.

Herb.

Vouchers: **Amambay**: *Hassler 10977* (BM, K). **Concepción**: *Hassler 7461*, type (BM, NY, K).

Aeschynomene histrix Poir. var. *apana* Rudd, J. Wash. Acad. Sci. 49(2): 50. 1959.

Herb.

Vouchers: **Concepción**: *Hassler 11021* (BM, F, GH, K, NY, US); *Fiebrig 4387*, type (BM, GH, SI, US).

Aeschynomene magna Rudd, Contr. U.S. Natl. Herb. 32(1): 70. 1955.

Herb.

Vouchers: **Concepción**: *Fiebrig 4059*, type (BM, E, GH, K, L); *Fiebrig 4340* (US).

Aeschynomene paraguayensis Rudd, Contr. U.S. Natl. Herb. 32(1): 43. 1955.

Syn.: *Aeschynomene selloi* Vogel f. *scabra* Chodat & Hassl.

Shrub.

Vouchers: **Cordillera**: *Hassler 6694*, type (BM, GH, K, MO, S, UC). **Paraguarí**: *Pedersen 9301* (K, SI).

Arachis hassleri Krapov., Valls & C.E.Simpson., Bonplandia (Corrientes) 14(1-2): 43. 2005.

Herb.

Vouchers: **Boquerón**: *Rojas 7623* (CTES, SI). **Concepción**: *Silva et al. 3818*, type (CEN, BRIT, CTES, FCQ, G, K, MO, NY, P, PY, RB, SI, SP, TEX, UC, US); *Williams et al. 950* (CTES). **Presidente Hayes**: *Hassler 2422* (BM, NY); *Hassler 2422a* (BM).

Arachis schinini Krapov., Valls & C.E.Simpson, Bonplandia (Corrientes) 14(1-2): 54. 2005.

Herb.

Vouchers: **Amambay**: *Krapovickas & Cristóbal 45023* (CTES); *Schinini & Bordas 20563* (CTES, FCQ); *Schinini*

21450 (CTES); *Silva et al.* 3794 (CEN); *Valls et al.* 9923, type (CEN, BRIT, CTES, G, GH, K, LIL, MO, NY, PY, EB, SI, SP, US); *Vanni et al.* 327 (CTES); *Vanni et al.* 345 (CTES).

Bauhinia amambayensis Fortunato, *Candollea* 40(2): 637. 1985.

Syn.: *Bauhinia uniflora* Hassl., *nom. illeg.*

Shrub or subshrub.

Vouchers: **Amambay:** *Rojas 10667*, type of *Bauhinia uniflora* (A, BM, G, GH, K, W).

Bauhinia estrellensis Hassl., *Repert. Spec. Nov. Regni Veg.* 9: 147. 1911.

Shrub.

Vouchers: **Amambay:** *Rojas 4013* (SI); *Rojas 10343*, type (BAB, G). **Canindeyú:** *Hassler 5101* (K).

Chamaecrista amambaya (H.S.Irwin & Barneby) H.S.Irwin & Barneby, *Mem. New York Bot. Gard.* 35: 656. 1982.

Syn.: *Cassia amambaya* H.S.Irwin & Barneby, *C. cathartica* Mart. subsp. *floribunda* Hassl.

Subshrub.

Vouchers: **Amambay:** *Bernardi 18962* (BM); *Hassler & Rojas 9734* (G); *Hassler & Rojas 10682*, type (BM, G, K, NY); *Hassler & Rojas 10682a* (BM, G). **San Pedro:** *Zardini & Zavala 45633* (AS, MO).

Chamaecrista desvauxii (Collad.) Killip var. ***peribebuiensis*** (Chodat & Hassl.) H.S.Irwin & Barneby, *Mem. New York Bot. Gard.* 35: 881-882. 1982.

Syn.: *Cassia peribebuiensis* Chodat & Hassl.

Herb.

Vouchers: **Central:** *Teague 14* (BM). **Concepción:** *Fiebrig 34* (?) (G); *Fiebrig 4591* (G). **Cordillera:** *Fiebrig 490* (K); *Hassler 490* (G, K); *Hassler 1902*, type (BM, G, K); *Hassler 3983* (BM, G, NY); *Hassler 6118*, type of *Cassia peribebuiensis* (BM, G, K, NY, S). **Guairá:** *Mereles 2296* (G). **Paraguarí:** *Balansa 1398* (G, K); *Schinini 3639* (G).

Copaifera laevis Dwyer, *Brittonia* 7(3): 161. 1951.

Tree.

Vouchers: **Amambay:** *Hassler 8145*, type (BM, F, G). **Concepción:** *Fiebrig 4901*, type (BM, G).

Galactia burkartii Fortunato, *Candollea* 49(1): 258-260, f. 1. 1994.

Herb.

Vouchers: **Amambay:** *Fernández Casas & Molero 4018* (NY); *Fernández Casas & Molero 4020* (MO, NY); *Fernández Casas & Molero 6135* (MO, NY); *Fortunato et al. 1152*, type (BAA, FCQ); *Fortunato et al. 986* (BAB); *Hahn 1742* (MO, PY); *Soria 3716* (FCQ); *Soria 3726* (FCQ). **Caazapá:** (*Zuloaga et al.* 2015).

Indigofera bongardiana (Kuntze) Burkart var. ***graminoides*** (Chodat & Hassl.) Burkart, *Darwiniana* 4 (2-3): 173. 1942.

Syn.: *Indigofera gracilis* Bong. ex Benth. var. *graminoides* Chodat & Hassl.

Herb.

Vouchers: **Guairá:** *Schinini 5874* (CTES). **San Pedro:** (*Zuloaga et al.* 2015).

Macroptilium chacoensis (Hassl.) S.I.Drewes & R.A.Palacios, *Candollea* 46(2): 510. 1991.

Syn.: *Phaseolus chacoensis* Hassl., *P. chacoensis* Hassl. f. *elatus* Hassl.

Herb.

Vouchers: **Concepción:** *Fiebrig 1220*, type of *Phaseolus chacoensis* (G); *Fiebrig 1251*, type of *Phaseolus chacoensis* f. *elatus* (G). **Unknown:** *Rojas 2930* (AS).

Mimosa altoparanensis Burkart, *Darwiniana* 7: 538. 1947.

Syn.: *Mimosa regnellii* Benth. var. *aculeata* Chodat & Hassl., *M. regnellii* f. *rectispina* Chodat & Hassl.

Shrub.

Vouchers: **Alto Paraná:** *Fernández Casas & Molero 5765* (MO); *Fiebrig 6107* (BM); *Zardini & da Silva 42030* (MO, PY). **Caazapá:** *Hahn 2268* (MO, PY). **Canindeyú:** *Hassler 5745*, type of *Mimosa regnellii* var. *aculeata* (BM). **Guairá:** *Balansa 1460* (G, P).

Mimosa aureliana Barneby & Fortunato, Brittonia 39(2): 165–167, f. 1. 1987.

Shrub.

Vouchers: **Amambay**: *Schinini 8976*, type (CTES, G).

Mimosa candelabrum Hassl., Bull. Herb. Boissier, sér. 2(7): 356. 1907.

Syn.: *Mimosa candelabrum* Hassl. var. *jörgensenii* Burkart

Subshrub.

Vouchers: **Caaguazú**: *Hassler 8882*, type (BM, K, NY, P, S, W). **Canindeyú**: *Jörgensen 4821*, type of *Mimosa candelabrum* var. *jörgensenii* (A, C, S, SI).

Mimosa centurionis Barneby, Mem. New York Bot. Gard. 65: 644. 1991.

Syn.: *Mimosa argillicola* Hassl. ssp. *major* Hassl., *M. argillicola* Hassl. var. *intermedia* Hassl.

Herb.

Vouchers: **Concepción**: *Fiebrig 4001*, type (BM, E, G, K, M, P, W); *Fiebrig 4851*, type of *Mimosa argillicola* subsp. *major* var. *intermedia* (G). **Unknown**: *Rojas 3045*, type of *Mimosa argillicola* subsp. *major* var. *intermedia* (M).

Mimosa chodatii Hassl., Repert. Spec. Nov. Regni Veg. 9: 12. 1910.

Subshrub.

Vouchers: **Amambay**: *Rojas 10087*, type (BM, G, K, MPU, NY).

Mimosa custodis Barneby, Mem. New York Bot. Gard. 65: 713. 1991.

Syn.: *Mimosa conferta* Benth. f. *parvifolia* Chodat & Hassl.

Subshrub.

Vouchers: **Amambay**: *Hassler 8326*, type of *Mimosa conferta* var. *guaranitica* f. *parviflora*. (A, BM, G, NY); *Rojas 10961*, type (A, G, NY).

Mimosa dolens Vell. subsp. *acerba* (Benth.) Barneby var. *pseudorigida* Barneby, Mem. New York Bot. Gard. 65: 586. 1991.

Syn.: *Mimosa rigida* auct. non Benth.

Subshrub.

Vouchers: **Canindeyú**: *Hassler 5032*, type (BM, G, GH, K, NY, P).

Mimosa dolens Vell. subsp. *rigida* (Benth.) Barneby var. *deterior* Barneby, Mem. New York Bot. Gard. 65: 588. 1991.

Subshrub.

Vouchers: **Amambay**: *Rojas 10125*, type (BM, G).

Mimosa equisetum Barneby, Mem. New York Bot. Gard. 65: 225. 1991.

Herb.

Vouchers: **Caaguazú**: *Hassler 9486*, type (BM, G, K, NY, P, W).

Mimosa fiebrigii Hassl., Repert. Spec. Nov. Regni Veg. 9: 9. 1910.

Shrub.

Vouchers: **Amambay**: *Hassler 10335*, type (BM, G). **Concepción**: *Anisits 2446* (S); *Bernardi 20620* (unknown); *Fiebrig 4239* (BM, E, G, GH, K, L, M, P); *Fiebrig 4476*, type (BM, E, G, K, L, M, P, Z).

Mimosa iperoënsis Hoehne var. *paradenia* Barneby, Mem. New York Bot. Gard. 65: 242. 1991.

Syn.: *Mimosa adenocarpa* Benth. f. *inermis* Hassl.

Shrub.

Vouchers: **Canindeyú**: *Hassler 4945*, type of *Mimosa adenocarpa* f. *inermis* (BM, G, K, NY, P); *Hassler 5640*, type (A, BM, G, K, NY); *Hassler 10008* (unknown).

Mimosa leimonias Barneby & Fortunato, Mem. New York Bot. Gard. 65: 566. 1991.

Herb.

Vouchers: **Amambay**: *Fiebrig 4863*, type (GH, K, P, SI).

Mimosa monadelpha Chodat & Hassl. var. *glabrata* (Hassl.) Barneby, Mem. New York Bot. Gard. 65: 703. 1991.

Syn.: *Mimosa amambayensis* Chodat & Hassl. var. *glabrata* Hassl.

Herb.

Vouchers: **Amambay**: *Hassler 10348*, type (G, GH); *Zardini 50746* (AS, MO). **Canindeyú**: *Zardini 46874* (AS, MO).

Concepción: (Zuloaga *et al.* 2015). **San Pedro**: (Zuloaga *et al.* 2015).

Mimosa monadelpha Chodat & Hassl. var. *monadelpha*, Bull. Herb. Boissier, sér. 2(4): 553. 1904.

Syn.: *Mimosa amambayensis* Chodat & Hassl.; *M. monadelpha* var. *hirsuto-puberula* Hassl.

Herb.

Vouchers: **Amambay**: *Dematteis 853* (MO); *Hassler 9926* (BM, G, GH, P, W). **Caaguazú**: *Hassler 4886* (SI); *Hassler 9245* (BM, G, NY, P, W). **Canindeyú**: *Zardini 47986* (AS, MO). **Unknown**: *Hassler 5795*, type (BM, G, K, NY, P, W); *Hassler 9245a* (BM).

Mimosa morongii Britton, Ann. New York Acad. Sci. 7: 97. 1893.

Syn.: *Mimosa argillicola* Hassl., *Mimosa echinocarpa* auct. non Benth.

Herb.

Vouchers: **Central**: *Hassler 1035* (BM, G, K, NY, P); *Morong 728*, type (NY); *Pérez 230A* (AS, MO). **Unknown**:

Balansa 1478 (K).

Mimosa nitidula Barneby, Mem. New York Bot. Gard. 65: 714. 1991.

Subshrub.

Vouchers: **Cordillera**: *Hassler 6265*, type (G).

Mimosa paraguayiae Micheli var. *multiglandulosa* (Hassl.) Barneby, Mem. New York Bot. Gard. 65: 240. 1991.

Syn.: *Mimosa cordistipula* Benth. var. *multiglandulosa* Hassl.; *M. cordistipula* Benth. var. *pubescens* Hassl.

Subshrub.

Vouchers: **Caaguazú**: *Hassler 9234*, type (BM, G, K, NY, P, UC).

Mimosa paraguayiae Micheli var. *tomentosa* (Hassl.) Barneby, Mem. New York Bot. Gard. 65: 241. 1991.

Syn.: *Mimosa cordistipula* Benth. var. *tomentosa* Hassl.

Herb or subshrub.

Vouchers: **Canindeyú**: *Hassler 5752*, type (BM, G, NY).

Mimosa pedunculosa Micheli, Mém. Soc. Phys. Genève 28(7): 55. 1883.

Herb.

Vouchers: **Caaguazú**: *Balansa 1434*, type (F, G, P); *Schinini & Caballero Marmori 30111* (K). **Caazapá**: *Zardini et al. 3049* (FCQ, MO). **Canindeyú**: *Hassler 4676* (BM, K). **Misiones**: *Arbo et al. 6135* (MO).

Mimosa petraea Chodat & Hassl., Bull. Herb. Boissier, sér. 2(4): 548. 1904.

Subshrub.

Vouchers: **Alto Paraguay**: (Zuloaga *et al.* 2015). **Amambay**: *Hassler 10989*, type (BM, K). **Caazapá**: (Zuloaga *et al.* 2015). **Cordillera**: *Fiebrig 840* (BM). **Guairá**: (Zuloaga *et al.* 2015). **Paraguarí**: *Hassler 6619*, type (BM, F, G, K, NY, P, W). **Unknown**: *Burkart 1991* (unknown); *Fiebrig 4863* (K); *Schinini et al. 27650* (G).

Mimosa plumosa Micheli, Mém. Soc. Phys. Genève 30: 91. 1889.

Shrub.

Vouchers: **Amambay**: *Schinini & Dematteis 33551* (K). **Caaguazú**: *Rojas 9499* (AS). **Cordillera**: *Arechavaleta 4820* (AS); *Arenas 1149* (MO); *Balansa 4424*, type (C, F, G, P); *Hassler 6579* (BM, K, MO); *Zardini 8185* (FCQ, MO); *Zardini 26766* (FCQ, MO); *Zardini 26780* (FCQ, MO). **Paraguarí**: *Zardini 34948* (MO, PY); *Zardini 26370* (MO, PY).

Mimosa pseudopetiolaris Barneby, Mem. New York Bot. Gard. 65: 715-716. 1991.

Syn.: *Mimosa oligophylla* Micheli; *M. meticulosa* var. *petiolaris* f. *genuina* sensu Chodat & Hassl.

Subshrub.

Vouchers: **Caaguazú:** *Zardini & Guerrero 56003* (MO). **Paraguari:** *Balansa 1465*, type (G, K, P); *Zardini 8728* (MO, PY); *Zardini et al. 9134* (MO, PY).

Mimosa rojasii Hassl., Repert. Spec. Nov. Regni Veg. 9: 9. 1910.

Subshrub.

Vouchers: **Amambay:** *Bernardi 19098* (BM); *Bernardi 19283* (K); *Fernández Casas 6189* (MO); *Hassler 9799*, type (G, K, NY, P, W); *Hassler 9799a*, type (BM, G, GH, P, W); *Hatschbach 47255* (K, MO); *Mizoguchi 1193* (MO); *Sano 154* (MO); *Schinini & Dematteis 33449* (CTES, FCQ); *Schinini & Dematteis 33645* (CTES, FCQ); *Soria 1951* (MO); *Vanni 1339* (G, MO); *Zardini 46483* (AS, MO); *Zardini 52479* (AS, MO); *Zardini 56257* (MO).

Mimosa tenuipendula Burkart, Darwiniana 9: 389. 1951.

Shrub.

Vouchers: **Alto Paraguay:** *Pedersen 4154* (SI); *Rojas 3047*, type (G, K, M, SI, US).

Mimosa troncosae Fortunato & Barneby, Mem. New York Bot. Gard. 65: 174. 1991.

Tree.

Vouchers: **Alto Paraguay:** *Billiet & Jadin 3299* (MO); *Hahn 1548*, type (BAB, MO, NY).

Piptadeniopsis lomentifera Burkart, Darwiniana 6: 478. 1944.

Tree.

Vouchers: **Alto Paraguay:** *Hahn 1619* (G, K, MO, PY); *Ramella 2936* (G). **Boquerón:** *Charpin 21494* (G); *Degen & Mereles 2766* (FCQ); *Mereles & Degen 4795* (FCQ); *Mereles & Degen 4902* (FCQ); *Mereles & Degen 5060* (FCQ); *Mereles & Degen 5483* (FCQ); *Pedersen 4159* (G, K); *Rojas 2133* (K, SI); *Spichiger et al. 2273* (FCQ, G). **Presidente Hayes:** *Arenas 1514* (SI); *Fortunato et al. 8795* (FCQ); *Mereles & Degen 5436* (FCQ); *Mereles 4795* (FCQ); *Vanni 2025* (G); *Vanni 2279* (G); *Vogt & Dujak 915* (FCQ); *Zardini 40422* (AS, MO); *Zardini 46115* (AS, MO); *Zardini 47059* (AS, MO); *Zardini 47117* (AS, MO). **Unknown:** *Rojas 8457* (K).

Note: listed in Jørgensen *et al.* 2014, following Serrano & Terán (1998), but there is no herbarium vouchers to confirm the presence of this species in Bolivia.

Pomaria parviflora (Micheli) B.B.Simpson & G.P.Lewis, Kew Bull. 58(1): 180. 2003.

Syn.: *Caesalpinia balansae* Ulibarri; *Hoffmannseggia parviflora* Micheli.

Herb or subshrub.

Vouchers: **Cordillera:** *Balansa 4444*, type (BM, CORD, F, G, K (photo), SI); *Hassler 7087* (BM, G).

Prosopis rojasiana Burkart, Darwiniana 5: 70, f. 5. 1941.

Syn.: *Prosopis striata* Fiebrig & Rojas

Tree.

Vouchers: **Alto Paraguay:** *Mereles & Ramella 2913* (FCQ); *Rojas 5589* (SI); *Rojas 7102* (SI); *Rojas 8310*, type (G, SI); *Rojas 8421* (SI). **Boquerón:** *Arenas 3327* (FCQ); *De Egea & Elsam 678* (BM, FCQ); *Degen & Mereles 2737* (FCQ); *Degen & Mereles 2756* (FCQ); *Degen 2337* (FCQ); *Fernández Casas & Molero 4275* (G, MO); *Little 40084* (G, MO, PY); *Mereles & Degen 4498* (FCQ); *Mereles & Degen 4644* (FCQ); *Mereles & Degen 4700* (FCQ); *Mereles & Degen 5453* (FCQ); *Mereles & Degen 5840* (CTES, FCQ); *Mereles & Eliceche 8764* (FCQ); *Mereles 2261* (G); *Mereles 5747* (FCQ); *Palacios 1489* (FCQ); *Palacios 1501* (FCQ); *Pedersen 4171* (SI); *Pérez de Molas 1291* (PY); *Schinini & Bordas 16571* (MO); *Vera et al. 2231* (FCQ). **Presidente Hayes:** *Peña-Chocarro et al. 1906* (BM, CTES, FCQ); *Rojas 8314* (SI); *Soria 1316* (FCQ, MO); *Zardini & Basualdo 3558* (FCQ, MO); *Zardini & Guerrero 40405* (AS, MO). **Unknown:** *Sloover 121* (BM); *Sloover 131* (BM).

Rhynchosia caaguazuensis Hassl., Bull. Herb. Boissier, sér. 2 (7): 168. 1907.

Herb or subshrub.

Vouchers: **Amambay:** *Hassler 11067* (A, BM, F, G, K, NY, P, S, UC); *Rojas 4181* (SI). **Caaguazú:** *Balansa 1499* (BM, G, K, LE, P, S); *Hahn et al. 890* (G, MO, PY); *Hassler 9013*, type (BM, F, G, GH, K, MO, NY, P, S, UC, US); *Krapovickas et al. 12574* (A, F, G, K, NY, P, S, UC); *Zardini & Velásquez 26018* (AS, MO). **Canindeyú:** *Zardini & Vera 47878* (AS, MO).

Stylosanthes recta Vanni, *Candollea* 50: 247. 1995.

Subshrub.

Vouchers: **Boquerón**: *Charpin & Ramella 21545* (G); *Krapovickas & Cristóbal 44219*, type (CTES, G, SI); *Pérez et al. 2531* (CTES); *Vanni et al. 2173* (CTES); *Vanni et al. 2448* (CTES, G, LIL, NY); *Vanni et al. 2495* (CTES).

Presidente Hayes: *Krapovickas 45517* (G); *Krapovickas et al. 44356* (CTES); *Pérez et al. 2995* (CTES).

Tephrosia guaranitica Chodat & Hassl., *Bull. Herb. Boissier*, sér. 2(4): 879. 1904.

Syn.: *Tephrosia adunca* Benth. var. *guaranitica*

Herb.

Vouchers: **San Pedro**: *Hassler 4545*, type (G, K, MO, NY).

Zornia fimbriata Mohlenbr., *Webbia* 16(1): 108. 1961.

Herb.

Vouchers: **Canindeyú**: *Hassler 5339*, type (BM, G, GH, NY, P).

Icacinaceae

Casimirella guaranitica Hassl., *Repert. Spec. Nov. Regni Veg.* 12: 249. 1913.

Syn.: *Dichapetalum prancei* Fern.Casas, *Casimirella guaranitica* Hassl. f. *calvata* Hassl.

Herb or shrub.

Vouchers: **Amambay**: *Basualdo 6318* (FCQ); *Basualdo 6424* (FCQ, G, MO); *Bernardi 19008* (BM, NY); *Brunner 1419* (MO); *Brunner et al. 974* (G, MO, PY); *Deguchi & Tsugaru B-1664* (NY); *Fernández Casas & Molero 4054*, type of *Dichapetalum prancei* (G, MA, MO); *Hahn 1705* (MO); *Hassler & Rojas 10633*, type (A, G, LIL, MO, NY, US); *Hassler & Rojas 9375*, type of *Casimirella guaranitica* f. *calvata* (G); *Krapovickas et al. 45965* (G, K); *Schinini & Dematteis 33722* (FCQ); *Soria 5619* (NY); *Soria 6796* (FCQ, MO); *Soria 7019* (FCQ); *Soria 7297a* (FCQ); *Soria 7420* (FCQ, MO); *Zardini & Báez 52504* (AS, MO); *Zardini et al. 52234* (MO). **San Pedro**: *Zardini 43599* (MO, PY); *Zardini & Vargas 43639* (MO, PY); *Zardini & Vargas 43650* (MO, PY); *Zardini & Vargas 43662* (MO, PY); *Zardini & Zavala 45624* (AS, MO); *Zardini et al. 45636* (MO).

Lamiaceae

Cyanocephalus polioides (Briq.) Harley & J.F.B.Pastor, *Phytotaxa* 58: 20. 2012.

Syn.: *Hyptis polioides* Briq. ex Micheli; *Mesosphaerum polioides* (Briq. ex Micheli) Briq.

Herb.

Vouchers: **Cordillera**: *Anisits 441* (unknown); *Balansa 4557*, type of *Hyptis polioides* (P); *Hassler 7018* (MO); *Hassler 7032*, type of *Hyptis polioides* (K, MO). **San Pedro**: *Dematteis et al. 2931* (CTES, FCQ); *Zardini & Guerrero 46663* (AS, MO); *Zardini & Vera 44607* (AS, MO).

Eriope crassipes Benth. subsp. *trichopoda* (Briq.) Harley, *Hooker's Icon. Pl.* 38(3): 86. 1976.

Syn.: *Eriope trichopoda* Briq.

Herb.

Vouchers: **Cordillera**: *Balansa 1011*, type of *Eriope trichopoda* (BR, G, K, LE, P); *Hassler 6994* (G, K, MO, NY, P, US); *Hassler 7002a* (G).

Hyptis hassleri Briq., *Bull. Herb. Boissier*, sér. 2(7): 618. 1907.

Herb.

Vouchers: **Alto Paraná**: *Fiebrig 6359* (unknown); *Hassler 9626*, type (BM, G, GH, K, NY, P). **Caaguazú**: *Schinini & Caballero Marmorì 30204* (K). **Canindeyú**: *Hassler 4126* (MO); *Múlgura de Romero et al. 3592* (FCQ, SI); *Rolón et al. 8* (FCQ); *Schinini & Dematteis 33321* (K); *Spichiger & Loizeau 5179* (G); *Zardini & Chaparro 48642* (AS, MO); *Zardini & Chaparro 50610* (AS, MO); *Zardini & Chaparro 60297* (AS, MO); *Zardini & Chaparro 60361* (AS, MO); *Zardini & Chaparro 60372* (AS, MO); *Zardini & Chaparro 60542* (MO); *Zardini & Ramírez 51181* (AS, MO); *Zardini & Ramírez 51531* (AS, MO); *Zardini & Vera 47920* (AS, MO); *Zardini & Vera 47921* (AS, MO). **San Pedro**: *Harley et al. 28068* (FCQ, K, MO); *Hassler 4123*, type (F, K, MPU, P); *Schinini 8838* (K).

Hyptis pachyarthra Briq., Bull. Herb. Boissier, sér. 2(7): 614. 1907.

Herb.

Vouchers: **Amambay**: Harley et al. 28085 (K); Harley et al. 28092 (K); Hassler 10101 (K); Pedersen 12294 (K); Schinini et al. 29297 (K). **Canindeyú**: (Zuloaga et al. 2015). **Concepción**: Fiebrig 4749, type (K, MPU); Hassler 7263 (G).

Salvia aridicola Briq., Bull. Herb. Boissier, sér. 2(7): 606. 1907.

Syn.: *Salvia dumeticola* Briq.

Subshrub.

Vouchers **Amambay**: Hassler 9823 (BM, G, K, P); Rojas 4220 (G, SP); Rojas 4255 (G, P, SP). **Caaguazú**: Hassler 4722 (BM, G); Hassler 5846 (BM, G); Hassler 8894, type (G). **Canindeyú**: Hassler 4731, type (G); Hassler 5015 (BM, G, K, P); Hassler 5227 (BM, G, K, P). **Ñeembucú**: Hassler 5979 (G). **Unknown**: Rojas 4059 (G).

Salvia caaguazuensis Briq., Bull. Herb. Boissier, sér. 2(7): 609. 1907.

Subshrub.

Vouchers: **Alto Paraná**: Rojas 4228 (G, SP). **Caaguazú**: Harley et al. 28047 (K); Hassler 9121, type (BM, G, K, P); Rojas 5116 (SP); Zardini & Guerrero 49123 (AS, MO); Zardini & Guerrero 49124 (AS, MO). **Canindeyú**: Hassler 4280, type (BM, G, K, P); Hassler 4805 (G); Zardini & Ramírez 51344 (AS, MO); Zardini & Ramírez 51522 (AS, MO).

Salvia campicola Briq., Bull. Herb. Boissier, sér. 2(7): 610. 1907.

Subshrub.

Vouchers: **Amambay**: Harley et al. 28078 (K). **Itapúa**: Harley et al. 28110 (K). **Paraguarí**: Hassler 7019, type (BM, G, K, P); Hassler 7019a (BM, G). **Unknown**: Jörgensen 4581 (K, US).

Salvia pachypoda Briq., Bull. Herb. Boissier, sér. 2(7): 609. 1907.

Subshrub.

Vouchers: **Caaguazú**: Balansa 981 (K, P). **Misiones**: Chodat 1914 (G). **San Pedro**: Hassler 4294 (BM, G, K, P); Schwindt 1809 (P); Schwindt 1825 (P). **Unknown**: Hassler 5762, type (G).

Salvia paraguariensis Briq., Bull. Herb. Boissier, sér. 2(7): 605. 1907.

Subshrub.

Vouchers: **Caaguazú**: Hassler 9237, type (BM, G, K, P).

Salvia segtinophylla Briq., Bull. Herb. Boissier, sér. 2(7): 605. 1907.

Subshrub.

Vouchers: **Amambay**: Hassler 10572 (G, K, P). **Caazapá**: Hassler 4725, type (BM, G, K, P). **Canindeyú**: Hassler 4531 (G, K, P).

Loganiaceae

Spigelia beccabungoides Kraenzl., Bot. Jahrb. Syst. 40: 307. 1908.

Herb or subshrub.

Vouchers: **Canindeyú**: Hassler 8284 (G, K).

Lythraceae

Cuphea corisperma Koehne subsp. *hexasperma* (Koehne) Duré & Molero, Collect. Bot. 25: 232. 2001.

Syn.: *Cuphea hexasperma* Koehne

Subshrub.

Vouchers: **Alto Paraguay**: Fiebrig 1477, type of *Cuphea hexasperma* (G, K, M, Z). **Caaguazú**: Basualdo 2882 (MO). **Central**: Krapovickas 12155 (CTES). **Concepción**: Eliceche 108 (FCQ). **Cordillera**: Zardini & Salinas 25451 (AS, MO). **Guairá**: Jörgensen 4221a (C). **Misiones**: Krapovickas & Schinini 32506 (CTES, MO, P); Krapovickas et al. 12397 (CTES, P). **Paraguarí**: Duré et al. 725 (BCF, PY); Molero & Duré 30216 (PY); Rojas 13115 (S); Schinini 2836 (CTES, G).

Cuphea stenopetalata Koehne, Bot. Jahrb. Syst. 2: 150. 1881.

Herb.

Vouchers: **Alto Paraná:** *Fernández Casas & Molero 5740* (MO, PY); *Molero & Duré 1200* (BCF, PY); *Schinini 8126* (G); *Zardini & da Silva 42018* (MO, PY). **Amambay:** *Basualdo & Soria 6956* (MO). **Caaguazú:** *Balansa 2212*, type (G, P); *Hassler 8870* (C, G, P, S, W); *Molero & Duré 1246* (BCF, PY); *Sparre & Vervoort 2052* (MO); *Zardini & Velásquez 24763* (MO); *Zardini & Velásquez 24629* (AS, MO). **Caazapá:** *Hahn 2265* (MO, PY). **Canindeyú:** *Fernández Casas & Molero 5893* (G, MO); *Hassler 5578* (BM, G, K, P, W); *Schinini 33341* (PY). **Guairá:** *Mereles 3739* (FCQ); *Molero & Duré 1173* (BCF, PY). **San Pedro:** *Krapovickas et al. 14296* (CTES); *Rojas 3661* (AS).

Malpighiaceae

Galphimia amambayensis C.E.Anderson, Contr. Univ. Michigan Herb. 24: 2. 2005.

Subshrub.

Vouchers: **Amambay** *Fernández Casas & Molero 6190*, type (MA, MO, NY).

Heteropterys cultriformis Chodat, Mém. Soc. Phys. Genève 31, pt. 2, no. 3: 18. 1892.

Shrub.

Vouchers: **Alto Paraguay:** *Schinini 18076* (CTES); *Schinini & Bordas 18029A* (MO). **Boquerón:** *Charpin & Ramella 21391* (G). **Central:** *Balansa 2399*, type (G, K). **Concepción:** *Hassler 7382*, type (F, G, MO). **Guairá:** *Balansa 2411* (G).

Mionandra paraguariensis Chodat, Bull. Soc. Bot. Genève, sér 9: 103. 1903.

Syn.: *Mionandra camareoides* Griseb. var. *paraguariensis* Nied.

Subshrub.

Vouchers: **Cordillera:** *Chodat 238* (G).

Peixotoa floribunda C.E.Anderson, Contr. Univ. Michigan Herb. 23: 49–51, f. 1. 2001.

Shrub.

Vouchers: **Alto Paraguay:** *Zardini & Godoy 50345* (AS, MO); *Zardini & Godoy 50346*, type (AS, MICH, MO).

Tetrapterys hassleriana Nied., Bull. Herb. Boissier, sér. 2(7): 285. 1907.

Shrub.

Vouchers: **Concepción:** *Hassler 7410*, type (A, BM, F, G, K, MICH, MO, MPU, NY, S, SI, UC, US); *Hassler 7410a*, type (G).

Malvaceae

Ayenia spinulosa R.E.Fr., Kongl. Svenska Vetensk. Acad. Handl., n.s. 42(12): 19. 1908.

Subshrub.

Vouchers: **Amambay:** *Rojas s.n.* (G). **Concepción:** *Anisits 2585*, type (S); *Anisits 2895* (S); *Fiebrig 4561* (CTES, G, K, M); *Zardini et al. 38741* (AS, CTES, MO).

Bordasia bicornis Krapov., Bonplandia 12: 133–135, f. 1. 2003.

Subshrub.

Vouchers: **Alto Paraguay:** *Pérez de Molas & Navarro 8466* (CTES, PY); *Schinini & Bordas 14858*, type (CTES).

Cienfuegosia conciliata Krapov., Bonplandia 12: 14–16, f. 3–4. 2003.

Subshrub.

Vouchers: **Alto Paraguay:** *Mereles & Degen 5949* (FCQ). **Boquerón:** *Krapovickas et al. 45452*, type (CTES, FCQ, G, K); *Schinini & Palacios 25697* (CTES, FCQ, K).

Cienfuegosia integrifolia (Chodat & Hassl.) Fryxell, Ann. Missouri Bot. Gard. 56: 227. 1969.

Syn.: *Cienfuegosia sulphurea* (A.St.-Hil.) Garcke var. *integrifolia* Chodat & Hassl.; *C. subprostrata* Hochr. var. *vera* Hassl.

Herb.

Vouchers: **Amambay**: Rojas 6207 (AS); Schinini & Bordas 20502 (CTES); Schium et al. 35900 (BCF, CTES, G, PY, SPF, U). **Caaguazú**: Hassler 9376 (K, NY, UC). **Canindeyú**: Hassler 5444, type of *Cienfuegosia sulfurea* var. *integrifolia* (G, K, NY, P).

Cienfuegosia subprostrata Hochr., Annuaire Conserv. Jard. Bot. Genève 6: 57-58. 1902.

Herb.

Vouchers: **Canindeyú**: Zardini & Ramírez 51500 (AS, MO). **San Pedro**: Harley et al. 28067 (K); Hassler 6011, type (B, G, K); Krapovickas & Cristóbal 44894 (CTES, FCQ, G, GH, MO); Krapovickas et al. 13945 (CTES, MO); Schinini 8865 (CTES).

Luehea microcarpa R.E.Fr. var. *polymorpha* Hassl., Feddes Repert. 8: 43. 1910.

Tree.

Vouchers: **Concepción**: Fiebrig 5153, type (BM, G).

Pavonia aspera Hassl., Bull. Herb. Boissier, sér. 2(7): 367. 1907.

Subshrub.

Vouchers: **Alto Paraná**: Hassler 9467, type (BM, CTES, G, K); Jörgensen 4846 (C, CAS, MO, NY, S, US).

Pavonia aurelii Fryxell, Fl. Neotrop. 76: 137–138, f. 56–57. 1999.

Shrub.

Vouchers: **Amambay**: Schinini & Bordas 20153, type (CTES).

Pavonia hassleriana Chodat, Bull. Herb. Boissier, sér. 2(1): 402. 1901.

Subshrub.

Vouchers: **Central**: Hassler 6785 (BM, C, G, GH, K, MO, NY, S). **Cordillera**: Degen 1378 (FCQ); Hassler 1922, type (BM, G, K, NY); Hassler 6218 (BM). **Paraguarí**: Arbo et al. 1715 (CTES); Fiebrig 692 (A, BM, F, GH, K, M, CTES); Krapovickas & Cristóbal 44588 (CTES, G, TEXT); Lindman 3847 (B); Schinini 4230 (CTES, G); Schinini 4369 (CTES, G, K, NY).

Pavonia pulchra Hochr., Annuaire Conserv. Jard. Bot. Genève 6: 42. 1902.

Syn: *Pavonia hastata* Cav. f. *pulchra* (Hochr.) Hassl.

Subshrub.

Vouchers: **Alto Paraná**: Fiebrig 6083 (BM, CTES, G, GH, K, S). **Amambay**: Hassler 10073 (BM, K); Hassler 11392 (BM, K); Hassler 9894 (CTES, K, MO, NY, S); Rojas 4129 (CTES). **Caaguazú**: Gregory et al. 9601 (CTES, G, K, NY); Hassler 9091 (A, BM, CTES, K, MO, NY, S, TEX). **Canindeyú**: Hassler 4384, type of *Pavonia hastata* f. *pulchra* (BM, G, CTES, G, GH, K, NY, S). **Unknown**: Hassler 11953 (A, CTES); Jörgensen 4850 (A, CTE, F, MO, NY, S).

Pavonia rojasii Hassl., Repert. Spec. Nov. Regni Veg. 7: 73. 1909.

Shrub.

Vouchers: **Amambay**: Rojas 10184, type (B, CTES, G, K, MVM); Rojas 10184a, type (B, CTES, G, K, MVM); Schwarz 11811 (B, CTES, G, K, MVM).

Pavonia schinini Krapov. & Cristóbal, Bonplandia 7: 45. 1993.

Subshrub.

Vouchers: **Alto Paraná**: Schinini & Caballero Marmorini 27162, type (CTES, FCQ, G).

Sida albiflora (Chodat & Hassl.) Krapov., Bonplandia 16(3–4): 218. 2007.

Syn.: *Sida anomala* A.St.-Hil. f. *albiflora* Chodat & Hassl.

Herb.

Vouchers: **Cordillera**: Hassler 1876 (G); Krapovickas et al. 12585 (CTES, FCQ, G, MO). **Paraguarí**: Arbo et al. 1713 (CTES); Arbo et al. 1766 (CTES, FCQ, G); Hassler 6615, type (G, LIL, S, UC); Krapovickas et al. 45657 (CTES, FCQ, G, LIL, MO, NY, SI); Pedersen 9296 (C, CTES).

Sida gracillima Hassl., Feddes Repert. 8: 35-36. 1910.

Herb.

Vouchers: **Concepción** *Fiebrig 5173*, type (BM, G, K).

Sida pseudocymbalaria (Hassl.) Hassl., Repert. Spec. Nov. Regni Veg. 8: 36. 1910.

Syn.: *Sida rubifolia* A.St.-Hil. subsp. *pseudocymbalaria* Hassl.; *S. pseudocymbalaria* (Hassl.) Hassl. var. *parviflora* Hassl.

Herb.

Vouchers: **Concepción**: *Fiebrig 4964* (G). **Cordillera**: *Hassler 7047*, type of *Sida rubifolia* subsp. *pseudocymbalaria* Hassl. (BM, F, UC). **Unknown**: *Fiebrig 4963* (BM, G).

Sida tapiraguensis Krapov., Bonplandia 23(2): 76. 2014.

Subshrub.

Vouchers: **Amambay**: *Rojas 6657* (AS, CTES). **San Pedro**: *Krapovickas 13918*, type (BAA, CTES, FCQ).

Waltheria macrophylla Hassl., Bull. Herb. Boissier, sér. 2, 7: 725-726. 1907.

Subshrub.

Vouchers: **Caaguazú**: *Hassler 9151*, type (BM, G, GH, K, LIL, MICH, MO, NY, P, S, W).

Waltheria procumbens J.G.Saunders & Soria, Darwiniana 43(1-4): 205-209, f. 2. 2005.

Subshrub.

Vouchers: **Amambay**: *Fernández Casas & Molero 6238* (NY); *Hassler 7842*, type (A, BM, C, G, LIL, MICH, MO, MPU, NY, S, W); *Soria 4458* (CTES); *Soria 4930* (CTES).

Melastomataceae

Leandra herincquiana Cogn., Fl. Bras. 14(4): 129. 1886.

Subshrub.

Vouchers: **Caaguazú**: *Balansa 1940*, type (G, K); *Hassler 9003* (K). **Canindeyú**: *Hassler 4582* (MO, K).

Miconia amambayensis Kraenzl., Vierteljahrsschr. Naturf. Ges. Zürich 76: 156. 1931.

Shrub.

Vouchers: **Amambay**: *Hassler 11381*, type (A, BAF, BM, G, K, LIL, K, MO, MPU, NY, P, US, Z); *Soria 4689* (FCQ, MO). **Concepción**: *Basualdo 3355* (FCQ, MO); *Basualdo 3564* (FCQ, MO); *Basualdo 3809* (MO); *Hassler 7695*, type (BR, G, NY, S, UC); *Hassler 7696*, type of *Miconia paraguayensis* var. *angustifolia* (BR, G, NY, UC).

Miconia paraguayensis Cogn., Bull. Herb. Boissier, sér. 2(4): 1278. 1904.

Syn.: *Miconia paraguayensis* Cogn. var. *angustifolia* Cogn.

Shrub.

Vouchers: **Amambay**: *Soria 4689* (FCQ, MO). **Concepción**: *Basualdo 3355* (MO); *Basualdo 3564* (MO); *Basualdo 3809* (MO); *Hassler 7695*, type (BR, G, NY; S, UC); *Hassler 7696*, type of *Miconia paraguayensis* var. *angustifolia* (G).

Rhynchanthera hassleriana Kraenzl., Vierteljahrsschr. Naturf. Ges. Zürich 76: 147. 1931.

Subshrub.

Vouchers: **Amambay**: *Hassler 11415*, type (BM, G, K, S).

Rhynchanthera rosea Cogn., Fl. Bras. (Martius) 14(3): 181. 1883.

Subshrub.

Vouchers: **Amambay**: *Hansen 12290* (MO). **Caaguazú**: *Balansa 28* (G). **Caazapá**: *Herrera 389* (FCQ); *Vera 906* (FCQ, PI). **Canindeyú**: *Mendoza et al. 108* (FCQ). **Central**: *Balansa 1934*, type (BR, G, GDC, GOET, SI). **Cordillera**: *Schinini 24015* (MO). **Guairá**: *Hassler 8622* (BM, MO). **Misiones**: *Pedersen 3242* (SI).

Rhynchanthera ternata Cogn., Monogr. Phan. 9: 105. 1891.

Subshrub.

Vouchers: **Unknown:** *Balansa 1934a*, type (BR, P).

Tibouchina hassleri Cogn., Bull. Herb. Boissier ser. 2(4): 1276. 1904.

Subshrub.

Vouchers: **Canindeyú:** *Hassler 5196*, type (BM, BR, F, G, GH, K, MPU, NY, UC).

Tibouchina rojasii Cogn. var. *robusta* Cogn., Repert. Spec. Nov. Regni Veg. 7: 71. 1909.

Herb.

Vouchers: **Amambay:** *Hassler 9883* (G).

Tibouchina rojasii Cogn. var. *rojasii* Cogn., Repert. Spec. Nov. Regni Veg. 7: 71. 1909.

Herb.

Vouchers: **Alto Paraguay:** (Zuloaga et al 2018). **Amambay:** *Hassler 9928*, type (B, G, K, NY).

Tibouchina violacea Cogn., Monogr. Phan. [A.DC. & C.DC.] 7: 272. 1891.

Subshrub.

Vouchers: **Alto Paraguay:** *Woolston 1079* (K). **Caaguazú:** *Hassler 8972* (K). **Caazapá:** *Ortiz 1296* (FCQ, MO); *Soria 3387* (FCQ, MO). **Central:** *Balansa 1937*, type (BR, F, K); *Pedersen 5912* (K). **Cordillera:** *Degen 759* (FCQ, MO); *Degen & Zardini 465* (FCQ, MO); *Hassler 11723* (K); *Rojas 14539* (K); *Zardini 4383* (FCQ, MO); *Zardini & Velásquez 27323* (FCQ, MO); *Zardini & Velásquez 26619* (FCQ, MO). **Misiones:** *Pedersen 5967* (K); *Pedersen 6028* (K). **Paraguarí:** *Aguayo 194* (MO, PY). **Unknown:** *Hassler 472* (K).

Myrtaceae

Eugenia corrientina Barb.Rodr., Myrt. Paraguay 5. 1903.

Shrub.

Vouchers: **Alto Paraná:** *Stutz de Ortega 2157* (G). **Caaguazú:** *Hassler 9298* (G, K). **Canindeyú:** *Hassler 4527*, type (G); *Hassler 4790*, type (G, MO).

Eugenia rojasiana (D.Legrand) Mattos, Loefgrenia 105: 2. 1995.

Syn.: *Hexachlamys anomala* (D.Legrand) D.Legrand var. *rojasiana* D.Legrand; *H. rojasiana* (D.Legrand) D.Legrand

Shrub.

Vouchers: **Itapúa:** *Jiménez 11.110* (AS). **Paraguarí:** *Rojas 13576* (AS, G, NY). **San Pedro:** *Woolston 1121* (SI); *Woolston 727* (SI).

Myrcianthes pedersenii D.Legrand, Bol. Soc. Argent. Bot. 10: 1. 1962.

Subshrub.

Vouchers: **Alto Paraná:** *Schinini 8083* (G); *Stutz de Ortega 2158* (G). **Guairá:** *Balansa 1317* (G). **Misiones:** *Pedersen 3228*, type (CTES); *Pedersen 4325*, type (A, CTES, K, MO, SI); *Schinini & Vanni 26109* (G).

Nyctaginaceae

Guapira paraguayensis (Heimerl) Lundell, Wrightia 4(2): 83. 1968.

Syn.: *Pisonia paraguayensis* Heimerl; *Torrubia paraguayensis* (Heimerl) Standl.

Tree.

Vouchers: **Amambay:** *Fiebrig 4517* (BM, G, K); *Fiebrig 4767*, type of *Pisonia paraguayensis* (BM, E, G, K, RSA); *Hassler 11024* (BM, G, K, MO); *Hassler 7813* (BM, MO); *Hassler 7813* (MO). **Concepción:** *Fiebrig 4778*, type of *Pisonia paraguayensis* (BM, E, F, G, K, MO, RSA).

Orobanchaceae

Agalinis linarioides (Cham. & Schltdl.) D'Arcy subsp. *rojasii* Barringer, Brittonia 39(3): 357.

1987.

Herb or subshrub.

Vouchers: **Amambay:** (Zuloaga *et al.* 2015). **Concepción:** *Fiebrig 5001* (BM, G, K). **Paraguarí:** *Rojas & Hassler 10766*, type (BM, F, G, K, MO, UC, US, W); *Rojas & Hassler 10892* (BM, G, K, NY, W).

Oxalidaceae

Oxalis benjaminii Lourteig, *Bradea* 7(2): 306. 2000.

Subshrub.

Vouchers: **Alto Paraná:** *Caballero Marmori 1611* (CTES); *Caballero Marmori 1824* (CTES); *Schinini & Caballero Marmori 27218* (CTES, P). **Caaguazú:** *Balansa 2242*, type (BR, G, GOET, K, P).

Oxalis sellowii Spreng. var. *alba* (Chodat) Lourteig, *Bradea* 7(1): 68. 1994.

Syn.: *Oxalis linearis* Zucc. var. *alba* Chodat

Herb or subshrub.

Vouchers: **Canindeyú:** *Hassler 4195* (BM, K); *Hassler 5967*, type of *Oxalis linearis* var. *alba* (BM, G, GH, K, LY, NY, P, S, UC, W). **Cordillera:** *Zardini & Velásquez 16438* (AS, MO). **San Pedro:** (Zuloaga *et al.* 2015).

Passifloraceae

Piriqueta ochroleuca Urb., *Bull. Herb. Boissier sér.* 2(3): 1116. 1903.

Herb.

Vouchers: **Cordillera:** *Bordas 4048* (CTES, FCQ, G, MO, US); *Bordas 4303* (CTES, G). *González et al. 17* (CTES, K); *Schwarz 11340* (LIL); *Sparre & Vervoorst 1285* (LIL). **Paraguarí:** *Balansa 4711*, type (BM, CORD, F, G, K, P); *Hassler 6136a* (G).

Piriqueta subsessilis Urb., *Bull. Herb. Boissier sér.* 2(3): 1117. 1903.

Herb.

Vouchers: **Caaguazú:** *Hassler 9223* (BM, G, K, LY, MO, NY, P, S, W); *Hassler 9687* (G); *Hassler 9687a* (BM, G); *Zardini & Velásquez 25669* (AS, MO). **Canindeyú:** *Jiménez & Marín 1644* (BM); *Pedersen 15090* (G, MO); *Zardini & Chaparro 50715* (AS, MO). **San Pedro:** *Hassler 5876*, type (BM, F, G, K, NY, P, W).

Turnera grandidentata (Urb.) Arbo, *Candollea* 40: 178. 1985.

Syn.: *Turnera ulmifolia* L. var. *grandidentata* Urb.; *T. ulmifolia* L. var. *elegans* auct. non (Otto) Urb.

Herb.

Vouchers: **Caaguazú:** *Dematteis et al. 2824* (CTES, FCQ); *Fernández Casas et al. 7527* (F, NY); *Hahn 825* (PY); *Hassler 9665* (G); *Jørgensen 4848* (BR, C, MO, NY, S, US); *Krapovickas et al. 45726* (CTES, K); *Schinini 23034* (G); *Schinini & Caballero Marmori 30019* (CTES); *Schinini & Quintana 36296* (G); *Schinini et al. 28097* (CTES). **Central:** *Arbo et al. 1674* (G); *Arbo et al. 2638* (C, CTES, G); *Arbo et al. 8846* (CTES); *Balansa 2340*, type (G, P); *Degen 1351* (FCQ, G); *Degen 141* (FCQ); *Gibert 21*, type (K); *González et al. 10* (CTES, K, MBM); *Hassler 12587* (G); *Mereles 1171* (G); *Mereles 1641* (CTES, FCQ); *Mereles 4028* (FCQ); *Morong 222* (BM, CTES, E, F, MO); *Schinini 15352* (CTES); *Schinini 15354* (G); *Schinini 24093* (G); *Schinini 7944* (G); *Schinini 8134* (CTES); *Schinini & Bordas 24903* (CTES); *Vavrek & Molas 200* (MO, US); *Zardini & Guerrero 34427* (BAB, CTES). **Concepción:** *Rojas 2629* (AS, CTES); *Zardini & Guerrero 37285* (CTES, MO). **Cordillera:** *Bordas 4049* (G); *Bordas & Schmeda 4008* (CTES, G); *Hassler 6139* (BM, G); *Schinini 23981* (G); *Schinini & Barrail 31776* (CTES); *Sparre & Vervoorst 1582* (P); *Zardini & Tillería 28858* (CTES); *Zardini & Velásquez 26790* (MO). **Misiones:** *González & López 554* (FCQ); *Zardini & Guerrero 55350* (CTES, SI). **Paraguarí:** *Arbo et al. 1765* (G); *Arbo et al. 6109* (CTES, G, GH, MO); *Arbo et al. 6109* (CTES, G, GH, MO); *Chodat 724* (G); *Fiebrig 160* (AS, BAF, BM, E, G, K, LY, M, PR, W); *Hassler 3470b* (G); *Hassler 3740* (BM); *Hassler 6512* (G); *Hassler 910* (G); *Hassler 981* (BM); *Hassler 981* (G); *Krapovickas & Cristóbal 45181* (CTES, G, K); *Mereles et al. 8199* (FCQ). **San Pedro:** *Schinini 9104* (G); *Woolston 331* (K). **Unknown:** *Schinini et al. 28087* (G).

Podostemaceae

Apinagia guairaensis Fiebrig, *Rev. Jard. Bot. Parag.* 1923, ii. 89, 96.1930.

Herb.

Vouchers: **Canindeyú:** *Rojas 3871*, type (ASU).

Note: Tur (1999) mentioned that she has not seen the type material (which is the only known collection) and it's possible that this specimen is actually a species from the genus *Wettsteiniola*. It was collected at the Guairá falls, which were destroyed during the construction of the Itaipú Dam.

Polygalaceae

Polygala guaranitica Chodat, Bull. Herb. Boissier, sér. 2(3): 57-58. 1902.

Herb.

Vouchers: **Amambay:** (Zuloaga *et al.* 2015). **Concepción:** *Hassler 10666* (BM, MO (photo)); *Hassler 7653*, type (BM, NY).

Polygala leucantha A.W.Benn., J. Bot. 17: 172. 1879.

Syn.: *Polygala graebiana* Chodat, *P. rubioides* Chodat

Herb.

Vouchers: **Amambay:** *Hassler 1335* (G); *Tadashi 206* (NY). **Caaguazú:** *Fernández Casas & Molero 3833* (G, MA); *Hassler 9240* (BM, F, G, GH, K, MO, NY); *Hassler 9472* (BM, G, K, NY); *Pedersen 15036* (C, G). **Cordillera:** *Anisits 448* (S); *Balansa 3205* (BR, K); *Chodat 317* (G); *Chodat s.n.* (G); *Hassler 1208* (G, K, NY); *Hassler 1515* (G); *Hassler 6127* (BM, C, G, GH, K, MO, NY); *Hassler 6550* (G); *Hassler 6984a* (G); *Hassler 928* (G, K). **Paraguari:** *Balansa 2190*, type (G, K, P); *Chodat s.n.* (G). **Unknown:** *Krapovickas 45753* (K).

Portulacaceae

Portulaca mucronata Link. var. *paraguariensis* D.Legrand, Comun. Bot. Mus. Hist. Nat. Montevideo 27: 12. 1953.

Herb.

Vouchers: **Cordillera:** *Teague 674* (BM, MVM). **Paraguari:** *Pedersen 9284* (SI).

Portulaca stellulato-tuberculata Poelln., Repert. Spec. Nov. Regni Veg. 37: 288. 1934.

Herb.

Vouchers: **Central:** *Balansa 2259* (K); *Balansa 2260a*, type (K); *Rojas 14129* (MVM).

Primulaceae

Myrsine ligustrina (Mez) Otegui, Candollea 53(1): 149. 1998.

Syn.: *Rapanea ligustrina* Mez

Tree.

Vouchers: **Amambay:** *Hassler 10828* (BAF, BM). **Caaguazú:** *Hassler 9366*, type (G, SI). **Canindeyú:** *Marín & Jiménez 184* (BM, PY).

Rhamnaceae

Rhamnidium hasslerianum Chodat, Bull. Herb. Boissier, sér. 2(3): 541. 1903.

Shrub.

Vouchers: **Alto Paraná:** *Hassler 4465*, type (G). **Caaguazú:** *Balansa 1374* (G, K); *Hassler 9218* (BM, G, K, MO); *Krapovickas 13335* (CTES); *Pedersen 9515* (K, SI).

Rosaceae

Prunus ravenii Zardini & Basualdo, Candollea 47: 252. 1992.

Shrub or tree.

Vouchers: **Alto Paraná:** *Hahn et al. 901* (MO, PY). **Caaguazú:** *Fernández Casas & Schinini 7374* (G, MO); *Schinini 22881* (CTES, G); *Zardini & Velásquez 25660*, type (AS, FCQ, MO). **Misiones:** *Arbo et al. 1931* (CTES). **Paraguari:** *Montes 12994* (CTES). **San Pedro:** *Zardini & Benítez 3192* (G, MO, PY); *Zardini & Benítez 3264* (MO, PY).

Rubus paraguariensis (Chodat & Hassl.) Basualdo & Zardini, *Candollea* 47: 255. 1992.

Syn.: *Rubus hassleri* Chodat var. *paraguariensis* Chodat & Hassl.

Shrub.

Vouchers: **Caazapá:** *Zardini 7794* (FCQ, G, MO). **San Pedro:** *Hassler 4618*, type (G). **Unknown:** *Jørgensen 3860* (MO).

Rubiaceae

Coccocypselum monanthos L.B.Sm. & Downs, *Sellowia* 7: 89. 1956.

Herb.

Vouchers: **Amambay:** *Hassler 11414* (G).

Galianthe aurelii E.L.Cabral, *Bonplandia* 7:1-4, f.1. 1993.

Subshrub.

Vouchers: **Amambay:** *Bacigalupo & For 1151* (CTES, SI); *Fernández Casas 6133* (G, MO); *Simonis 179* (K, MO); *Zardini 56223* (MO). **Central:** *Schinini 5038* (MO). **Cordillera:** *Soria 920* (CTES, FCQ, K). **Guairá:** *Balansa 1748* (G, K); *Balansa 1748a* (P); *Hassler 8784* (G, K); *Rojas 4885* (SI); *Schinini 1444* (CTES, SI); *Schinini 2111*, type (CTES, G, LIL, MO); *Zardini & Velásquez 8963* (FCQ, G, MO). **Paraguarí:** *Bernardi 18756* (MO).

Galianthe canindeyuensis E.L.Cabral, *Bonplandia* 7: 8. 1993.

Subshrub.

Vouchers: **Amambay:** *Tadashi 275* (MO). **Caaguazú:** *Balansa 1749* (K); *Hassler 9516* (BM, G, NY). **Canindeyú:** *Arenas 662*, type (BACP, CTES, MO, SI). **San Pedro:** *Hassler 5839* (BM).

Galianthe cyperoides (Chodat & Hassl.) E.L.Cabral, *Bol. Soc. Argent. Bot.* 27(3-4): 241. 1991[1992].

Syn.: *Borreria cyperoides* Chodat & Hassl., *B. leiophylla* K.Schum. var. *expansa*

Subshrub.

Vouchers: **Caaguazú:** *Balansa 1747* (BAF, G, K, P); *Fernández Casas 6369* (MO); *Hassler 9028* (BM, G, K); *Pedersen 9519* (K, SI); *Schinini 22907* (CTES); *Schinini 9125* (CTES, G); *Zardini et al. 25517* (AS, MO); *Zardini et al. 25670* (AS, CTES, MO); *Zardini et al. 25860* (AS, G, MO); *Zardini et al. 25944* (AS, MO); *Zardini et al. 26027* (AS, MO). **Caazapá:** *Schinini et al. 27837* (CTES, MO). **Canindeyú:** *Fernández Casas 5963* (G); *Hassler 4561* (K); *Hassler 4561a*, type (BM, G, K); *Hassler 4829* (BM, G, K, MO, NY, P, US); *Jiménez & Albert 1436BJ* (BM, PY); *Jiménez & Marín 2001* (BM, G, MO, PY); *Schinini 23212* (CTES); *Schinini et al. 33309* (MO); *Zardini & Chaparro 60591* (MO); *Zardini et al. 47938* (AS, MO); *Zardini et al. 47993* (AS, MO); *Zardini et al. 50619* (AS, MO); *Zardini et al. 60474* (MO); *Zardini et al. 60561* (MO). **Guairá:** *Hassler 8784a* (G). **San Pedro:** *Hassler 4338*, type of *Borreria cyperoides*. (BM, G, K, MPU); *Zardini et al. 45560* (AS, MO); *Zardini et al. 46651* (AS, MO); *Zardini et al. 48149* (AS, MO); *Zardini et al. 48150* (AS, MO). **Unknown:** *Hassler 8784* (K); *Krapovickas & Cristóbal 45141* (G); *Schinini et al. 21964* (G).

Galianthe hassleriana Chodat, *Bol. Soc. Argent. Bot.* 27(3-4): 244. 1991[1992].

Syn.: *Borreria hassleriana* Chodat, *B. hassleriana* Chodat f. *angustifolia* Chodat, *B. hassleriana* Chodat f. *latifolia* Chodat

Subshrub.

Vouchers: **Canindeyú:** *Hassler 4562*, type of *Borreria hassleriana* f. *latifolia* (BM, G, K, NY, P); *Hassler 5689*, type of *Borreria hassleriana* f. *angustifolia* (BM, G, K, MPU, NY, P).

Galianthe krausei (Suess.) E.L.Cabral, *Bol. Soc. Argent. Bot.* 27(3-4): 244. 1991.

Syn.: *Borreria krausei* Suess., *B. corymbosa* (Ruiz & Pav.) DC. f. *microphylla* Chodat & Hassl., *B. saxicola* K.Krause, *nom. illeg.*

Subshrub.

Vouchers: **Canindeyú:** *Mendoza et al. 53* (FCQ); *Rolón et al. 117* (FCQ); *Rolón et al. 4* (FCQ); *Rolón et al. 44* (FCQ). **Cordillera:** *Arenas 1630* (BACP, CTES, SI); *Arenas 291* (CTES); *Bordas 4372* (CTES); *Chodat 279* (G); *Degen et al. 480* (CTES, FCQ); *Fiebrig 755*, type of *Borreria saxicola* K. Krause (G, F, K, P); *Hassler 4022*, type of *Borreria corymbosa* f. *microphylla* (BM, F, G, K, P); *Schinini 1393* (CTES); *Schinini 20* (SI); *Schinini 21274* (CTES); *Schinini*

23956 (CTES, G); *Schwarz 11131* (CTES); *Zardini 3867* (FCQ, MO); *Zardini 26269* (FCQ, MO); *Zardini 36531* (AS, MO). **Paraguari:** *Kiesling 9832* (PY, SI); *Zardini 7281* (CTES, MO, PY); *Zardini 8730* (MO, PY); *Zardini 10216* (MO, PY); *Zardini 11695* (MO, PY); *Zardini 11866* (MO, PY); *Zardini 12507* (G, MO, PY); *Zardini 12530* (MO, PY); *Zardini 12655* (MO, PY); *Zardini 29020* (MO, PY).

Galianthe laxa (Cham. & Schltdl.) E.L.Cabral subsp. ***paraguariensis*** (Chodat & Hassl.) E.L.Cabral, *Candollea* 58(2): 394. 2003.

Syn.: *Borreria paraguariensis* Chodat & Hassl., *B. laxa* Cham. & Schltdl. var. *vestita* L.B.Sm. & Downs, *B. paraguariensis* Chodat & Hassl. f. *latifolia* Chodat & Hassl., *B. paraguariensis* Chodat & Hassl. f. *puberula* Chodat, *Galianthe paraguariensis* (Chodat & Hassl.) E.L.Cabral

Subshrub.

Vouchers: **Alto Paraná:** *Fiebrig 124* (G). **Amambay:** *Hassler 6508*, type of *Borreria paraguariensis* f. *puberula* (BM, G); *Hassler 7999*, type (G); *Hassler 7999*, type of *Borreria paraguariensis* f. *latifolia* (BM, G, K, P); *Schinini 20169* (CTES, G); *Schinini 20671* (CTES). **Central:** *Arenas 1306* (BACP, CTES, SI). **Cordillera:** *Arenas 1217* (CTES, G, MO); *Arenas 2911* (BACP, CTES); *Balansa 1784*, type of *Borreria paraguariensis* (BR, P); *Bordas 4011* (CTES, FCQ); *Brescia 4454* (MVFA); *Chodat 378* (G); *Degen 386* (FCQ, MO); *Degen et al. 4332* (FCQ); *Dematteis et al. 2782* (CTES, FCQ); *Dematteis et al. 2789* (CTES, FCQ); *Ferrucci 734* (CTES); *Ferrucci 750* (CTES); *Ferrucci 759* (CTES); *Hassler 1879*, type of *Borreria paraguariensis* (BM, G, K, P); *Hassler 3263*, type of *Borreria paraguariensis* (BM, G, K, MPU, P); *Hassler 3783*, type of *Borreria paraguariensis* (BM, G, K, P); *Hassler 11733* (BAF, BM, G, K, MO); *Innsfran 1128* (CTES); *Krapovickas 41169* (CTES); *Krapovickas 41896* (CTES, K); *Krapovickas 45529* (CTES); *Lurvey 294* (CTES); *McDaniel 11968* (NY); *Ortiz 1206* (FCQ, MO); *Osten 9085* (F); *Rojas 1760* (F, SI); *Rojas 1790* (SI); *Rojas 12705* (F); *Rojas 12724* (K, LIL); *Rojas 14582* (BAF); *Schinini 1294* (CTES); *Schinini 6244* (CTES, G, SI); *Schinini 6719* (CTES, G); *Schinini 21317* (CTES); *Schinini 21948* (CTES); *Soria 200* (CTES); *Soria 920* (MO); *Soria 1683* (FCQ); *Soria 3512* (FCQ); *Zardini 5110* (FCQ, MO); *Zardini 6241* (MO, PY); *Zardini 20742* (AS, MO); *Zardini 21211* (AS, MO); *Zardini 21318* (AS, MO); *Zardini 32302* (AS, CTES, MO); *Zardini 36464* (AS, CTES, MO); *Zardini & Degen 4290* (FCQ, MO); *Zardini & Salinas 26104* (CTES, FCQ, MO); *Zardini & Velásquez 26198* (FCQ, MO); *Zardini & Velásquez 26659* (FCQ, MO); *Zardini & Velásquez 26730* (FCQ, MO); *Zardini & Velásquez 26803* (FCQ, MO); *Zardini & Velásquez 26902* (CTES, FCQ); *Zardini & Velásquez 27027* (FCQ, MO); *Zardini & Velásquez 27302* (CTES, FCQ, MO); *Zardini & Velásquez 27368* (FCQ, MO); *Zardini & Velásquez 27445* (FCQ, MO). **Paraguari:** *Bacigalupo 9283* (K); *Degen 154* (CTES, FCQ); *Degen 1459* (FCQ); *Krapovickas 12413* (CTES); *Krapovickas 12478* (CTES); *Krapovickas 13382* (CTES); *Krapovickas 13477* (CTES); *Mereles 1525* (CTES, FCQ); *Mereles & González 7883* (FCQ); *Rojas 3386* (AS, MO); *Schinini 13382* (CTES); *Soria 1378* (CTES, FCQ); *Zardini 27773* (MO, PY); *Zardini 27863* (CTES, MO, PY); *Zardini 30036* (CTES, MO, PY); *Zardini & Soria 3945* (FCQ, MO); *Zardini & Soria 4463* (FCQ, MO). **Unknown:** *Chodat 799* (G); *Chodat 810* (G); *Ortiz 1076* (G); *Schinini 27931*, type of *Borreria paraguariensis* (G).

Mitracarpus bacigalupoae E.L.Cabral, W.A.Medina & E.B.Souza, *Candollea* 64(1): 152-153, figs. 1, 3C-F. 2009. Subshrub.

Vouchers: **Caaguazú:** *Fernández Casas & Molero 6386* (G, MO); *Fernández Casas & Schinini 7464* (CTES, G, MO); *Jørgensen 4921* (G, MO, SI); *Schinini & Fernández Casas 22976*, type (CTES, FCQ). **Canindeyú:** *Vera 827* (FCQ). **San Pedro:** *González & López 788* (FCQ); *Rojas 3785* (AS, MO).

Mitracarpus hasslerianus Chodat, *Bull. Herb. Boissier sér.* 2(4): 191. 1904.

Syn.: *Mitracarpus hasslerianus* f. *angustifolius* Chodat & Hassl.

Herb.

Vouchers: **Alto Paraguay:** *Woolston 1227* (K). **Caaguazú:** *Hassler 8860* (K); *Zardini & Velásquez 25516* (AS, MO); *Zardini & Velásquez 25924* (AS, MO). **Central:** *Balansa 1774*, type of *Mitracarpus hasslerianus* f. *angustifolia* (BM, F, GH, K, MO, MPU, NY, P, S, UC). **Cordillera:** *Hassler 6944*, type (BM, F, GH, K, MO, MPU, NY, P, S, UC). **Paraguari:** *Hassler 12476* (K); *Zardini & Tilleria 28929* (MO, PY). **Unknown:** *Hassler 1438* (K); *Schinini 23011* (G); *Schinini 28241* (G).

Simira paraguayensis (Standl.) Steyem., *Mem. New York Bot. Gard.* 23: 307. 1972.

Syn.: *Sickingia paraguayensis* Standl.

Tree.

Vouchers: **Alto Paraguay:** (Zuloaga *et al.* 2015). **Unknown:** *Weddell 3256* (P).

Spermacoce viridiflora (Chodat & Hassl.) Govaerts, World Checklist of Seed Plants 2(1): 19. 1996.

Syn.: *Borreria viridiflora* Chodat & Hassl.

Subshrub. Vouchers: **Amambay:** *Hassler 10072* (BM, G, K); *Hassler 7977* (unknown). **Caaguazú:** *Hassler 9615*, type of *Borreria viridiflora* (BM, G, K, MPU). **Concepción:** (Zuloaga *et al.* 2015). **Paraguari:** (Zuloaga *et al.* 2015).

Staelia nelidae R.M.Salas & E.L.Cabral, Blumea 55: 125, fig. 1, 2A-D, 3A-f. 2010.

Subshrub.

Vouchers: **Boquerón:** *Mereles 2663*, type (CTES, FCQ, G, SI); *Mereles 2919* (CTES, FCQ); *Peña-Chocarro et al. 2590* (BM, CTES, FCQ, MO); *Ramella & Mereles 2080* (FCQ, G, SI); *Schinini & Bordas 15100* (CTES).

Simaroubaceae

Simaba praecox Hassl., Bull. Herb. Boissier, sér. 2(7): 723. 1907.

Syn.: *Quassia praecox* (Hassl.) Noot.

Subshrub.

Vouchers: **Alto Paraná:** *Schinini & Caballero Marmorini 27399* (CTES); *Schinini & Caballero Marmorini 29979* (CTES); *Schinini et al. 31482* (CTES). **Caaguazú:** *Hassler 9497*, type (BM, G, LIL, P); *Schinini & Caballero Marmorini 30182* (CTES). **Canindeyú:** *Hassler 4456* (G).

Solanaceae

Cestrum hassleri Francey, Candollea 6: 307. 1935.

Shrub.

Vouchers: **Amambay:** *Hassler 10310*, type (B, BM, G, K, MPU, P).

Urticaceae

Pouzolzia amambaiensis Friis & Wilmot-Dear, Nordic J. Bot. 29(6): 693. 2012.

Subshrub.

Vouchers: **Amambay:** *Bacigalupo et al. 1148* (FCQ, SI); *Fernández Casas & Molero FC6130*, type (G, MA).

Verbenaceae

Glandularia paraguariensis (Moldenke) N.O'Leary, Novon 17(4): 506. 2007.

Syn.: *Verbena paraguariensis* Moldenke

Subshrub.

Vouchers: **Amambay:** *Hassler 9751*, type of *Verbena paraguariensis* (BM, G, MO, NY); *Rojas 6586* (SI).

Glandularia tecticaulis (Tronc.) N.O'Leary, Novon 17(4): 509. 2007.

Syn.: *Verbena tecticaulis* Tronc.

Herb.

Vouchers: **Alto Paraná:** *Caballero Marmorini 538* (CTES); *Caballero Marmorini s.n.* (CTES); *Degen 247* (CTES, FCQ); *Fiebrig 5837bis*, type of *Verbena tecticaulis* (SI); *Schinini 8061* (CTES); *Schinini & Caballero Marmorini 26921* (CTES, G); *Schinini & Caballero Marmorini 27181* (CTES, G, SI).

Lippia aberrans (Briq.) Tronc., Darwiniana 12: 267. 1961.

Syn.: *Lippia tristis* Briq. var. *aberrans* Briq.

Herb.

Vouchers: **Caaguazú:** *Hassler 9117* (BM, G); *Jørgensen 4503* (LIL); *Rojas 5268* (SI). **Canindeyú:** *Hassler 5641*, type of *Lippia tristis* var. *aberrans* (G, NY).

Lippia coriacea Briq., Bull. Herb. Boissier sér. 2(4): 1160. 1904.

Syn.: *Lippia coriacea* Briq. f. *angustifolia* Briq., nom. inval., *L. coriacea* Briq. f. *latifolia* Briq.

Subshrub.

Vouchers: **Central:** Hassler 6798, type of *Lippia coriacea* f. *latifolia* (G, MO); Zardini & Velásquez 18841 (AS, MO).

San Pedro: Hassler 4473, type of *Lippia coriacea* f. *angustifolia* (G, MO).

Lippia hassleriana Chodat, Bull. Herb. Boissier, sér. 2(2): 821. 1902.

Subshrub.

Vouchers: **Alto Paraná:** Fiebrig 6022 (BM, G, K, SI); Rojas 4136 (SI). **Amambay:** (Zuloaga et al. 2015). **Caaguazú:** Balansa 1030 (G, K, P); Hassler 8988 (K); Hassler 9168 (BM, G, K); Pedersen 9520 (K); Sparre 2118 (LIL). **Caazapá:** Hassler 5924, type (BM, G, K, MPU, NY, P, S, UC); Soria 3260 (SI). **Canindeyú:** Hassler 5685, type (BM, G, K, NY, P). **San Pedro:** (Zuloaga et al. 2015).

Lippia lamiana (Moldenke) Moldenke, Phytologia 53: 461. 1983.

Syn.: *Lantana lamiana* Moldenke

Subshrub.

Vouchers: **Amambay:** Hassler 9901, type (G, K, LIL, P).

Lippia sandwithiana Moldenke, Lilloa 5: 427. 1940.

Subshrub.

Vouchers: **Amambay:** Hassler 10050 (BM, G); Hassler 11031, type (BM, G, K, NY, P, SI).

Lippia tristis Briq., Bull. Herb. Boissier, sér. 2(4): 1159. 1904.

Syn.: *Lippia tristis* var. *normalis* Briq.

Subshrub.

Vouchers: **Amambay:** Rojas 6208 (SI). **Canindeyú:** Hassler 5461a (G). **Central:** Harley et al. 28016 (CTES, FCQ); Morong 575 (MO). **Paraguari:** Harley et al. 28018 (CTES, FCQ). **San Pedro:** Hassler 4554, type of *Lippia tristis* var. *normalis* (BM, G, NY, P).

Violaceae

Hybanthus melchiorianus Schulze-Menz, Notizbl. Bot. Gart. Berlin-Dahlem 12: 109. 1934.

Subshrub.

Vouchers: **Alto Paraguay:** (Seo et al. 2009). **Presidente Hayes:** Rojas -1 (B, K); Hassler & Rojas 2653a, type (F, G, GH, K, NY).

Monocots

Amaryllidaceae

Habranthus amambaicus Ravenna, Onira 9: 14. 2003.

Herb.

Vouchers: **Amambay:** Ferrucci et al. 1533, type (CTES).

Habranthus auratus Ravenna, Onira 9: 15. 2003.

Herb.

Vouchers: **Presidente Hayes:** Degen & Mereles 3082, type (FCQ).

Habranthus caaguazuensis Ravenna, Onira 9: 15. 2003.

Herb.

Vouchers: **Caaguazú:** Caballero Marmori s.n., type (CTES). **Concepción:** Kiesling et al. 9719 (CTES, G).

Habranthus leonensis Ravenna, Onira 3 (16): 56. 1999.

Herb.

Vouchers: **Alto Paraguay:** Mereles 7397 (FCQ).

Habranthus philadelphicus Ravenna, Onira 9: 16. 2003.

Herb.

Vouchers: **Boquerón**: Arenas 3310, type (FCQ); Molas & Vera 1261 (PY).

Nothoscordum ipacarainum Ravenna, Onira 3(9): 25. 1991.

Herb.

Vouchers: **Cordillera**: Hassler s.n. (SI).

Nothoscordum macrantherum (Kuntze) Beauverd, Revis. Gen. Pl. 3[3]: 312. 1898.

Syn.: *Allium macrantherum* (Kuntze) Beauverd

Herb.

Vouchers: **Caaguazú**: Zardini & Velásquez 10817 (FCQ, MO). **Paraguarí**: Kuntze s.n., type of *Allium macrantherum* (NYBG).

Nothoscordum modestum Ravenna, Onira 3(6): 17. 1991.

Herb.

Vouchers: **Unknown**: Jorgensen 4757, type (BM, SI).

Areaceae

Butia arenicola (Barb.Rodr.) Burret, Notizbl. Bot. Gart. Berlin-Dahlem 10: 1051 (1930).

Syn: *Cocos arenicola* Barb.Rodr.; *Syagrus arenicola* (Barb.Rodr.) Frambach

Shrub.

Vouchers: **Amambay**: Gauto *et al.* 2011. **Central**: Chodat 740 (G). **Cordillera**: Balansa 4773 (G); Chodat s.n. (G); Hassler 3761, type of *Cocos arenicola* (G); Fiebrig 62 (G), Noblick *et al.* 5118 (NY); Noblick *et al.* 5119 (NY). **San Pedro**: Zardini & Zavala 43270 (MO, NY); Zardini & Zavala 44182 (MO, NY); Zardini & Guerrero 44269 (MO, NY), Zardini & Zavala 45599 (MO, NY); Zardini & Zavala 46623 (MO, NY); Zardini & Zavala 46876 (MO, NY); Zardini & Zavala 46879 (MO, NY); Zardini & Guerrero 48347 (MO, NY).

Butia marmorii Noblick, Palms 50: 173 (2006).

Shrub.

Vouchers: **Alto Paraná**: Caballero Marmorii 3138 (CTES, FCQ, MBM); Krapovickas *et al.* 46129 (CTES, K); Noblick 5122, type (FCQ, FTG, K, NY, PY); Noblick *et al.* 5281 (FCQ, K, NY, PY); Schinini 28229 (CTES).

Bromeliaceae

Deuterocohnia meziana subsp. *vogtii* N.Schutz, Phytotaxa 62(1): 27. 2014.

Herb.

Vouchers: **Alto Paraguay**: Amerhauser 96-II (WU); Mereles & Degen 6330 (FCQ); Mereles *et al.* 7381 (FCQ); Schinini & Bordas 17820 (UC); Schinini 21173 (C); Vogt 688 (FCQ); Zardini & Godoy 50020 (WU); Zardini & Gómez-Cabrera 58178 (WU). **Boquerón**: Evrard 8117 (US); Rojas 7515 (GH); Rojas s.n. (LIL); Vogt & Mereles 227 (FCQ); Vogt 115 (FCQ); Vogt 117 (FCQ, PY); Vogt 197 (FCQ). **Presidente Hayes**: Vogt 970, type (FCQ).

Dyckia affinis Baker, Handb. Bromel. 133. 1889.

Herb.

Vouchers: **Concepción**: Fiebrig 4615, type (B, G, K); Fiebrig 4867, type (B, K, US); Fiebrig 5310, type (B, K, US); Fiebrig 5310-A, type (B, US). **Paraguarí**: Balansa 534, type (F, G, MO). **Unknown**: Anisits 2411-A, type (S).

Dyckia insignis Hassl., Annuaire Conserv. Jard. Bot. Genève 20: 316. 1919.

Syn.: *Dyckia insignis* Hassl. var. *flaviflora* Hassl., *D. insignis* Hassl. var. *macrantha* Hassl., *D. insignis* Hassl. var. *obtusiflora* Hassl., *D. grandiflora* Mez

Herb.

Vouchers: **Concepción**: Fiebrig 4615, type (B, G, K); Fiebrig 4867, type of *Dyckia insignis* var. *flaviflora* (B, G, K (photo), US); Fiebrig 5309 (BA); Fiebrig 5310 (G, K (photo)); Fiebrig 5310-A (G).

Dyckia tobatensis Hassl., *Annuaire Conserv. Jard. Bot. Genève* 20: 309. 1919.

Herb.

Vouchers: **Cordillera**: Degen & Zardini 586 (MO); Hassler 2099, type (G, MO); Till & Till 6044 (WU); Till & Till 6050 (WU); Zardini 3629 (FCQ, MO); Zardini 7642 (FCQ, MO).

Dyckia tomentella Mez, *Repert. Spec. Nov. Regni Veg.* 16: 69. 1919.

Herb.

Vouchers: **Amambay**: Fiebrig 4046, type (B, BM, F, G, GH, K, WU). **Presidente Hayes**: Brunner 1346 (MO, PY); Brunner et al. 992 (MO, PY). **Unknown**: Prive s.n. (K).

Dyckia vellozifolia Mez, *Repert. Spec. Nov. Regni Veg.* 16: 70. 1919.

Herb.

Vouchers: **Caaguazú**: Hassler 10500-A (G); Hassler 9576, type (B).

Dyckia vestita Hassl., *Annuaire Conserv. Jard. Bot. Genève* 30: 315. 1919.

Herb.

Vouchers: **Boquerón**: Amerhauser s.n. (WU). **Concepción**: Fiebrig 5311, type (G). **Paraguari**: Till & Till 6018 (WU); Till & Till 6019 (WU).

Dyckia virgata Mez, *Repert. Spec. Nov. Regni Veg.* 16: 68. 1919.

Herb.

Vouchers: **Paraguari**: Till & Till 6067 (WU). **Presidente Hayes**: Rojas 46, type (B).

Fosterella rojasii (L.B.Sm.) L.B.Sm., *Phytologia* 7: 172. 1960.

Syn.: *Lindmania rojasii* L.B.Sm.

Herb.

Vouchers: **Amambay**: Basualdo & Soria 6710 (FCQ); Bernardi 20548 (G); Brunner et al. 978 (MO, PY); Eliceche 553 (FCQ); Hahn 1211 (G, MO, PY); Hahn 2484 (MO, PY); Keel 1124 (FCQ); Krapovickas et al. 45975 (FCQ, K); Rojas 6771, type of *Lindmania rojasii* (GH); Solomon et al. 6781 (G, MO, PY); Soria & Zardini 1972 (FCQ, G, MO); Vogt et al. 777 (FCQ); Zardini & Cardozo 44974 (AS, MO).

Pitcairnia paraguayensis L.B.Sm., *Revista Argent. Agron.* 7: 163, f. 4-6. 1940.

Herb.

Vouchers: **Amambay**: Bernardi 20558 (G); Fernández Casas & Molero 6128 (G); Fernández Casas & Molero s.n. (MO); Krapovickas et al. 45978 (CTES); Rojas 6791, type (GH, FZ); Till & Till 6025 (WU); Vogt et al. 810 (FCQ, WU); Zardini & Acosta 56212 (MO); Zardini & Acosta 56264 (MO); Zardini & Cardozo 45109 (AS, MO); Zardini & Cardozo 56254 (MO).

Tillandsia arhiza Mez, *Monograph. Phan.* 9: 855. 1896.

Syn.: *Tillandsia rupestris* Mez, *T. rupestris* Mez var. *pendens* Chodat & Vischer, *T. arhiza* var. *rupestris* (Mez) Hassl.

Herb epiphyte.

Vouchers: **Paraguari**: Balansa 4745 (P); Balansa 4747, type (G, P, WU); Balansa 4751 (P); Brunner 1259 (MO, PY); Chodat 95 (G); Hassler 1000 (K); Jörgensen 4484 (SI); Schinini 4204 (G); Zardini & Aquino 30662 (MO, PY); Zardini 56264 (MO, PY).

Tillandsia buchlohii Rauh, *Trop. Subtrop. Pflanzenwelt* 43: 11-13. 1983.

Herb epiphyte.

Vouchers: **Unknown**: Stellfeld s.n. (Luther & Sieff 1994).

Tillandsia esseriana Rauh & L.B.Sm., *Phytologia* 20: 162, t. 1, f. 4, 5. 1970.

Herb epiphyte.

Vouchers: **Amambay**: Esser s.n., type (US); Zardini & Cardozo 45117 (AS, G, MO)

Tillandsia mereliana Schinini, Rojasiana 8(1): 73. 2008.

Herb epiphyte.

Vouchers: **Alto Paraguay:** *Vogt 1320* (G). **Boquerón:** *Degen & Mereles 2646* (CTES, FCQ); *Rojas 7512* (BA); *Schinini 36524* (CTES); *Verena 60* (CTES). **Presidente Hayes:** *Degen & Mereles 2922*, type (CTES, FCQ). *Friesen 106* (FCQ); *Mereles & Zuloaga 7497* (CTES, FCQ); *Mereles 10309* (BM, CTES, FCQ, G); *Mereles et al. 8842* (CTES, FCQ); *Vogt 114* (CTES, FCQ, WU); *Vogt 547* (FCQ); *Vogt 987* (FCQ, G); *Vogt et al. 876* (FCQ).

Tillandsia ramellae W.Till & S.Till, Candollea 50: 453. 1995.

Herb, terrestrial, occasionally epiphyte.

Vouchers: **Alto Paraguay:** *Fortunato et al. 3736* (BAB, G); *Mereles & Degen 6307* (FCQ); *Ramella 2305* (G); *Ramella 2822* (G, K, LPB, US, WU); *Ramella 2825* (G, WU); *Ramella 2879*, type (CTES, FCQ, G, MO, WU).

Cyperaceae

Cyperus anisitsii Kük., Pflanzenr. IV, 20(101): 221. 1936.

Herb.

Vouchers: **Guairá:** *Anistis 2868*, type (S).

Eleocharis canindeyensis Mereles & S.González, Candollea 58: 75. 2003.

Herb.

Vouchers: **Canindeyú:** *Hahn 2069*, type (CIIDIR, FCQ, GENT, US); *Mereles & Esquivel 10459* (BM, CTES, FCQ, G); *Schinini & Dematteis 33302b* (CTES, MO).

Eleocharis occidentalis Mereles, Candollea 45(2): 653–655, f. 1. 1990.

Herb.

Vouchers: **Presidente Hayes:** *Mereles 1238*, type (FCQ, G).

Eriocaulaceae

Eriocaulon caaguazuensis Ruhland, Bot. Jahrb. Syst. 37: 519. 1906.

Herb.

Vouchers: **Alto Paraná:** *Fiebrig 5696* (LIL, SI). **Caaguazú:** *Fernández Casas & Schinini 7447* (MO); *Hassler 8885*, type (B, G, K, S). **Canindeyú:** *Jiménez 1448BJ* (BM, PY).

Iridaceae

Cypella curuzupensis Ravenna, Wrightia 7: 19. 1981.

Herb.

Vouchers: **Guairá:** *Jørgensen 3871* (BA, SI); *Mereles & Solomon 7539* (FCQ); *Ravenna 463*, type (Herb. Ravenna).

Sisyrinchium balansae Baker, Handb. Irid. 133. 1892.

Herb.

Vouchers: **Caazapá:** (Zuloaga *et al.* 2015). **Guairá:** (Zuloaga *et al.* 2015). **Unknown:** *Balansa 547* (G, K).

Sisyrinchium calathinum Ravenna, Onira 7: 21. 2002.

Herb.

Vouchers: **Caaguazú:** *Pedersen 15040* (C, CTES). **Canindeyú:** *Hassler 4784* (G). **San Pedro:** *Hassler 4305*, type (BM, G).

Sisyrinchium igatimiense Ravenna, Onira 7: 22. 2002.

Herb.

Vouchers: **Concepción:** *Hassler 4711*, type (BM, G).

Sisyrinchium oxyspathum Ravenna, Onira 5: 55. 2001.

Herb.

Vouchers: **Caaguazú**: *Schinini 23025* type (CTES). **Guairá**: *Schinini & Bordas 25248* (G).

Sisyrinchium sinuosum Ravenna, Onira 8: 49. 2003.

Herb.

Vouchers: **Caaguazú**: (Zuloaga *et al.* 2015). **Canindeyú**: *Schinini 36124*, type (CTES).

Sisyrinchium subtile Ravenna, Onira 8: 49. 2003.

Herb.

Vouchers: **Cordillera**: *Hassler 3172*, type (G).

Orchidaceae

Anathallis bertonensis (Hauman) Luer, Novon 18(1): 78. 2008.

Syn.: *Pleurothallis bertonensis* Hauman; *Stelis bertonensis* (Hauman) Pridgeon & M.W. Chase; *Specklinia bertonensis* (Hauman) Luer

Epiphyte.

Vouchers: **Alto Paraná**: *Hauman s.n.*, type (BRLU).

Cranichis hassleri Cogn., Repert. Spec. Nov. Regni Veg. 7: 69. 1909.

Herb.

Vouchers: **Amambay**: *Hassler & Rojas 10304*, type (AMES, BM, BR, G, K, MPU, NY, P); *Hassler & Rojas 10304a* (G).

Epidendrum hassleri Cogn., Repert. Spec. Nov. Regni Veg. 7: 70. 1909.

Epiphyte.

Vouchers: **Alto Paraná**: *Stutz 509* (G). **Amambay**: *Brunner et al. 957* (G); *Hassler & Rojas 10339*, type (AS, G).

Epidendrum rojasii Cogn., Repert. Spec. Nov. Regni Veg. 10: 343. 1912.

Epiphyte.

Vouchers: **Amambay**: *Hassler & Rojas 10503*, type (BM, G, K, MO, NY).

Habenaria integripetala Cogn., Bull. Soc. Roy. Bot. Belgique 43: 281. 1906.

Herb.

Vouchers: **Amambay**: *Hassler 10166* (G). **Caaguazú**: *Hassler 9678*, type (G). **San Pedro**: *Hassler 5948* (G).

Pelexia collocaliae Szlach., Nordic J. Bot. 15: 174. 1995.

Syn.: *Pachygenium collocaliae* (Szlach.) Szlach.

Herb.

Vouchers: **Concepción**: *Fiebrig 4472*, type of *Pachygenium collocaliae* (BM, G).

Pelexia vaginata (Cogn.) Schltr., Beih. Bot. Centralbl. 37(2): 406. 1920.

Syn.: *Pachygenium paraguayense* (Garay) Szlach., *Pelexia vaginata* (Cogn.) Schltr. var. *pauciflorus* Cogn.; *P. paraguayensis* Garay; *Stenorrhynchos vaginatum* Cogn.

Herb.

Vouchers: **Caaguazú**: *Hassler 9590a*, type of *Stenorrhynchos vaginatum* (G); *Hassler 9590b*, type of *Stenorrhynchos vaginatum* (G). **Paraguarí**: *Zardini & Velásquez 12563* (MO, PY).

Ponthieva hassleri Schltr., Repert. Spec. Nov. Regni Veg. 16: 439. 1920.

Herb.

Vouchers: **Amambay**: *Hassler 11239*, type (AMES, BM, G, MO, NY, S, US).

Pteroglossa magnifica Szlach. ex Szlach., Orchidee (Hamburg), Suppl. 3: 49.1996.

Herb.

Vouchers: **Amambay**: Hassler 10661 (BM).

Sarcoglottis tirolensis Burns-Bal. & Merc.S.Foster, Selbyana 7: 359. 1984.

Herb.

Vouchers: **Itapúa**: Foster 82-1, type (US).

Vanilla bertonensis Bertoni, Anales Ci. Parag. 8: 10. 1910.

Epiphyte.

Vouchers: **Alto Paraná**: Bertoni 6039, type (unknown). **Central**: Schinini 31517 (CTES).

Poaceae

Axonopus succulentus G.A.Black, Advancing Frontiers Pl. Sci. 5: 134. 1963.

Herb.

Vouchers: **Caaguazú**: Pedersen 16074 (G). **Paraguarí**: Rojas 6176, type (BAA, K (photo), SI, US).

Elionurus lividus Hack., Monogr. Phan. 6: 337-338. 1889.

Herb.

Vouchers: **Caaguazú**: Balansa 294, type (BM, BR, G, K, SI). **Canindeyú**: Zardini & Ramírez 51316 (AS, BM, MO).

Central: Hassler 1715 (G). **Cordillera**: Balansa 294a, type (G, K). **San Pedro**: Woolston 81 (K).

Eragrostis triangularis Henrard, Repert. Spec. Nov. Regni Veg. 23(18-25): 301. 1927.

Herb.

Vouchers: **Alto Paraná**: Schinini et al. 28237 (CTES, G). **Amambay**: Rojas 6652A (AS, BAA, MO). **Caaguazú**: Balansa 236, type (G, K, L, P, US); Pedersen 16073 (C, G, SI).

Panicum longissimum (Mez) Henrard, Meded. Rijks-Herb. 54: 380. 1927.

Syn.: *Sacciolepis longissima* Mez

Herb.

Vouchers: **Paraguarí**: Balansa 2935, type (BM, C, G, K, P, US).

Pappophorum hassleri Hack., Bull. Herb. Boissier, sér. 2, 4(3): 280. 1904.

Herb.

Vouchers: **Amambay**: Hassler 12089 (G); Soria 6805 (FCQ). **Caaguazú**: Balansa 286 (G, K); Hassler 9305 (G); Hassler 9527 (BM, G, K). **Canindeyú**: (Zuloaga et al. 2015). **San Pedro**: Hassler 4456, type (BAA, BM, G, GOET, LIL, US).

Poa pedersenii Nicora, Candollea 50(2): 544, f.1. 1995.

Herb.

Vouchers: **Caaguazú**: Pedersen 15049, type (CTES, G, SI).

APPENDIX 1. Excluded species

PTERIDACEAE

Adiantopsis recurvata (Baker) Ponce & Scataglini

Distribution: Argentina, Paraguay

Source: Ponce & Scataglini 2012.

Cheilanthes hassleri (Weath.) Ponce

Distribution: Brazil, Paraguay.

Source: Ponce, Monteiro & Labiak 2008.

AMARANTHACEAE

Alternanthera malmeana R.E.Fr. var. *straminea* (Chodat) Pedersen

Distribution: Argentina, Paraguay.

Source: Pedersen 2016.

Gomphrena perennis L. var. *silenoides* (Chodat) Suess. ex E.Holzh.= *Gomphrena perennis* L.

Distribution: Argentina, Paraguay.

Source: Pedersen 2016.

AMARYLLIDACEAE

Amaryllis buccinata Ravenna.

Unresolved name

Habranthus lilaceus Ravenna.

Invalid name.

ANNONACEAE

Annona coriacea Mart. var. *cuneata* R.E.Fr. = *A. coriaceae* Mart.

Distribution: Bolivia, Brazil, Paraguay.

Source: Mass *et al.* 2011, Jørgensen *et al.* 2015.

APOCYNACEAE

Matelea balansae Morillo & Fontella

Distribution: Argentina & Paraguay.

Source: Keller, 2018.

Peltastes macrocalyx (Müll.Arg.) Woodson

Distribution: C & E Brazil, NE Paraguay.

Source: Morales 2005.

ARECACEAE

Attalea geraensis Barb.Rodr.

Distribution: Brazil, NE Paraguay.

Source: Govaerts & Dransfield 2005.

Butia campicola (Barb.Rodr.) Noblick

Distribution: Brazil, E Paraguay.

Source: WCSP 2018, Leitman *et al.* 2015.

Butia exospadix Noblick

Distribution: Brazil, NE Paraguay.

Source: WCSP 2018, Leitman *et al.* 2015.

Syagrus campylospatha (Barb.Rodr.) Becc.

Distribution: Brazil, EC Paraguay.

Source: WCSP 2018, Leitman *et al.* 2015.

ASTERACEAE

Angelphytum paraguariense (Chodat) H.Rob. = ***Dimerostemma arnottii*** (Baker)

M.D.Moraes

Distribution: Argentina, Brazil, Paraguay, Uruguay.

Source: Moraes & Semir 2009.

Aspilia camporum Chodat

Distribution: Brazil, Paraguay.

Source: Nakajima *et al.* 2015.

Austroeupatorium apensis (Chodat) R.M.King & H.Rob.

Syn.: *Eupatorium apense* Chodat

Distribution: Brazil

Source: Almeida 2018, Flann 2009.

Ayapanopsis esperanzae (Hassl.) R.M.King & H.Rob.

Distribution: Argentina, Paraguay.

Source: Zuloaga *et al.* 2014.

Baccharis glaucescens (Chodat & Hassl.) Soria & Zardini = ***Baccharis sessiliflora*** Vahl

Distribution: Bolivia, Brazil, Argentina, Paraguay & Uruguay.

Source: Hind 2011, Müller 2006, Jørgensen *et al.* 2014.

Calea annua Hassl.

Name ined.

Calea crenata Chodat

Distribution: Brazil, Paraguay.

Source: Mondin *et al.* 2015.

Calea rupicola Chodat

Distribution: Brazil, Paraguay.

Source: Mondin *et al.* 2015.

Dimerostemma annuum (Hassl.) H.Rob.

Distribution: Brazil, Paraguay.

Source: Moraes & Semir 2009.

Eupatorium lanigerum Hook. & Arn. var. ***aureoviride*** (Chodat) B.L.Rob.=

Gyptis vernoniopsis (Sch.Bip. ex Baker) R.M.King & H.Rob.

Distribution: Argentina, Brazil, Paraguay, Uruguay.

Source: Ferreira 2015, Hind 2015 (pers. com.).

Eupatorium lysimachioides Chodat

Syn: *Heterocondylus lysimachioides* (Chodat) R.M.King & H.Rob.

Distribution: Brazil, Paraguay.

Source: Nakajima 2015.

Eupatorium margaritense (Hassl.) Hassl. = ***Chromolaena margaritensis*** (Hassl.) R.M.King & H.Rob.

Distribution: Brazil, Paraguay.

Source: Oliveira 2015.

Eupatorium vauthierianum DC. var. *trichotomum* Baker

Distribution: Brazil, Paraguay.

Source: Cabrera *et al.* 1996.

Isostigma acaule (Baker) Chodat

Syn.: *Bidens acaulis* Baker, *Isostigma vailianum* Britton

Distribution: Bolivia, Paraguay.

Source: Jørgensen *et al.* 2014, Hind 2011, Peter 2009.

Senecio apensis Cabrera

Distribution: Brazil, Paraguay.

Source: Teles 2015.

Trichogonia hassleri Matff.

Distribution: Brazil, Paraguay.

Source: Roque *et al.* 2012.

Vernonia hassleriana Chodat = ***Vernonia sellowii*** Less.

Syn.: *Lessigianthus sellowii* (Less.) H.Rob.

Distribution: Argentina, Brazil, Paraguay.

Source: Soares & Dematteis 2015, Hind 2015 (pers. com.).

Vernonia hexantha (Sch.Bip.) Baker var. *balansae* Chodat = ***Vernonia megapotamica*** Spreng.

Syn.: *Stenocephalum megapotamicum* (Spreng.) Sch.Bip.

Distribution: Argentina, Brazil, Paraguay.

Source: Soares & Dematteis 2015, Zuloaga *et al.* 2015.

Vernonia hexantha (Sch.Bip.) Baker var. *eleagnoides* Chodat = ***Vernonia megapotamica*** Spreng.

Syn.: *Stenocephalum megapotamicum* (Spreng.) Sch.Bip.

Distribution: Argentina, Brazil, Paraguay.

Source: Soares & Dematteis 2015, Zuloaga *et al.* 2015.

Vernonia hexantha (Sch.Bip.) Baker var. *nivea* (Chodat) Chodat = ***Vernonia megapotamica*** Spreng.

Syn.: *Stenocephalum megapotamicum* (Spreng.) Sch.Bip.

Distribution: Argentina, Brazil, Paraguay.

Source: Soares & Dematteis 2015, Zuloaga *et al.* 2015.

Vernonia hexantha (Sch.Bip.) Baker var. *paraguariensis* Chodat = ***Vernonia megapotamica*** Spreng.

Syn.: *Stenocephalum megapotamicum* (Spreng.) Sch.Bip.

Distribution: Argentina, Brazil, Paraguay.

Source: Soares & Dematteis 2015, Zuloaga *et al.* 2015.

Vernonia glabrata var. *cuneifolia* = ***Vernonia glabrata*** Less.

Syn.: *Lessigianthus parvifolius* (Chodat) H.Rob.

Distribution: Argentina, Bolivia, Brazil, Paraguay, Uruguay.

Source: Hind 2011, Jørgensen *et al.* 2014, Robinson 1999.

Vernonia glabrata var. *parvifolia* Chodat = ***Vernonia glabrata*** Less.

Syn.: *Lessingianthus parvifolius* (Chodat) H.Rob.

Distribution: Argentina, Bolivia, Brazil, Paraguay, Uruguay.

Source: Robinson 1999.

Vernonia propinqua Hieron. var. *canescens* (Chodat) Dematteis = ***Chrysolaena propinqua*** (Hieron.) H.Rob.

Distribution: Brazil, Paraguay.

Source: Cabrera *et al.* 2009.

Vernonia leonensis Cabrera = ***Vernonia remotiflora*** Rich.

Syn.: *Lepidaploa remotiflora* (Rich.) H.Rob.

Distribution: Argentina, Bolivia, Brazil, Central America, Guyana, Paraguay, Venezuela.

Source: Hind 2011, Jørgensen *et al.* 2014.

Vernonia parvifolia (Chodat) Cabrera

Distribution: Brazil, Paraguay.

Source: Cabrera *et al.* 2009.

Vernonia rojasii (Chodat) Cabrera

Syn.: *Mesanthophora rojasii* (Cabrera) H.Rob.

Distribution: Bolivia, Paraguay.

Source: Jørgensen *et al.* 2014.

Vernonia sceptrum Chodat = ***Vernonia cognata*** Less.

Distribution: Argentina, Brazil, Paraguay.

Source: Cabrera *et al.* 2009.

Viguiera filifolia Sch.Bip.

Syn.: *Aldama filifolia* (Sch.Bip. ex Baker) E.E.Schill. & Panero

Distribution: Brazil, Paraguay.

Source: Magenta 2006.

Viguiera hassleriana Chodat

Syn.: *Aldama macrorhiza* Baker; *Viguiera macrorhiza* Baker in Mart.; *Rhysolepis macrorhiza* (Baker) H.Rob. & A. J. Moore,

Distribution: Brazil, Paraguay.

Source: Magenta & Pirani 2014.

Viguiera linearifolia Chodat

Syn.: *Aldama llinearifolia* (Chodat) E.E.Schill. & Panero; *Viguiera rojasii* S.F.Blake; *Aldama rojasii* (S.F.Blake) E.E.Schill. & Panero; *Rhysolepis rojasii* (S.F.Blake) H.Rob. & A.J. Moore

Distribution: Brazil, Paraguay.

Source: Magenta & Pirani 2014.

Viguiera pilicaulis S.F.Blake

Syn.: *Aldama pilicaulis* (S.F.Blake) E.E.Schill. & Panero

Distribution: Brazil, Paraguay.

Source: Magenta & Pirani 2014.

Viguiera rojasii S.F.Blake = ***Viguiera linearifolia*** Chodat

Distribution: Brazil, Paraguay.

Source: Magenta & Pirani 2014.

CACTACEAE

Gymnocalycium stenopleurum F.Ritter= ***G. friedrichii*** (Werderm.) Pazout

Distribution: Bolivia, Paraguay.

Source: Navarro 1996, Jørgensen *et al.* 2014.

Monvillea kroenleini R.Kiesling

Distribution: Bolivia, Paraguay.

Source: Navarro 1996, Jørgensen *et al.* 2014.

CARYOPHYLLACEAE

Polycarpaea hassleriana Chodat

Distribution: Bolivia, Paraguay.

Source: Jørgensen *et al.* 2014.

CONVOLVULACEAE

Bonamia balansae Hallier f.

Distribution: E Bolivia, W Brazil, Paraguay.

Source: Wood 2013, Jørgensen *et al.* 2014.

Bonamia subsessilis Hassl.

Distribution: S Bolivia, Brazil, Paraguay.

Source: Wood 2013, Jørgensen *et al.* 2014.

Cuscuta incurvata Progel

Distribution: Brazil, Paraguay.

Source: Simão-Bianchini & Ferreira 2015, WCSP 2018.

Ipomoea subtomentosa (Chodat & Hassl) O'Donell f. *albiflora* (Hallier f.) O'Donell = ***Ipomoea subtomentosa*** (Chodat & Hassl) O'Donell

Distribution: Bolivia, Brazil, Paraguay.

Source: Austin & Huáman 1996, Simão-Bianchini & Ferreira 2015, Jørgensen *et al.* 2014.

Ipomoea subtomentosa (Chodat & Hassl) O'Donell

Distribution: Bolivia, Brazil, Paraguay.

Source: Jørgensen *et al.* 2014, WCSP 2018.

Jacquemontia fruticulosa Hallier f.

Distribution: Brazil, Paraguay.

Source: Simão-Bianchini & Ferreira 2015, WCSP 2018.

Jacquemontia guaranítica Hassl.

Distribution: Brazil, Paraguay.

Source: Simão-Bianchini & Ferreira 2015, WCSP 2018.

Jacquemontia rojasiana O'Donell

Distribution: Brazil, Paraguay.

Source: Simão-Bianchini & Ferreira 2015, WCSP 2018.

EBENACEAE

Diospyros hassleri Hieron.

Distribution: Argentina, Brazil, Paraguay.

Source: WCSP 2018, Wallnöfer 2015.

EUPHORBIACEAE

Astraea hauthalii (Kuntze) P.E.Berry

Syn.: *Croton hauthalii* (Kuntze) K.Schum.; *Oxydectes hauthalii* Kuntze; *C. rumicifolius* Chodat & Hassl.

Distribution: Bolivia, Paraguay.

Source: Jørgensen *et al.* 2014.

Bernardia caperoniifolia (Baill.) Müell.Arg.

Distribution: Paraguay, Uruguay.

Source: Govaerts *et al.* 2000.

Bernardia paraguariensis Chodat & Hassl

Distribution: Bolivia, Paraguay.

Source: Jørgensen *et al.* 2014.

Bernardia polymorpha Chodat & Hassl. var. *polymorpha*

Distribution: Brazil, Paraguay.

Source: Cordeiro & Secco 2015, WCSP 2018.

Cnidoscolus campanulatus (Pax) Pax

Distribution: Argentina, Paraguay.

Source: Maya-Lastra & Steinmann 2018.

Cnidoscolus tetracyclus Pax & K.Hoffm = *C. albomaculatus* (Pax) I.M.Johnst

Distribution: Argentina, Brazil, Paraguay.

Source: Maya-Lastra & Steinmann 2018, WCSP 2018.

Croton subcinerellus Croizat

Distribution: Bolivia, Paraguay.

Source: Jørgensen *et al.* 2014.

Dalechampia anomala Pax & K.Hoffm.

Distribution: Brazil, Paraguay.

Source: Webster & Armbruster 1991, WCSP 2018.

Dalechampia hassleriana Chodat.

Distribution: Brazil, Paraguay.

Source: Webster & Armbruster 1991, Govaerts *et al.* 2000, WCSP 2018.

Jatropha eglandulosa Pax = *J. elliptica* (Pohl) Oken

Distribution: Bolivia, Brazil, Paraguay.

Source: Govaerts *et al.* 2000, Dehgan 2012, Jørgensen *et al.* 2014.

Jatropha katharinae Pax = *J. guaranitica* Speg.

Source: Fernández Casas & Pizarro Domínguez 2007, Dehgan 2012.

Jatropha paraguayensis Radcl.-Sm. & Govaerts = *J. hieronymi* Kuntze

Distribution: Argentina, Bolivia, Paraguay.

Source: Dehgan 2012, Jørgensen *et al.* 2014.

Jatropha puncticulata Pax & K.Hoffm. = *J. isabellei* var. *isabelii* Mart.
Distribution: Brazil, Paraguay.
Source: Dehgan 2012.

Jatropha ribifolia (Pohl) Baill. var. *ambigua* Pax = *J. guaranitica* Speg.
Source: Dehgan 2012.

Jatropha tacumbensis Pax & K.Hoffm. = *J. guaranitica* Speg.
Source: Dehgan 2012.

Manihot populifolia Pax
Syn.: *Manihot cordifolia* Pax
Distribution: Bolivia, Paraguay.
Source: Jørgensen *et al.* 2014.

Manihot variifolia Pax
Distribution: Brazil, Paraguay.
Source: WCSP 2018.

FABACEAE

Arachis lignosa (Chodat & Hassl.) Krapov. & W.C.Greg.
Distribution: Brazil, Paraguay.
Source: Valls 2015.

Chaetocalyx chacoensis Vanni
Distribution: Bolivia, N Paraguay.
Source: Vanni 2012, Jørgensen *et al.* 2014.

Chamaecrista hassleri (H.S.Irwin & Barneby) H.S.Irwin & Barneby
Distribution: Brazil, Paraguay.
Source: Souza & Bortoluzzi 2015.

Copaifera langsdorffii Desf. var. *glabra* (Vogel) Benth.
Distribution: Brazil, Paraguay.
Source: Queiroz *et al.* 2015

Discolobium pulchellum Benth. var. *viscosissimum* Hassl.
Syn.: *Discolobium elongatum* Benth.
Distribution: Argentina, Paraguay.
Source: Burkart 1939.

Enterolobium timbouva Mart. = ***Enterolobium contortisiliquum*** (Vell.) Morong
Distribution: Argentina, Bolivia, Brazil, Paraguay.
Source: Jørgensen *et al.* 2014.

Mimosa bifurca Benth. var. *reducta* (Hassl.) Barneby
Distribution: Brazil, Paraguay.
Source: Dutra & Morim 2015.

Mimosa bimucronata (DC.) Kuntze var. *adenocarpa* Hassl.
Distribution: Bolivia, Paraguay.
Source: Jørgensen *et al.* 2014.

Mimosa chacoënsis Barneby & Fortunato

Distribution: Bolivia, Paraguay.

Source: Jørgensen *et al.* 2014.

Mimosa sensibilis Griseb. var. *aquidabani* Barneby

Distribution: Brasil, Paraguay.

Source: Morales & Fortunato 2010.

Mimosa tobatensis Barneby & Fortunato

Distribution: Bolivia, Paraguay.

Source: Jørgensen *et al.* 2014.

Rhynchosia pallida Micheli

Distribution: Bolivia, Paraguay.

Source: Jørgensen *et al.* 2014.

IRIDACEAE

Cypella lilacea Ravenna

Name not listed in IPNI.

LAMIACEAE

Hyptis tripartita Briq. = *Cyanocephalus tripartitus* (Briq.) Harley & J.F.B.Pastore

Distribution: Brazil, Paraguay.

Source: Harley *et al.* 2015.

LOGANIACEAE

Spigelia ramosa L.B.Sm. = *Spigelia valenzuelae* Chodat & Hassl.

Source: Fernández Casas 2006, Jørgensen *et al.* 2014.

Spigelia valenzuelae Chodat & Hassl.

Distribution: S Bolivia, Paraguay.

Source: Fernández Casas 2006, Jørgensen *et al.* 2014.

Spigelia valenzuelae Chodat & Hassl. var. *major* Chodat & Hassl. = *Spigelia valenzuelae* Chodat & Hassl.

Source: Fernández Casas 2006, Jørgensen *et al.* 2014.

LYTHRACEAE

Cuphea corisperma Koehne subsp. *corisperma*

Distribution: Argentina, Paraguay.

Source: Duré & Molero 2010.

MALVACEAE

Byttneria stenophylla Cristóbal

Distribution: Brazil, Paraguay.

Source: Cristóbal 2007.

Sida centuriata Clement

Distribution: Brazil, Paraguay.

Source: Krapovickas 2007.

MELASTOMATACEAE

Miconia paraguayensis Cogn. var. *angustifolia* Cogn. = *Miconia paraguayensis* Cogn.
Source: Goldenberg *et al.* 2013.

MYRTACEAE

Campomanesia paranensis D.Legrand = *Campomanesia pubescens* (Mart. ex DC.) O.Berg
Distribution: Brazil, Paraguay.
Source: Govaerts *et al.* 2008.

Eugenia atrata Mattos & D.Legrand = *Eugenia suberosa* Cambess.
Distribution: Brazil, Paraguay.
Source: Govaerts *et al.* 2008.

Eugenia hassleriana Barb.Rodr. = *Eugenia pyriformis* Cambess.
Distribution: Brazil, Paraguay, N Argentina.
Source: Govaerts *et al.* 2008.

Eugenia maracayuensis Barb.Rodr. = *Eugenia bimarginata* DC.
Distribution: E Bolivia, Brazil, Paraguay, NE Argentina.
Source: Govaerts *et al.* 2008, Jørgensen *et al.* 2014.

Myrcia hassleriana Barb.Rodr. = *Myrcia selloi* (Spreng.) N.Silveira
Distribution: Brazil, Paraguay, N. Argentina.
Source: Govaerts *et al.* 2008, Jørgensen *et al.* 2014.

Paramyrciaria tapiraguayensis (Barb.Rodr. ex Chodat & Hassl.) Sobral = *Myrciaria rojasii* D.Legrand
Distribution: WC Brazil, Paraguay.
Source: Govaerts *et al.* 2008.

PIPERACEAE

Ottonia cordulatifolia Trel. var. *cordulatifolia* = *Piper miquelianum* C.DC.
Shrub.
Distribution: Brazil, Paraguay.
Source: Zanotti & Keller 2017.

Ottonia cordulatifolia Trel. var. *hirtella* (C.DC.) Trel. = *Piper miquelianum* C.DC.
Distribution: Brazil, Paraguay.
Source: Zanotti & Keller 2017.

POACEAE

Eragrostis hackelii Hassl. = *E. bahiensis* Schut.
Distribution: México to South Tropical América.
Source: Clayton *et al.* 2006, WCSP 2018, Jørgensen *et al.* 2014.

Eragrostis macrothyrsa Hack.
Distribution: Bolivia, Brazil, Paraguay.
Source: Clayton *et al.* 2006, WCSP 2018, Jørgensen *et al.* 2014.

Panicum tricholaenoides Steud var. *flavomarginatum* (Mez) Zuloaga = *Panicum tricholaenoides* Steud
Distribution: Venezuela, Bolivia, Brazil, Paraguay, Argentina, Uruguay.
Source: Clayton *et al.* 2006, WCSP 2018, Jørgensen *et al.* 2014.

Paspalum planum Hack.

Distribution: Brazil, Paraguay.

Source: Clayton *et al.* 2006, WCSP 2018.

POLYGONACEAE

Coccoloba guaranitica Hassl.

Distribution: Bolivia, Brazil, Paraguay.

Source: Govaerts *et al.* 2008, Jørgensen *et al.* 2014.

ROSACEAE

Prunus douglasii Basualdo & Zardini = ***Prunus oleifolia*** Koehne

Note: The type specimen of this species (*Hassler 10194a*, G) was previously designated as the type specimen of *Prunus oleifolia* (NY).

Prunus oleifolia Koehne

Distribution: Bolivia, Paraguay.

Source: Jørgensen *et al.* 2014.

Rubus hassleri Chodat = ***Rubus urticifolius*** Poir.

Distribution: México, Central America, South America to Argentina and Brazil.

Source: Reitz 1996.

RUBIACEAE

Manettia rojasiana Chodat & Hassl.

Distribution: Brazil, Paraguay

Source: Macias & Firens 2015.

Margaritopsis hassleriana (Chodat) C.M. Taylor.

Distribution: Brazil, Paraguay.

Source: Taylor 2015.

Mitracarpus schininianus E.L.Cabral, W.Medina & E.B.Souza

Distribution: Brazil, Paraguay.

Source: Bezerra de Souza *et al.* 2010.

Staelia hassleri Standl. = ***Staelia thymoides*** Cham. & Schltdl.

Distribution: NE Argentina, S Brazil, S Paraguay, W Uruguay.

Source: Salas & Cabral 2010.

SAPINDACEAE

Averrhoidium paraguaiense Radlk.

Distribution: Bolivia (?), Brazil, Paraguay.

Source: Jørgensen *et al.* 2014 (Preliminary identification based in a sterile, juvenile specimen), Somner *et al.* 2015.

Serjania eriocarpa Radlk.

Distribution: Brazil, Paraguay

Source: Somner *et al.* 2015.

TALINACEAE

Amphipetalum paraguayense Bacigalupo

Distribution: Bolivia, Paraguay.

Source: Jørgensen *et al.* 2014.

Talinum nocturnum Bacigalupo

Distribution: S Bolivia, N Paraguay.

Source: Mendoza & Wood 2013, Jørgensen *et al.* 2014.

VERBENACEAE

Aloysia casadensis Hassl. & Moldenke = *Aloysia Schulziana* Moldenke.

Distribution: Bolivia, Paraguay, Argentina.

Source: Moroni *et al.* 2016.

Casselia hassleri Briq. = *Casselia chamaedryfolia* Cham.

Distribution: Bolivia, Brazil, Paraguay.

Source: O'Leary & Múlgura 2010.

Casselia hymenocalyx Briq. = *Casselia chamaedryfolia* Cham.

Distribution: Bolivia, Brazil, Paraguay.

Source: O'Leary & Múlgura 2010.

Stachytarpheta hassleri Briq.

Distribution: Bolivia, Paraguay.

Source: Jørgensen *et al.* 2014.

VOCHYSIACEAE

Callisthene hassleri Briq.

Distribution: Bolivia, Brazil, Paraguay.

Source: França 2015, Jørgensen *et al.* 2014.

APPENDIX 2. Taxa with five collections or less

Taxa with one single collection (total 103)

- *Dyschoriste sagittata* Kobuski
- *Gomphrena paraguayensis* Chodat subsp. *chacoensis* Pedersen
- *Pffafia nudicaulis* Suess.
- *Habranthus amambaicus* Ravenna
- *Habranthus auratus* Ravenna
- *Habranthus leonensis* Ravenna
- *Nothoscordum iparacainum* Ravenna
- *Nothoscordum modestum* Ravenna
- *Oxypetalum glabrescens* Malme
- *Oxypetalum martii* E.Fourn. var. *nanum* (Malme) Fontella & S.A.Cáceres
- *Oxypetalum ophiuroideum* Malme
- *Acanthospermum consobrinum* S.F.Blake
- *Eupatorium gnaphalioides* Cabrera
- *Mikania calcarulata* B.L.Rob.
- *Mikania pilcomayensis* (Hassl.) B.L.Rob.
- *Porophyllum hasslerianum* Chodat
- *Stenachaenium megapotamicum* (Spreng.) Baker var. *pedunculata* Chodat
- *Stevia amambayensis* B.L.Rob.
- *Trichogonia phlebodes* (B. L.Rob.) R. M.King & H.Rob.
- *Trixis ophiorhiza* Gardner subsp. *glandulifera* (Hassl.) Katinas
- *Verbesina rugosa* Chodat
- *Verbesina sordescens* DC. var. *glabrata* Chodat
- *Vernonia bellula* Dematteis
- *Vernonia cupularis* Chodat
- *Vernonia ramellae* Cabrera
- *Viguiera amphichlora* S.F.Blake
- *Begonia fiebrigii* C.DC.
- *Begonia lucidissima* Golding & Kareg.
- *Begonia maracayuensis* Parodi
- *Tillandsia buchloii* Rauh
- *Gymnocalycium eurypleurum* F.Ritter
- *Gymnocalycium paediophilum* F.Ritter
- *Gymnocalycium paraguayense* (K.Schum.) Hosseus f. *paraguayensis*
- *Gymnocalycium paraguayense* (K.Schum.) Hosseus f. *fleischerianum* Mereg., Metzging & R.Kiesling
- *Harrisia hahniana* (Backeb.) Kimmach & Hutchison ex Kimmach
- *Cuscuta longiloba* Yunck.
- *Ipomoea altoparanaensis* O'Donell
- *Jacquemontia anomala* O'Donell
- *Cyperus anisitsii* Kük.
- *Eleocharis occidentalis* Mereles
- *Astraea aureomarginata* (Chodat & Hassl.) P.E.Berry
- *Bernardia leptostachys* Chodat & Hassl.
- *Caperonia altissima* Eskuche
- *Cnidoscolus leuconeurus* (Pax & K.Hoffm.) Pax & K.Hoffm.
- *Cnidoscolus pteroneurus* Fern.Casas
- *Croton chodatii* (Croizat) P.E.Berry
- *Croton integrilobus* Croizat
- *Croton perviscosus* Croizat
- *Croton yacaensis* Croizat
- *Euphorbia argillosa* Chodat & Hassl.

- *Euphorbia invaginata* Croizat
- *Manihot hassleriana* Chodat
- *Manihot pentaphylla* Pohl subsp. *graminifolia* (Chodat & Hassl.) D.J.Rogers & Appan
- *Sebastiania pachyphylla* Pax & K.Hoffm.
- *Tragia hassleriana* Chodat
- *Bauhinia amambayensis* Fortunato
- *Mimosa aureliana* Barneby & Fortunato
- *Mimosa chodatii* Hassl.
- *Mimosa dolens* Vell. subsp. *acerba* var. *pseudorigida* Barneby
- *Mimosa dolens* Vell. subsp. *rigida* var. *deterior* Barneby
- *Mimosa equisetum* Barneby
- *Mimosa leimonias* Barneby & Fortunato
- *Mimosa nitidula* Barneby
- *Mimosa paraguayana* Micheli var. *multiglandulosa* (Hassl.) Barneby
- *Mimosa paraguayana* Micheli var. *tomentosa* (Hassl.) Barneby
- *Tephrosia guaranitica* Chodat & Hassl.
- *Zornia fimbriata* Mohlenbr.
- *Sisyrinchium balansae* Baker
- *Sisyrinchium igatimiense* Ravenna
- *Sisyrinchium sinuosum* Ravenna
- *Sisyrinchium subtile* Ravenna
- *Salvia paraguayensis* Briq.
- *Spigelia beccabungoides* Kraenzl.
- *Galphimia amambayensis* C.E.Anderson
- *Mionandra paraguayensis* Chodat
- *Tetrapteryx hassleriana* Nied.
- *Luehea microcarpa* R.E.Fr. var. *polymorpha* Hassl.
- *Pavonia aurelii* Fryxell
- *Pavonia schininii* Krapov. & Cristóbal
- *Sida gracillima* Hassl.
- *Waltheria macrophylla* Hassl.
- *Miconia amambayensis* Kraenzl.
- *Rhynchanthera hassleriana* Kraenzl.
- *Rhynchanthera ternata* Cogn.
- *Tibouchina hassleri* Cogn.
- *Tibouchina rojasii* Cogn. var. *robusta* Cogn.
- *Tibouchina rojasii* Cogn. var. *rojasii* Cogn.
- *Anathallis bertonensis* (Hauman) Luer
- *Epidendrum rojasii* Cogn.
- *Pelexia collocaliae* Szlach.
- *Ponthieva hassleri* Schltr.
- *Pteroglossa magnifica* Szlach. Ex Szlach.
- *Sarcoglottis tirolensis* Burns-Bal. & M.S.Foster
- *Panicum longissimum* (Mez) Henrad
- *Poa pedersenii* Nicora
- *Apinagia guairaensis* Fiebrig
- *Coccocypselum monanthos* L.B.Sm. & Downs
- *Simira paraguayensis* (Standl.) Steyererm.
- *Anemia trichorrhiza* Gardner ex Hook. var. *paraguayensis* Hassl.
- *Selaginella parviarticulata* Buck
- *Cestrum hassleri* Francey
- *Lippia lamiana* (Moldenke) Moldenke
- *Hybanthus melchiorianus* Schulze-Mez

Taxa with two collections (Total 55)

- *Habranthus caaguazuensis* Ravenna
- *Habranthus philadelphicus* Ravenna
- *Nothoscordum macranterhrum* (Kuntze) Beauverd
- *Annona paraguayensis* R.E.Fr.
- *Eryngium rojasii* H.Wolff
- *Marsdenia altissima* (Jacq.) Dugand supsp. *faucinuda* Dugand
- *Oxypetalum acerosum* Malme
- *Oxypetalum ceratostemma* Malme
- *Chromolaena rojasii* (Hassl.) R.M.King. & H.Rob.
- *Eupatorium amambayense* Cabrera
- *Eupatorium areniscophilum* Cabrera
- *Tessaria dodoneifolia* (Hook. & Arn.) Cabrera
- *Viguiera simulans* S.F.Blake
- *Begonia obovatistipula* C.DC.
- *Begonia subvillosa* Klotzsch var. *leptotricha* (C.DC.) L.B.Sm. & Wassh.
- *Euploca margaritensis* (I.M.Johnst.) J.I.M. Melo & R.Degen
- *Dyckia velloziifolia* Mez
- *Dyckia virgata* Mez
- *Tillandsia esseriana* Rauh & L.B.Smith
- *Cleome guaranitica* (Chodat & Hassl.) Briq.
- *Evolvulus hasslerianus* Chodat
- *Ipomoea theodori* O'Donell
- *Bernardia simplex* Chodat & Hassl.
- *Caperonia paraguayensis* Pax & K.Hoffm.
- *Croton curuguayensis* Ahumada
- *Croton yerbalium* Chodat & Hassl.
- *Manihot mirabilis* Pax
- *Sebastiania longispicata* Pax & K.Hoffm.
- *Acacia amambayensis* Hassl.
- *Aeschynomene falcata* (Poir.) DC. var. *hassleri* Rudd
- *Aeschynomene histrix* Poir. var. *apana* Rudd
- *Aeschynomene magna* Rudd
- *Aeschynomene paraguayensis* Rudd
- *Copaifera laevis* Dwyer
- *Mimosa candelabrum* Hassl.
- *Mimosa custodis* Barneby
- *Mimosa tenuipendula* Burkart
- *Mimosa troncosoae* Fortunato & Barneby
- *Pomaria parviflora* (Micheli) B.B Simpson & G.P.Lewis
- *Sisyrinchium oxyspathum* Ravenna
- *Elaphoglossum hassleri* H.Christ.
- *Peixotoa floribunda* C.E.Anderson
- *Tetrapteryx hassleriana* Nied.
- *Bordasia bicornis* Krapov.
- *Pavonia aspera* Hassl.
- *Sida tapiraguensis* Krapov.
- *Tibouchina rojasii* Cogn.
- *Cranichis hassleri* Cogn.
- *Axonopus succulentus* G.A.Black
- *Polygala guaranitica* Chodat
- *Portulaca mucronata* Link.
- *Galianthe hassleriana* (Chodat) E.L.Cabral

- *Pouzolzia amambaiensis* Friis & Wilmot-Dear
- *Glandularia paraguariensis* (Moldenke) N.O'Leary
- *Lippia sandwithiana* Moldenke

Taxa with three collections (Total 51)

- *Achatocarpus brevipedicellatus* H.Walter
- *Achatocarpus hasslerianus* Heimerl
- *Alternanthera inaccessa* Pedersen
- *Gomphrena vitellina* Pedersen
- *Astephanus streptocarpus* E.Fourn.
- *Marsdenia paraguayensis* Morillo
- *Oxypetalum filamentosum* Malme
- *Baccharis amambayensis* Zardini & Soria
- *Dasyphyllum maria-lianae* Zardini & Soria
- *Lessigianthus concepcionis* M.B.Angulo & Dematteis
- *Mesanthophora brunneri* H.Rob.
- *Stevia amplexicaulis* Hassl.
- *Stevia rojasii* Hassl.
- *Verbesina caleaefolia* Cabrera
- *Begonia balansae* C.DC.
- *Parodia nigrispina* (K.Schum.) F.H.Brandt
- *Cleome chodatiana* H.H.Iltis
- *Evolvulus chamaepitys* Mart.
- *Ipomoea fiebrigii* O'Donell
- *Eleocharis canindeyuensis* Mereles & González
- *Erythroxyllum pachyneurum* O.E.Schulz
- *Bernardia hassleriana* Chodat
- *Cnidoscopus serrulatus* (Pax & K.Hoffm.) Pax & K.Hoffm.
- *Cnidoscopus tenuifolius* (Pax & K.Hoffm.) I.M.Johnst.
- *Croton berberifolius* Croizat
- *Croton senescens* Croizat
- *Tragia caperonioides* Pax & K.Hoffm.
- *Bauhinia estrellensis* Hassl.
- *Macropodium chacoensis* (Hassl.) S.Drewes & R.Palacios
- *Mimosa centurionis* Barneby
- *Mimosa iperoënsis* Hoehne var. *paradenia* Barneby
- *Cypela curuzupensis* Ravenna
- *Sisyrrinchium calathinum* Ravenna
- *Eriope crassipes* Benth subsp. *trichopoda* (Briq.) Harley
- *Salvia segtinophylla* Briq
- *Cienfuegosia conciliata* Krapov.
- *Pavonia rojasii* Hassl.
- *Sida pseudocymbalaria* (Hassl.) Hassl.
- *Leandra herincquiana* Cogn.
- *Epidendrum hassleri* Cogn.
- *Habenaria integripetala* Cogn.
- *Pelexia vaginata* (Cogn.) Schltr.
- *Vanilla bertonensis* Bertoni
- *Agalinis linarioides* (Cham.& Schltdl.) D'arcy subsp. *rojasii* Barringer
- *Oxalis sellowii* Spr. var. *alba* (Chodat) Lourt.
- *Piper asperilimum* C.DC.
- *Portulaca stellulato-tuberculata* Poelln.
- *Myrsine ligustrina* (Mez) Otegui

- *Rubus paraguariensis* (Chodat & Hassl.) Basulado & Zardini
- *Spermacoce viridiflora* Chodat
- *Lippia coriacea* Briq.

Taxa with four collections (Total 33)

- *Eryngium plantaginifolium* H.Wolff
- *Araujia hassleriana* (Malme) Fontella & Goyder
- *Bidens chodati* Hassl.
- *Calea formosa* Chodat
- *Calea rojasiana* Chodat
- *Pectis guaranitica* Chodat
- *Stevia apensis* B.L.Rob.
- *Verbesina guaranitica* Chodat
- *Vernonia cichoriiflora* Chodat
- *Vernonia platyphylla* Chodat
- *Vernonia valenzuelae* Chodat
- *Viguiera densifolia* Baker
- *Euploca cerroleonensis* (R.Degen) R.Degen
- *Dyckia tomentella* Mez
- *Dyckia vestita* Hassl.
- *Ipomoea chodatiana* O'Donell
- *Ipomoea cordillerae* J.R.I.Wood & Scotland
- *Ipomoea estrellensis* O'Donell
- *Ipomoea megalantha* J.R.I.Wood & Scotland
- *Ipomoea oblongifolia* (Hassl.) O'Donell
- *Jacquemontia turneroides* Hassl.
- *Eriocaulon caaguazuensis* Ruhland
- *Caperonia capiibariensis* Eskuche
- *Croton ramellae* Ahumada
- *Microstachys dasycarpa* Pschidt, Esser & Cordeiro
- *Mimosa morongii* Britton
- *Mimosa pseudopetiolaris* Barneby
- *Waltheria procumbens* J.G.Saunders & Soria
- *Eugenia corrientina* Barb.Rodr.
- *Eugenia rojasiana* (D.Legrand) Mattos
- *Oxalis benjaminii* Lourt.
- *Eragrostis triangularis* Henrad
- *Lippia aberrans* (Briq.)Tronc.

Taxa with five collections (Total 17)

- *Froelichia paraguayensis* Chodat
- *Gomphrena paranaensis* R.E.Fr. subsp. *paraguariensis* Pedersen
- *Oxypetalum rojasianum* Malme
- *Stevia ammotropha* B.L.Rob.
- *Trichogonia chodatii* (Hassl.) R.M. King & H.Rob.
- *Vernonia profusa* Dematteis & Cabrera
- *Dyckia insignis* Hassl.
- *Chamaecrista amambaya* (H.S.Irwin & Barneby) H.S Irwin & Barneby
- *Mimosa fiebrigii* Hassl.
- *Mimosa pedunculosa* Micheli
- *Salvia campicola* Briq.
- *Ayenia spinulosa* R.E.Fr.

- *Cienfuegosia integrifolia* (Chodat & Hassl.) Fryxell
- *Elionurus lividus* Hack.
- *Rhamnidium hasslerianum* Chodat
- *Galianthe canindeyuensis* E.L.Cabral
- *Staelia nelidae* R.M.Salas & E.L.Cabral