Heringeriana 14(2): 133-156. 2020.
http://revistas.jardimbotanico.ibict.br/
Jardim Botânico de Brasília

ISSN 1983-6996 Versão impressa
Heringeriana
ISSN 2359-165X Versão *on-line*

A preliminary vascular flora of the Monumento Natural Dom Bosco, Distrito Federal, Brazil

Karina Shizue G. Kubota[1], Leonardo Ferreira-Sousa[1], Maria das Graças M. de Souza[1], Claudenir S. Caires[2] & Carolyn E. Barnes Proença [1,3]

ABSTRACT: The area known as *Parque Ermida Dom Bosco* on the shores of the Paranoá Lake, 7.8 km from the centre of Brasília (Rodoviária do Plano Piloto), Distrito Federal, Brazil, is a preservation area of *Monumento Natural* category (since 2019), and one of the few protected areas of the Distrito Federal without a floristic list. Collecting focused on the vascular flora and was undertaken as monthly, 1-day events from August of 2017 to August of 2018. Our study identified 293 species, of which half (50%) were distributed among just seven botanical families: *Fabaceae* (42 species), *Asteraceae* (31 spp.), *Malpighiaceae* (19 spp.), *Myrtaceae* (19 spp.), *Lamiaceae* (14 spp.), *Poaceae* (12 spp.), and *Euphorbiaceae* (8 spp.), a result that is congruent with the known Cerrado flora. *Anemopaegma goyazense* (Bignoniaceae) was recorded from a protected area in the Distrito Federal for the first time; other regional species with narrow geographic distributions recorded were *Mimosa gatesiae* (*Fabaceae*), *Myrcia capitata* and *Myrcia federalis* (*Myrtaceae*).

Key words: *Anemopaegma*, cerrado, conservation unit, *Mimosa*, *Myrcia*, vascular plants.

RESUMO: (Flora Vascular preliminar do Monumento Natural Dom Bosco, Distrito Federal, Brasil). O local conhecido como Parque Ermida Dom Bosco, localizado nas margens do Lago Paranoá a 7.8 km do centro (Rodoviária do Plano Piloto) de Brasília, Distrito Federal, Brasil, é uma unidade de conservação da categoria Monumento Natural (desde 2019), e uma das poucas áreas do Distrito Federal sem lista florística. A coleta focou na flora vascular e foi na forma de eventos mensais de 1 dia, entre agosto de 2017 e agosto de 2018. Nosso estudo identificou 293 espécies, metade das quais (50%) distribuídas em apenas sete famílias: *Fabaceae* (42 espécies), *Asteraceae* (31 spp.), *Malpighiaceae* (19 spp.), *Myrtaceae* (19 spp.), *Lamiaceae* (14 spp.), *Poaceae* (12 spp.) e *Euphorbiaceae* (8 spp.), resultado congruente com a flora do cerrado. *Anemopaegma goyazense* (Bignoniaceae) foi registrada em uma unidade de conservação do Distrito Federal pela primeira vez; outras espécies regionais de distribuição geográfica restrita encontradas foram *Mimosa gatesiae* (*Fabaceae*), *Myrcia capitata* e *Myrcia federalis* (*Myrtaceae*).

Palavras-chave: *Anemopaegma*, cerrado, unidade de conservação, *Mimosa*, *Myrcia*, planta vascular.

[1] Departamento de Botânica, Instituto de Ciências Biológicas, Bloco D, Universidade de Brasília, *Campus* Darcy Ribeiro, Asa Norte, CEP: 70.910-900. Brasília, Distrito Federal, Brazil.

[2] Departamento de Ciências Naturais, Universidade Estadual do Sudoeste da Bahia, *Campus* Vitória da Conquista, Estrada do Bem-Querer, km 4.CEP: 45.083-900. Vitória da Conquista, Bahia, Brazil. ORCID: https://orcid.org/0000-0002-2012-5164

[3] Corresponding author. E-mail: cproenca@unb.br, ORCID: https://orcid.org/0000-0002-8924-2692

The *Cerrado* is the second largest Brazilian biome, occupying 21% of the country's territory and most of central Brazil (Klink & Machado 2005). The phytogeographical region of the *Cerrado* has long been known to have a seasonal climate, with well-defined dry and wet seasons (Warming & Ferri 1973) that have contributed to shape its genesis (Pinheiro & Monteiro 2010). The vegetation types of the biome form a mosaic of ecosystems with very distinct characteristics, that is however dominated by savannas in which trees and shrubs coexist with an herbaceous vegetation dominated by grasses (Eiten 1978, Ribeiro & Walter 2008). These vegetation types differ mainly by the dominance of certain plant habits over others, soil composition, canopy density, humidity, association with water flow and other factors (Ribeiro & Walter 2008). Floristic formations of savannas, grasslands and forests exist in the *Cerrado* Biome (Ribeiro & Walter 2008) that create a heterogeneity of habitats that permit the coexistence of a high number of species. There are more than 12,700 species of vascular plants in the *Cerrado* biome (Flora do Brasil 2020 under construction 2020) suggesting that the statement that it is the most biodiverse savanna in the world (Klink & Machado 2005, Rapini *et al.* 2009) still stands. A considerable portion of its flora is endemic: around 44% of angiosperms and 70% of herbaceous plants in general (Machado *et al.* 2008). The *Cerrado* is also vital for Brazil's water resources, since in this biome many of the country's greatest rivers have their headwaters, and some of their main tributaries (Lima 2011).

Despite its large area (Figure 1), in 2009 it was estimated that at least 39% of the *Cerrado*'s area had been replaced by pastures, urban areas and farmland cultivation, possibly more, since due to limitations on the Landsat ETM satellite, it was not possible to infer the degree of anthropization in the areas considered natural by the satellite (Sano *et al.* 2009). There is a previous estimate that only 16.77% of *Cerrado's* original coverage is still pristine (Mantovani & Pereira 1998). Therefore, even the areas that still have original vegetation suffer the effects of water pollution, agrotoxins, the presence of invasive plants that threaten the herbaceous layer and the effects of climate change (Reatto *et al.* 1998, Bustamante *et al*. 2012). For these reasons, and for its high degree of endemism, the *Cerrado* was considered one of the world hotspots of biodiversity by Myers *et al.* (2000); approximately 8% of its remaining area is protected in preservation areas of total protection (MMA 2018). This strengthens the importance of floristic surveys within the *Cerrado* to increase knowledge of its vegetation and contribute to its conservation.

The *Monumento Natural Dom Bosco* is on the shores of the Paranoá Lake, roughly 7.8 km from the center of Brasília (Rodoviária do Plano Piloto), Distrito Federal, Brazil (Figure 2). It is a preservation area of the *Monumento Natural* (Natural Monument) category with approximately 131 ha. The Natural Monument category indicates that it is a full protection preservation area, in an area of great scenic beauty or otherwise striking or unusual; it can be open to the public if its management plan allows it (MMA 2018). It is also completely inserted within the *Área de Proteção Ambiental (APA)* of Lake Paranoá, created by the district decree 12.055, in 1989, for the preservation of remnants of the natural ecosystem of the Paranoá watershed (Assunção & Felfili 2004). The park has a center of environmental education, a snack bar, ample parking space, nature trails, architectural

monuments and many lookouts to the Paranoá Lake. Mixing environmental education, ecotourism and leisure, it seeks to bring to light the beauty and importance of the *Cerrado* to its visitors (Coelho 2004).

The Distrito Federal is the region of the *Cerrado* biome with the most well-known flora; there are 189 families and 3868 species of vascular plants currently recorded (Flora do Brasil 2020 under construction 2020). The occasional new records of species that still appear indicate, however, that it is not yet complete. The objective of this work was to complement the floristic knowledge of the Distrito Federal with a survey of the vascular plants of the Park, one of the few preserved areas of the Distrito Federal that does not have a species list.

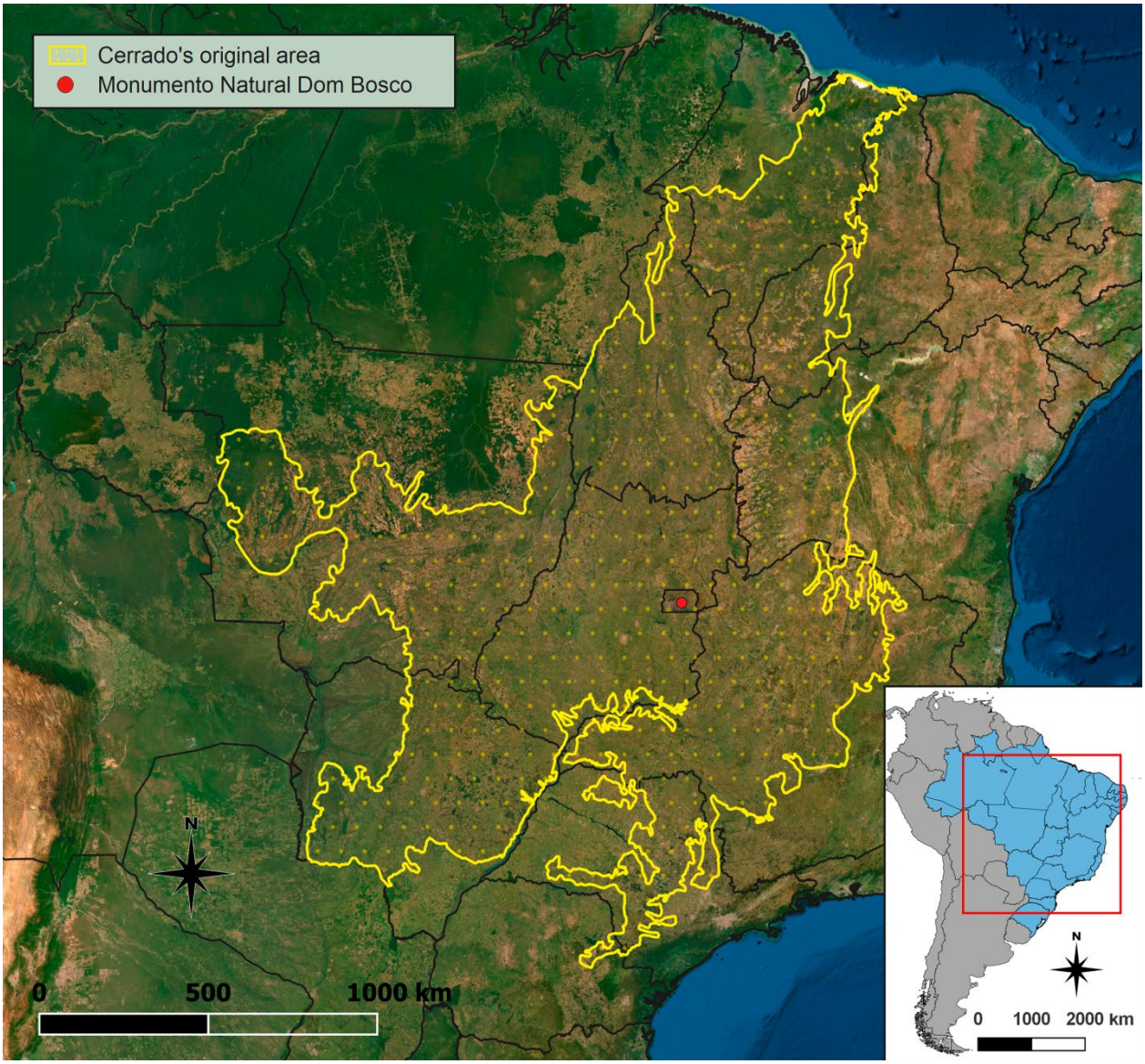

Figure 1. The small map of South America in the lower right-hand corner shows Brazil in blue and the area covered by the large map with a red border. Large map shows forest coverage in green.

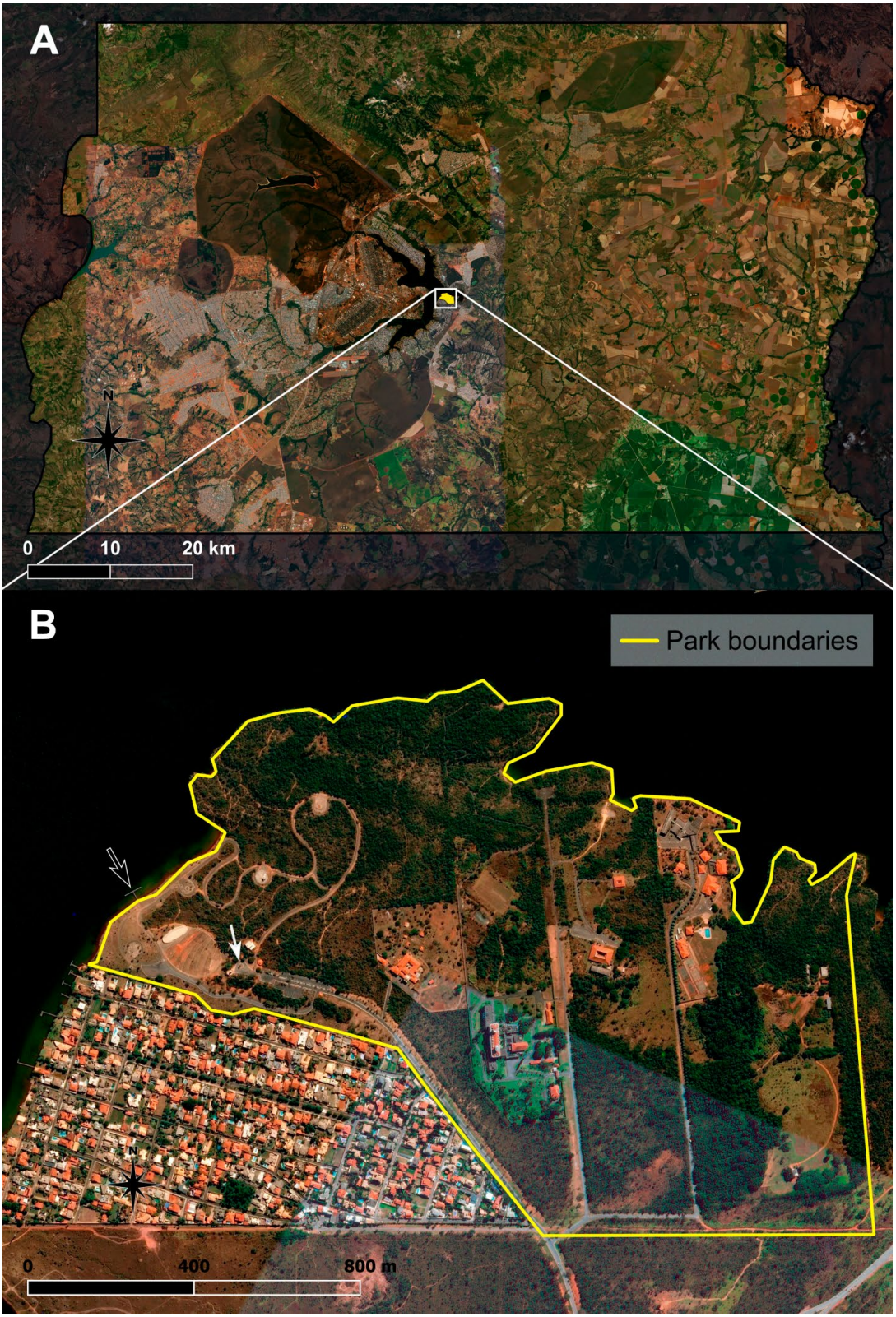

Figure 2. A. Map of the Federal District, Brasília, Brazil, showing the *Monumento Natural Dom Bosco* highlighted in yellow. **B**. *Monumento Natural Dom Bosco* showing the park boundaries; the white arrow points to the chapel and the black arrow points to the Paranoá Lake deck, respectively starting point and end point of the two circular trails; areas in black are the Paranoá Lake.

MATERIAL AND METHODS

Pioneer collections

The first botanical collection from the *Ermida* region happened in 1968 (before the founding of the Park), a specimen of *Myrcia goyazensis* Cambess. made by botanist Ezequias Paulo Heringer. Between the years of 1968 and 1986 only ten collections of assorted families were registered from the Ermida region, made during sporadic visits.

More substantial collections were made between 1995 and 2001. The first was undertaken by author Carolyn Proença and Leslie Landrum (herbarium ASU), as a 1 day visit in September of 1995, where the focus was on the *Myrtaceae*, and the second one by Glocimar Pereira da Silva (herbarium CEN) with a generalist floristic focus, registering 22 samples of various families. In 2016 there was a 2 day collecting trip, coordinated by author Carolyn Proença with a class of 15 undergraduate students during a course in *Cerrado* Vegetation, offered by the University of Brasilia, with authorization from the Institute of Environment and Water Resources of Distrito Federal (IBRAM), resulting in 53 specimens of various families.

These pioneer collections are stored mainly in Embrapa Genetic Resources and Biotechnology (Herbarium CEN, 105 collections) and in the University of Brasilia (Herbarium UB, 104 collections) with a total of 268 collections as some are duplicated.

Floristic survey

Collecting days for the current study were monthly, starting in August of 2017 and ending in August of 2018. The collections followed traditional methods (Filgueiras *et al.* 1994) mainly along the main circular trails in the park (see arrows in Figure 2). Plants were collected when fertile, i.e., with spores, floral buds, flowers or fruit. Collecting days lasted a few hours and were formed by groups of two or three collectors (in which one or two authors of the study were always present), resulting in an average of twenty collected specimens per day. Between September 2018 and December 2019 sweep collections were made in which all hitherto unrecorded species known to the authors were recorded or collected even if vegetative, to obtain a more complete vouchered list of the Park's flora. Collections that predated our fieldwork had their names revised.

Plants were identified with the help of stereoscopic microscopes, specialized literature and comparison with herbarium specimens identified by specialists in the UB herbarium. Some samples were identified directly by specialists (see Acknowledgements).

Voucher material and data presentation

The material collected during the study is stored in the Herbarium of the University of Brasilia (UB) which was enriched with 143 new collections made in the Park. For the Check-list (Table 1) the most recent sample of each species was selected as the voucher specimen. Scientific names follow Flora do Brasil 2020 under construction (2020). Distributional categories in Table 1 were obtained by consulting Flora do Brasil 2020 under construction (2020) and classifying as follows: species that occur out of Brazil and were widely distributed in the country were classified as W (Widespread); species that were widespread but endemic to Brazil were classified as B (Brazilian Endemic); species that were

restricted to the *Cerrado* biome (in Brazil, Paraguay or Bolivia) were classified as C (*Cerrado* Endemic). Species that were restricted to *Cerrado* highland areas in the Distrito Federal and Goiás were classified as H (Highland Endemic). Occurrences in other preservation areas in the Distrito Federal were obtained from Proença et al. (2001), Species Link (http://www.splink.org.br accessed November 2020) and Salles (2007). Maps were created with QGIS v. 2.4 (QGIS Development Team 2019) using Google Earth images.

RESULTS AND DISCUSSION

The *Ermida Dom Bosco* shows two main vegetation types. The first is *cerrado sensu stricto*, which is the dominant savanna vegetation type. The second, present on the higher terrain, where there are exposed rocks and slopes, is rocky *cerrado* where there were fewer, smaller trees and more shrubs and subshrubs. In the areas in contact with the lake's edge, where the soil is poorly drained and humid, there are a few pockets of forest with closed canopies that we believe to be secondary since the Paranoá Lake is artificial.

We identified 304 species of vascular plants in the *Ermida Dom Bosco*, in 68 botanical families (Table 1); five collections were identified only to genus. Half (50%) of the recorded species were distributed among seven botanical families: *Fabaceae* (42 species), *Asteraceae* (31 spp.), *Malpighiaceae* (19 spp.), *Myrtaceae* (19 spp.), *Lamiaceae* (14 spp.), *Poaceae* (12 spp.), and *Euphorbiaceae* (11 spp.) (Figure 3). This is congruent with the flora recorded in other areas of *cerrado sensu stricto*, with more species in the Fabaceae and Asteraceae families than any other family – it is worth noting that these are also the two largest botanical families in Brazil, with around 3,200 and 1,900 species respectively estimated (Giulietti *et al.* 2005); nominal, accepted species listed in Flora do Brasil 2020 in construction (2020) were 2,998 and 2,177 respectively. The five genera presenting greatest species richness were: *Eugenia* (*Myrtaceae*) with 9 spp, *Myrcia* (*Myrtaceae*) with 8 spp., *Mimosa* (*Fabaceae*) with 7 spp., and *Byrsonima* (*Malpighiaceae*) and *Miconia* (*Melastomataceae*) both with 6 spp. In total, 130 samples were added to the *Ermida Dom Bosco* collections.

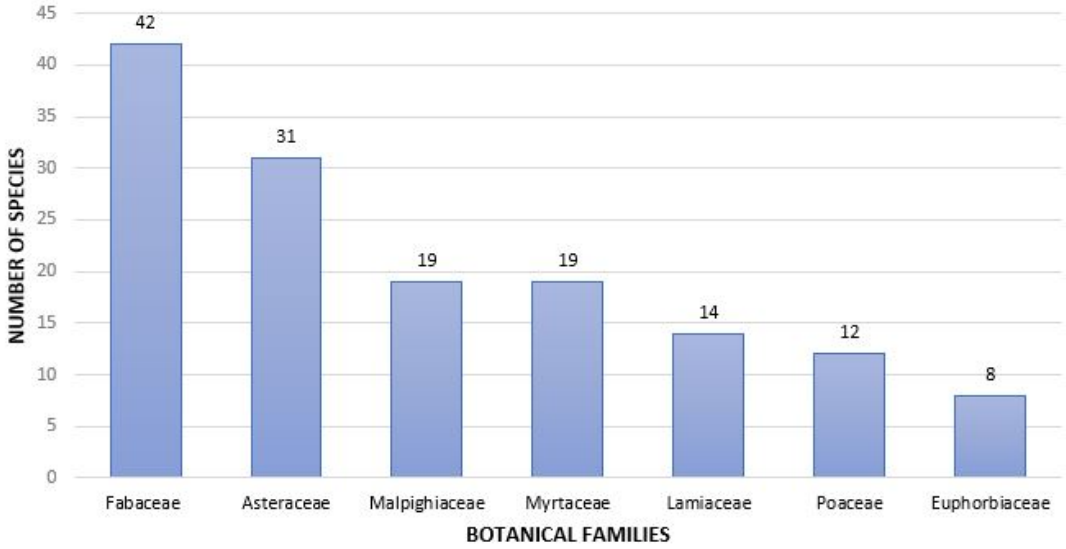

Figure 3. Most species-rich botanical families in the *Monumento Natural Dom Bosco*, Distrito Federal, Brazil.

Table 1. List of the vascular plants in the *Monumento Natural Dom Bosco*, Brasília, Distrito Federal, Brazil. **Endemism**: **W** = widespread; **B** = endemic to Brazil; **C**= endemic to the *Cerrado* biome; **H** = endemic to highlands of the DF or DF and Goiás. Preservation areas = AEM = Reserva Biológica de Águas Emendadas; FAL= Fazenda Água Limpa; IBG= Reserva Ecológica do IBGE; JBB= Jardim Botânico de Brasília; GAM= Parque Ecológico do Gama; GUA= Reserva Ecológica do Guará; PNB= Parque Nacional de Brasília.

Families/*Species*	**Endemism;** Preservation Areas with records	Voucher (Herbaria) *
	FERNS	
CYATHEACEAE		
Cyathea sp.		Ferreira-Sousa *et al.* 10 (UB)
GLEICHENIACEAE		
Dicranopteris flexuosa (Schrad.) Underw.	**W**; FAL, IBG, JBB	Ferreira-Sousa et al. 14 (UB)
Gleichenella pectinata (Willd.) Ching	**W**; FAL, GAM, GUA, IBG, PNB	Ferreira-Sousa et al. 5 (UB)
PTERIDACEAE		
Pityrogramma calomelanos (L.) Link	**W**; AEM, GAM, IBG, JBB	Ferreira-Sousa & Kubota 12 (UB)
THELYPTERIDACEAE		
Amauropelta opposita (Vahl) PIc. Serm.	**W**; PNB	Ferreira-Sousa et al. 6 (UB)
Meniscium arborescens Humb. & Bonpl. ex Willd.	**W**; IBG	Ferreira-Sousa et al. 7 (UB)
Meniscium longifolium Desv.	**W**; FAL, GAM, PNB	Ferreira-Sousa & Kubota 11 (UB)
	ANGIOSPERMS	
ACANTHACEAE		
Justicia chrysotrichoma (Nees) Benth.	**BCH**; AEM, GUA, JBB, PNB	Faria *et al.*8963 (HEPH)
Justicia lanstyakii Rizzini	**BC**; AEM, FAL, GAM, JBB, PNB	Proença *et al.* 5419 (UB)
Justicia sarothroides Lindau	**BCH**; AEM, FAL, IBG, JBB, PNB	Sinigaglia 9 (CEN)
Justicia sericographis V.A.W.Graham	**B**; AEM, FAL, GAM, JBB, PNB	Sinigaglia 11 (CEN)
Lepidagathis cyanea (Leonard) Kameyama	**BC**; AEM, FAL, IBG, JBB, PNB	Kubota *et al.* 108 (UB)
Ruellia hapalotricha Lindau	**BC**; FAL, JBB, PNB	Villar *et al.* 18 (CEN, UB)
Ruellia incomta (Nees) Lindau	**B**; AEM, FAL, IBG, GAM, JBB, PNB	Sinigaglia 8 (CEN)
Ruellia nitens (Nees) Wassh.	**B;** IBG, PNB	Sinigaglia 10 (CEN)
AMARANTHACEAE		
Pfaffia denudata (Moq.) Kuntze	**BC**; FAL, IBG, GAM, JBB	Kubota *et al.* 117 (UB)
ANNONACEAE		

Families/*Species*	**Endemism;** Preservation Areas with records	Voucher (Herbaria) *
Annona crassiflora Mart.	**W**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	Pereira-Silva 5450 (CEN, HUTO)
Annona monticola Mart.	**W**; FAL, GUA, IBG, JBB, PNB	FMM 00052
Annona tomentosa R.E.Fr.	**W**; AEM, FAL, GAM, IBG, JBB, PNB	FMM 00062
Duguetia furfuracea (A.St.-Hil.) Saff.	**W**; AEM, FAL, GUA, IBG, JBB, PNB	Kubota 4 (UB)
APOCYNACEAE		
Aspidosperma macrocarpon Mart. & Zucc.	**W**; AEM, FAL, GAM, IBG, JBB, PNB	Kubota 6 (UB)
Aspidosperma tomentosum Mart.	**WC**; AEM, FAL, GUA, GAM, IBG, JBB, PNB	Observation by author CEBP (no voucher)
Hancornia speciosa Gomes	**W**; AEM, FAL, GAM, IBG, JBB	Kubota 33 (UB)
Himatanthus obovatus (Müll. Arg.) Woodson	**W**; AEM, FAL, GUA, IBG, JBB, PNB	FMM 00094
Mandevilla longiflora (Desf.) Pichon	**W**; AEM, FAL, IBG, JBB	Pereira-Silva 5463 (CEN, UEC)
Mandevilla novocapitalis Markgr.	**BC**; AEM, FAL, GAM, GUA, IBG, JBB	FMM 00112
Odontadenia lutea (Vell.) Markgr.	**W**; AEM, FAL, GAM, IBG, JBB	Proença *et al.* 5260 (UB)
Secondatia sp.		Proença *et al.* 5497 (UB)
ARALIACEAE		
Didymopanax macrocarpus (Cham. & Schltdl.) Seem.	**B**; AEM, FAL, GAM, IBG, JBB, PNB	FMM 00146
ARECACEAE		
Syagrus comosa (Mart.) Mart.	**W**; FAL, GAM, IBG, JBB, PNB	FMM 00155
Syagrus glazioviana (Dammer) Becc.	**BC**; AEM, FAL,GAM, GUA, IBG, JBB, PNB	Pereira-Silva 5451 (CEN)
ARISTOLOCHIACEAE		
Aristolochia labiate Willd.	**W**; GAM, IBG, JBB, PNB	Proença *et al.* 5502 (UB)
ASTERACEAE		
Achyrocline satureioides (Lam.) DC.	**W**; INVASIVE*	Kubota 21 (UB)
Aldama grandiflora (Gardner) E.E.Schill. & Panero	**BC**; FAL; IBG; JBB	Kubota *et al.* 73 (UB)
Aldama kunthiana (Gardner) E.E.Schill. & Panero	**BC**; FAL, GUA, IBG; JBB, PNB	Pereira-Silva 5483 (CEN, HUFU)
Ayapana amygdalina (Lam.) R.M.King & H.Rob.	**W**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	Sinigaglia *et al.* 7 (CEN, HUFU)
Baccharis reticularia DC.	**B**	Vieira 2464 (CEN, HUFU)
Baccharis retusa DC.	**B**; IBG, JBB	FMM 00166
Calea quadrifolia Pruski & Urbatsch	**BC**; FAL, GAM, JBB	Kubota *et al.*110 (UB)

Families/*Species*	**Endemism;** Preservation Areas with records	Voucher (Herbaria) *
Calea sickii (G.M.Barroso) Urbatsch *et al.*	**BCH**; FAL, GAM, IBG, JBB	Proença *et al.* 5258 (UB)
Chresta curumbensis (Philipson) H.Rob.	**BC**; GAM, IBG, JBB	Kubota 77 (UB)
Chresta exsucca DC.	**WC**; PNB	Heringer 13897 (UEC)
Chresta scapigera (Less.) Gardner	BC; FAL, IBG, JBB	Armando 18 (UB)
Chresta sphaerocephala DC.	**B**; AEM, FAL, GUA, IBG, JBB, PNB	Heringer 13904 (UEC, UB)
Chromolaena stachyophylla (Spreng.) R.M.King & H.Rob.	**W**; FAL, GAM, GUA, IBG, JBB	Kubota *et al.* 60 (UB)
Chrysolaena obovata (Less.) Dematt.	**WC**; FAL, IBG, JBB, PNB	Kubota 23 (UB)
Dasyphyllum sp.		Kubota 14 (UB)
Dimerostemma humboldtianum (Gardner) H.Rob.	**BCH**; JBB	Pereira-Silva 5452 (CEN)
Echinocoryne holosericea (Mart. ex DC.) H.Rob.	**BC**; FAL, GAM, IBG, JBB	Rodrigues *et al.* 211 (CEN, HUFU)
Elephantopus biflorus (Less.) Sch.Bip.	**B**; FAL, IBG, JBB	Vidal 77 (HEPH)
Elephantopus mollis Kunth	**W**; INVASIVE	Proença *et al.* 5268 (UB)
Eremanthus goyazensis (Gardner) Sch.Bip.	**BC**; AEM, FAL, GAM, IBG, JBB, PNB	Proença *et al.* 5266 (UB)
Eremanthus mollis Sch.Bip.	**BC**; FAL, GAM, IBG, JBB	Proença *et al.* 5271 (UB)
Ichthyothere latifolia Baker	**BC**; AEM, FAL, IBG, JBB, PNB	FMM 00247
Lepidaploa aurea (Mart. ex DC.) H.Rob.	**B**; GAM, IBG, JBB, PNB	Kubota *et al.* 52 (UB)
Lepidaploa rufogrisea (A.St.-Hil.) H.Rob.	**BC**; FAL, GAM, IBGE, JBB, PNB	Kubota *et al.* 53 (UB)
Lessingianthus ammophilus (Gardner) H.Rob.	**B**; IBGE	Proença *et al.* 5281 (UB)
Lessingianthus buddleiifolius (Mart. ex DC.) H.Rob.	**BC**; GUA, JBB, PNB	Kubota *et al.* 97 (UB)
Stomatanthes dentatus (Gardner) H.Rob.	**BC**	Pereira-Silva 5449 (CEN)
Trichogonia salviifolia Gardner	**W**; FAL, GAM, GUA, IBG, JBB	Kubota 87 (UB)
Trixis glutinosa D.Don	**BC**; FAL, GAM, IBG, JBB	FMM 00259
Vernonanthura rubriramea (Mart. ex DC.) Loeuille & P.N. Soares	**B**; FAL, GAM, IBG, JBB, PNB	Proença *et al.* 5238 (UB)
Wedelia bishopii H.Rob.	**BC**; FAL, GAM, IBG, JBB, PNB	FMM 00254
BIGNONIACEAE		
Anemopaegma goyazense K.Schum.	**BC**	Kubota *et al.* 68 (UB)
Cuspidaria sceptrum (Cham.) L.G.Lohmann	**WC**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	Proença *et al.* 5265 (UB)

Families/*Species*	**Endemism;** Preservation Areas with records	Voucher (Herbaria) *
Fridericia platyphylla (Cham.) L.G.Lohmann	**W**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	FMM 00358
Handroanthus ochraceus (Cham.) Mattos	**W**; AEM, FAL, IBG, JBB, PNB	Observation by author CEBP (no voucher)
Handroanthus coronatus (Proença & Farias) Farias	**BCH**	Faria & Paz 8487 (UB)
Jacaranda brasiliana (Lam.) Pers.	B; IBG, CULTIVATED?	Proença *et al.* 5493 (UB)
Jacaranda ulei Bureau & K.Schum.	**BC**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	Proença *et al.* 5231 (UB)
Zeyheria montana Mart.	**B**; AEM, FAL, GAM, IBG, JBB, PNB	FMM 00376
BIXACEAE		
Cochlospermum regium (Mart. ex Schrank) Pilg.	**W**; FAL, GAM, IBG, JBB	Santos 246 (UB)
BORAGINACEAE		
Euploca salicoides (Cham.) J.I.M.Melo & Semir	**W**; FAL, IBG, PNB	Chacon 89 (CEN)
BURSERACEAE		
Protium ovatum Engl.	**B**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	Proença *et al.* 5259 (UB)
CALOPHYLLACEAE		
Calophyllum brasiliense Cambess.	**W**; AEM, GAM, IBG, JBB, PNB	Proença *et al.* 5495 (UB)
Kielmeyera coriacea Mart. & Zucc.	**W**; AEM, FAL, GAM, IBG, JBB, PNB	FMM 00409
Kielmeyera corymbosa Mart. & Zucc.	**BC**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	Silva *et al.* 5576 (UEC)
Kielmeyera rubriflora Cambess.	**WC**; FAL, IBG	Proença *et al.* 5263 (UB)
CANNABACEAE		
Trema micrantha (L.) Blume	**W**; AEM, IBG, JBB, PNB	Kuhlmann *et al.* 292 (HEPH, UB)
CELASTRACEAE		
Tontelea micrantha (Mart.) A.C. Sm.	**W**; AEM, FAL, GAM, JBB, PNB	Proença *et al.* 5425 (UB)
CHRYSOBALANACEAE		
Hirtella glandulosa Spreng.	**W**; AEM, IBG, FAL, GAM, JBB	Proença *et al.* 5501 (UB)
COMBRETACEAE		
Terminalia fagifolia Mart.	**W**; AEM, FAL, GAM, IBGE, JBB; PNB	Kubota *et al.* 61 (UB)
CONNARACEAE		
Connarus suberosus Planch.	**WC**; AEM, FAL, GAM, IBG, JBB, PNB	FMM 00509
CONVOLVULACEAE		

Families/*Species*	**Endemism;** Preservation Areas with records	Voucher (Herbaria) *
Distimake tomentosus (Choisy) Petrongari & Sim.	**BC**; FAL, GAM, IBG, JBB	FMM 00473
Ipomoea pinifolia Meisn.	**BC**; FAL, IBG	Sinigaglia 16 (CEN)
Ipomoea squamisepala O'Donell	**WC**; AEM, FAL, GAM, IBG	Kubota *et al.* 112 (UB)
CUCURBITACEAE		
Cayaponia espelina (Silva Manso) Cogn.	**W**; AEM, FAL, IBG, JBB, PNB	FMM 00480
Melothria campestris (Naudin) H.Schaef. & S.S.Renner	**WC**; AEM, GUA, IBG, JBB	Observation by author CEBP (no voucher)
CYPERACEAE		
Bulbostylis paradoxa (Spreng.) Lindm.	**W**; AEM, FAL, GAM, GUA, IBG, JBB	Kubota *et al.* 111 (UB)
Cyperus sp.		Kubota *et al.* 92 (UB)
Rhynchospora exaltata Kunth	**W**; AEM, FAL, GAM, IBG, JBB	FMM 00492
Rhynchospora holoschoenoides (Rich.) Herter	**W**; GAM, IBG, PNB	Kubota *et al.* 84 (UB)
Rhynchospora pilosa Boeckeler	**B**; JBB	FMM 00497
Rhynchospora speciosa (Kunth) Boeckeler	**BC**; GUA, JBB	Kubota *et al.* 67 (UB)
Rhynchospora terminalis Nees ex Steud.	**W**; FAL, IBG, JBB	Pereira-Silva 5438 (CEN)
DILLENIACEAE		
Davilla elliptica A.St.-Hil.	**WC**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	Proença *et al.* 5256 (UB)
ERIOCAULACEAE		
Paepalanthus chiquitensis Herzog	**W**; FAL, GUA, IBG, JBB, PNB	FMM 00530
ERYTHOXILACEAE		
Erythroxylum campestre A.St.-Hil.	**W**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	Kubota *et al.* 69 (UB)
Erythroxylum tortuosum Mart.	**WC**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	Kubota 2 (UB)
EUPHORBIACEAE		
Bernardia hirsutissima (Baill.) Müll.Arg.	**BC**; FAL, IBG, JBB	Pereira-Silva 5473 (CEN, SP)
Croton didrichsenii G.L.Webster	**W**; AEM, GUA, IBG, JBB, PNB	Pereira-Silva 5479 (CEN)
Dalechampia caperonioides Baill.	**BC**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	Rodrigues 208 (CEN)
Euphorbia potentilloides Boiss.	**W**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	Pereira-Silva 5454 (CEN, SP)
Manihot sparsifolia Pohl	BCH; GAM	Pereira-Silva 5472 (SP)

Families/*Species*	**Endemism;** Preservation Areas with records	Voucher (Herbaria) *
Manihot violacea Pohl	**BC**; AEM, FAL	Farinasso *et al.* 4 (UB)
Maprounea guianensis Aubl.	**W**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	FMM 00575
Microstachys ditassoides (Didr.) Esser	**WC**; FAL, GAM, IBG	Pereira-Silva 5469 (CEN, HUEFS, S)
FABACEAE		
Aeschynomene paniculata Willd. ex Vogel	**W**; GAM, IBG, JBB	FMM 00642
Ancistrotropis firmula (Mart. ex Benth.) A. Delgado	**W**; AEM, IBG, PNB	Sinigaglia 18 (CEN)
Andira humilis Mart. ex Benth.	**B**; AEM, FAL, IBG, JBB, PNB	Pereira 1329 (UEC)
Andira vermifuga (Mart.) Benth.	**W**; AEM, GAM, IBG, JBB	Pereira-Silva 5442 (CEN)
Bauhinia dumosa Benth.	**BC**; AEM, FAL, IBG, JBB	FMM 00578
Bionia coriacea (Nees & Mart.) Benth.	**B**; AEM, FAL	FMM 00662
Bowdichia virgilioides Kunth	**W**; AEM, FAL, GAM, IBG, JBB, PNB	Observation by author CEBP (no voucher)
Calliandra dysantha Benth.	**W**; AEM, FAL, GAM, IBG, JBB, PNB	Kubota *et al.* 50 (UB)
Camptosema scarlatinum (Mart. ex Benth.) Burkart	**W**; IBG. JBB	Vidal 71 (HEPH)
Centrosema bracteosum Benth.	**W**; AEM, IBG, JBB, PNB	FMM 00669
Chamaecrista brachyrachis (Harms) H.S.Irwin & Barneby	**BC**; IBG, JBB	Proença & Harris 5297 (UB)
Chamaecrista claussenii (Benth.) H.S.Irwin & Barneby	**BC**; AEM, GAM, IBG, JBB, PNB	Pereira-Silva 5488 (CEN)
Chamaecrista conferta (Benth.) H.S.Irwin & Barneby	**B**; AEM, FAL, IBG, JBB	Vidal 78 (HEPH)
Chamaecrista desvauxii (Collad.) Killip	**W**; AEM, FAL, GAM, IBGE, JBB, PNB	Vidal 80 (HEPH)
Chamaecrista orbiculata (Benth.) H.S.Irwin & Barneby	**B**; AEM, FAL, IBG, JBB, PNB	Kubota 25 (UB)
Clitoria guianensis (Aubl.) Benth.	**W**; AEM, FAL, IBG, JBB	Kubota *et al.* 71 (UB)
Copaifera langsdorffii Desf.	**W**; AEM, FAL, GUA, IBG, JBB, PNB	Proença *et al.* 5490 (UB)
Crotalaria flavicoma Benth.	**B**; AEM, FAL, GAM, IBG, JBB, PNB	FMM 00685
Crotalaria unifoliolata Benth.	**BC**; AEM, FAL, IBG, JBB	FMM 00691
Desmodium platycarpum Benth.	**WC**; FAL, IBG, JBB	Pereira-Silva 5482 (CEN)
Enterolobium gummiferum (Mart.) J.F.Macbr.	**B**; AEM, FAL, GAM, IBG, JBB, PNB	Pereira-Silva 5462 (CEN)
Eriosema crinitum (Kunth) G.Don	**W**; FAL, GAM, IBG	Pereira-Silva 5441 (CEN)
Eriosema glaziovii Harms	**BCH**; AEM, IBG, JBB	Proença *et al.* 5249 (UB)

Families/*Species*	**Endemism;** Preservation Areas with records	Voucher (Herbaria) *
Erythrina sp.		Proença *et al.* 5488 (UB)
Galactia peduncularis (Benth.) Taub.	**BC**; AEM, FAL, IBG, JBB, PNB	Kubota *et al.* 66 (UB)
Hymenaea stigonocarpa Mart. ex Hayne	**W**; AEM, FAL, GAM, IBG, JBB, PNB	FMM 00624
Inga vera Willd.	**W**; IBG, JBB,	Proença *et al.* 5496 (UB)
Leptolobium dasycarpum Vogel	**WC**; AEM, FAL, GAM, IBG, JBB, PNB	Proença *et al.* 5498 (UB)
Mimosa claussenii Benth.	**BC**; AEM, FAL, GAM, IBG, JBB, PNB	Kubota *et al.* 93 (UB)
Mimosa debilis Humb. & Bonpl. ex Willd.	**W**; IBG, JBB	Kubota *et al.* 78 (UB)
Mimosa gatesiae Barneby	**BCH**;	Proença *et al.* 5239 (UB)
Mimosa gracilis Benth.	**B**; AEM, FAL, GAM, IBG, JBB, PNB	Kubota *et al.* 113 (UB)
Mimosa lanuginosa Glaz. ex Burkart	**BCH**; AEM, FAL, GAM, IBG, JBB, PNB	Faria & Paz 8780 (HEPH)
Mimosa pseudoradula Glaz. ex Barneby	**BCH**; FAL, IBG, JBB	Proença *et al.* 5423 (UB)
Mimosa somnians Humb. & Bonpl. ex Willd.	**W**; FAL, IBG, JBB	FMM 01649
Peltophorum dubium (Spreng.) Taub.	**W**; CULTIVATED	Kubota *et al.* 80 (UB)
Periandra mediterranea (Vell.) Taub.	**W**; AEM, FAL, GAM, IBG, JBB	Vidal 81 (HEPH)
Poiretia coriifolia Vogel	**BC**; AEM, PNB	Proença *et al.* 5244 (UB)
Pterodon emarginatus Vogel	**W**; AEM, JBB	Observation by author CEBP (no voucher)
Senna rugosa (G.Don) H.S.Irwin & Barneby	**W**; FAL, GAM, IBG, JBB, PNB	Proença *et al.* 5242 (UB)
Stylosanthes sp.		Kubota *et al.* 95 (UB)
Stylosanthes viscosa (L.) Sw.	**W**; IBG, JBB	FMM 00761
GENTIANACEAE		
Calolisianthus speciosus (Cham. & Schltdl.) Gilg	**BC**; AEM, FAL, GAM, IBG, JBB	Sinigaglia 14 (UB)
Deianira chiquitana Herzog	**W**; FAL, GAM, GUA, IBG, JBB	Kubota *et al.* 120 (UB)
IRIDACEAE		
Sisyrinchium luzula Klotzsch ex Klatt	**W**; IBG, JBB	Pereira-Silva 5486 (UB)
Sisyrinchium vaginatum Spreng.	**W**; FAL, GAM, IBG, JBB	FMM 00863
Pseudotrimezia juncifolia (Klatt) Lovo & A.Gil	**B**; FAL, GAM, IBG, JBB	Dias *et al.* 628 (CEN, UB,)
LAMIACEAE		
Cyanocephalus rugosus (Benth.) Harley & J.F.B.Pastore	**W**; AEM, FAL, JBB, PNB	Pereira-Silva 5439 (CEN)
Eriope crassipes Benth.	**WC**; FAL, GAM, IBG, JBB, PNB	Pereira-Silva 5485 (CEN)

Families/*Species*	**Endemism;** Preservation Areas with records	Voucher (Herbaria) *
Gymneia ampelophylla (Epling) Harley & J.F.B.Pastore	**BC**; PNB	Pastore 2560 (CEN)
Hypenia densiflora (Pohl ex Benth.) Harley	**BC**; AEM, IBG, JBB	FMM 00893
Hypenia macrantha (A.St.-Hil. ex Benth.) Harley	**B**; FAL, IBG, JBB, PNB	FMM 00895
Hyptidendron canum (Pohl ex Benth.) Harley	**WC**; FAL, GAM, IBG, JBB	Proença *et al.* 5499 (UB)
Hyptis hilarii Benth.	**BCH**; IBG, JBB	Pastore 2561 (CEN, HUEFS)
Hyptis microphylla Pohl ex Benth.	**W**;	Pastore 2564 (HUEFS)
Hyptis villosa Pohl ex Benth.	**WC**; FAL, GAM, IBG, JBB	Pastore 2559 (CEN, HUEFS)
Marsypianthes montana Benth.	**BC**; IBG, JBB	Pereira-Silva 5468 (CEN)
Medusantha crinita (Benth.) Harley & J.F.B.Pastore	**BC**; FAL, GAM, IBG	FMM 00899
Mesosphaerum suaveolens (L.) Kuntze	**W**; INVASIVE	Vieira 2421 (CEN)
Oocephalus grazielae Harley	**BCH**; FAL, GUA, IBG, JBB, PNB	Pastore 2563 (HUEFS)
Oocephalus lythroides (Pohl ex Benth.) Harley & J.F.B.Pastore	**BCH**; FAL, IBG, JBB	Vieira 2423 (CEN)
LOGANIACEAE		
Antonia ovata Pohl	**W**; GAM, IBG, JBB	Kubota 13 (UB)
LORANTHACEAE		
Passovia ovata (Pohl ex DC.) Tiegh.	**B**; AEM, FAL, GAM, IBG, JBB, PNB	Pereira-Silva 5443 (CEN)
Psittacanthus robustus (Mart.) Mart.	**W**; AEM, FAL, GAM, IBG, JBB, PNB	FMM 00923
Struthanthus taubatensis Eichler	**B**; IBG	Faria & Paz 8956 (HEPH)
LYTHRACEAE		
Cuphea linarioides Cham. & Schltdl.	**W**; FAL, GAM, IBG, JBB, PNB	Pereira-Silva 5491 (CEN)
Cuphea spermacoce A.St.-Hil.	**BC**; AEM, FAL GAM, IBG, JBB, PNB	Kubota *et al.* 65 (UB)
Diplusodon oblongus Pohl	**BC**; FAL, IBG, JBB, PNB	FMM 00957
Diplusodon rosmarinifolius A.St.-Hil.	**BCH**; GAM, IBG, JBB, PNB	Pereira-Silva 5493 (CEN, MO)
Diplusodon sessiliflorus Koehne	**BC**; FAL, IBG, JBB, PNB	Pastore 2566 (HUEFS)
MALPIGHIACEAE		
Banisteriopsis campestris (A.Juss.) Little	**B**; AEM, FAL, GAM, IBG, JBB, PNB	Kubota *et al.* 89 (UB)
Banisteriopsis gardneriana (A.Juss.) W.R.Anderson & B.Gates	**B**; AEM, IBG, JBB, PNB	FMM 00977
Banisteriopsis megaphylla (A.Juss.) B.Gates	**BC**; FAL, GAM, IBG, JBB, PNB	Kubota *et al.* 114 (UB)

Families/*Species*	**Endemism;** Preservation Areas with records	Voucher (Herbaria) *
Banisteriopsis schizoptera (A.Juss.) B.Gates	**B**; AEM, IBG, JBB, PNB	Proença *et al.* 5252 (UB)
Banisteriopsis stellaris (Griseb.) B.Gates	**B**; AEM, FAL, GAM, IBG, JBB, PNB	Silva *et al.* 4 (UB)
Byrsonima basiloba A.Juss.	**BC**; AEM, FAL, GUA, IBG, JBB, PNB	FMM 01653
Byrsonima crassifolia (L.) Kunth	**W**; JBB, PNB	Kubota *et al.* 51 (UB)
Byrsonima guilleminiana A.Juss.	**BC**; FAL, IBG, JBB, PNB	Kubota *et al.* 40 (UB)
Byrsonima pachyphylla A.Juss.	**W**; AEM, FAL, GAM, IBG, JBB, PNB	Kubota *et al.* 59 (UB)
Byrsonima subterranea Brade & Markgr.	**W**; AEM, FAL, JBB, PNB	Pereira-Silva 5459 (CEN, CEPEC)
Byrsonima verbascifolia (L.) DC.	**W**; AEM, FAL, IBG, JBB, PNB	Silva *et al.* 5 (UB)
Camarea affinis A.St.-Hil.	**WC**; AEM, FAL, IBG, JBB, PNB	FMM 01010
Camarea ericoides A.St.-Hil.	**BC**; AEM, IBG, JBB	Pereira-Silva 5467 (CEN, SP)
Heteropterys campestris A.Juss.	**C**; AEM, FAL, GAM, IBG, JBB, PNB	Kubota *et al.* 101 (UB)
Heteropterys tomentosa A.Juss.	**C**; GAM, IBG, PNB	Kubota *et al.* 56 (UB)
Peixotoa goiana C.E.Anderson	**BC**; AEM, FAL, GAM, IBG, PNB	Vidal 74 (HEPH)
Peixotoa reticulata Griseb.	**W**; FAL, IBG, JBB, PNB	Proença *et al.* 5253 (UB)
Pterandra pyroidea A.Juss.	**BC**; FAL, IBG, JBB, PNB	Kubota 20 (UB)
Tetrapterys ambigua (A.Juss.) Nied.	**WC**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	Pereira-Silva 5474 (CEN, SP)
MALVACEAE		
Pavonia pohlii Gürke	**BCH**; FAL, JBB, PNB	Kubota *et al.* 102 (UB)
Peltaea heringeri Krapov. & Cristóbal	**BCH**; GAM, GUA, PNB	Kubota *et al.* 94 (UB)
Waltheria communis A.St.-Hil.	**W**; AEM, FAL, GUA, IBG, JBB, PNB	Pereira-Silva 5480 (CEN)
MELASTOMATACEAE		
Miconia burchellii Triana	**BC**; AEM, FAL, IBG, JBB, PNB	Kubota *et al.* 32 (UB)
Miconia fallax DC.	**W**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	Kubota *et al.* 30 (UB)
Miconia ferruginata DC.	**W**; AEM, FAL, GAM, IBG, JBB, PNB	Kubota 22 (UB)
Miconia ibaguensis (Bonpl.) Triana	**W**; FAL, GUA, IBG, PNB	Kubota *et al.* 32 (UB)
Miconia rubiginosa (Bonpl.) DC.	**W**; AEM, GAM, JBB, PNB	Matos 22 (UB)
Trembleya phlogiformis Mart. & Schrannk ex DC.	**B**; AEM, FAL, IBG, JBB, PNB	Kubota *et al.* 118 (UB)
METTENIUSACEAE		
Emmotum nitens (Benth.) Miers	**B**; AEM, FAL, IBG, JBB, PNB	Matos 3 (UB)
MYRISTICACEAE		
Virola sebifera O.Berg	**W**; AEM, GAM, IBG, JBB, PNB	Proença *et al.* 5492 (UB)

Families/*Species*	**Endemism;** Preservation Areas with records	Voucher (Herbaria) *
MYRTACEAE		
Eugenia angustissima O.Berg	**B**, JBB, PNB	Faria & Paz 8781 (HEPH)
Eugenia bimarginata DC.	**W**; AEM, FAL, IBG, JBB, PNB	Proença *et al.* 5278 (UB)
Eugenia complicata O.Berg	**BC**; AEM, FAL, GAM, GUA, IBG, JBB, IBG, PNB	Faria *et al.* 8776 (HEPH)
Eugenia dysenterica Mart. ex DC.	**BC**; IBG, JBB, PNB	Proença *et al.* 5487 (UB)
Eugenia involucrata DC.	**W**; AEM, FAL, GAM, IBG, JBB, PNB	Kubota 1 (UB), FMM 01258
Eugenia klotzschiana O.Berg	**W**; FAL, GUA, IBG, JBB, PNB	Faria *et al.* 8966 (HEPH)
Eugenia langsdorffii O.Berg	**B**; FAL, GUA, IBG, JBB, PNB	Faria & Paz 8967 (HEPH)
Eugenia punicifolia (Kunth) DC.	**B**; AEM, FAL, GAM, IBG, JBB, PNB	FMM 01271
Myrcia capitata O.Berg	**BCH**; GAM, PNB	Kubota *et al.* 72 (UB)
Myrcia myrtillifolia DC.	**WC**; AEM, FAL, GAM, GUA, JBB, PNB	Kubota 14 (UB)
Myrcia federalis Bezerra & Faria	**BCH**; PNB	Faria & Paz 8777 (HEPH)
Myrcia goyazensis Cambess.	**BC**; AEM, FAL, IBG, JBB, PNB	Heringer 11717 (UB)
Myrcia guianensis (Aubl.) DC.	**W**; IBG, GUA, JBB, PNB	Pereira-Silva 5466 (CEN)
Myrcia tomentosa (Aubl.) DC.	**W**; AEM, FAL, GAM, IBG, JBB, PNB	Pereira-Silva 5487 (CEN, HUEFS)
Myrcia torta DC.	**BC**; FAL, GAM, IBG, JBB, PNB	Proença *et al.* 5421 (UB)
Myrcia variabilis DC.	**B**; AEM, FAL, IBG, JBB	Proença *et al.* 1291 (UB, SP)
Psidium bergianum (Nied.) Burret	**W**; AEM, FAL, IBG, JBB, PNB	Pereira-Silva 5447 (CEN)
Psidium firmum O.Berg	**B**; FAL, GAM, GUA, IBG, JBB, PNB	Faria & Paz 8775 (HEPH)
Psidium myrsinites DC.	**B**; AEM, FAL, GAM, IBG, JBB, PNB	FMM 01299
NYCTAGINACEAE		
Guapira graciliflora (Mart. ex Schmidt) Lundell	**B**; AEM, FAL, IBG, JBB	Kubota *et al.* 41 (UB)
Guapira noxia (Netto) Lundell	**BC**; AEM, FAL, GAM, IBG, JBB, PNB	Proença *et al.* 5420 (UB)
OCHNACEAE		
Ouratea confertiflora (Pohl) Engl.	**BC**; FAL, GAM, JBB, PNB	Sinigaglia 17 (CEN)
Ouratea hexasperma (A.St.-Hil.) Baill.	**WC**; AEM, FAL, GAM, IBG, JBB, PNB	Chacon 87 (CEN)
ONAGRACEAE		
Ludwigia tomentosa (Cambess.) H.Hara	**W**; FAL, IBG, JBB, PNB	FMM 01331
ORCHIDACEAE		
Cyrtopodium blanchetii Rchb.f.	**W**; FAL, JBB, PNB	Pereira-Silva 5475 (CEN)
Cyrtopodium eugenii Rchb.f.	**WC**; AEM, FAL, IBG, JBB, PNB	FMM 01337
OXALIDACEAE		

Families/*Species*	**Endemism;** Preservation Areas with records	Voucher (Herbaria) *
Oxalis hirsutissima Mart. & Zucc.	**BC**; FAL	FMM 01358
PERACEAE		
Pera glabrata (Schott) Baill.	**W**; AEM, FAL, GAM, JBB, PNB	Proença *et al.* 5494 (UB)
PIPERACEAE		
Piper aduncum L.	**W**; GAM, IBG, JBB; PNB	Carvalho-Silva 73 (CEN)
Piper arboreum Aubl.	**W**; AEM, FAL, GAM, IBG, JBB, PNB	Carvalho-Silva 72 (CEN)
POACEAE		
Andropogon bicornis L.	**W**; AEM, GUA, IBG, JBB, PNB	Kubota *et al.* 109 (UB)
Anthaenantia lanata (Kunth) Benth.	**W**; AEM, FAL, GUA, IBG, JBB, PNB	Pereira-Silva 5429 (CEN)
Axonopus brasiliensis (Spreng.) Kuhlm.	**W**; FAL, GAM, GUA, IBG, JBB, PNB	Pereira-Silva 5430 (CEN)
Axonopus pellitus (Nees ex Trin.) Hitchc. & Chase	**W**; AEM, FAL, GAM, JBB, PNB	Kubota *et al.* 104 (UB)
Echinolaena inflexa (Poir.) Chase	**W**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	FMM 01377
Eragrostis polytricha Nees	**B**; GUA. IBG, JBB, PNB	Pereira-Silva 5431 (CEN)
Melinis minutiflora P.Beauv.	**W**; INVASIVE	Observation by author CEBP (no voucher)
Mesosetum ferrugineum (Trin.) Chase	**B**; AEM, FAL, IBG, JBB, PNB	Pereira-Silva 5433 (CEN)
Paspalum ammodes Trin.	**W**; FAL, GAM, IBG, PNB	Pereira-Silva 5437 (CEN)
Paspalum erianthum Nees ex Trin.	**W**; FAL, IBG, GUA, JBB, PNB	Pereira-Silva 5435 (CEN)
Paspalum lineare Trin.	**W**; AEM, FAL, GUA, IBG, JBB, PNB	Pereira-Silva 5436 (CEN)
Urochloa sp.	**W**; INVASIVE	Observation by author CEBP (no voucher)
POLYGALACEAE		
Polygala ceciliana Marques & J.F.B.Pastore	**BCH**; FAL, JBB, PNB	Pastore 1495 (CEN)
Polygala longicaulis Kunth	**B**; FAL, GUA, IBG, JBB, PNB	FMM 01387
Polygala monosperma A.W.Benn.	**BC**; FAL, GAM, IBG, JBB, PNB	Pereira-Silva 5457 (CEN)
Polygala poaya Mart.	**BC**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	FMM 01388
PONTEDERIACEAE		
Eichhornia crassipes (Mart.) Solms	**W**	FMM 01391 (aquatic, photographed in the lake)
PRIMULACEAE		
Myrsine guianensis (Aubl.) Kuntze	**W**; AEM, FAL, IBG, JBB, PNB	Armando 22 (UB)
PROTEACEAE		

Families/*Species*	**Endemism;** Preservation Areas with records	Voucher (Herbaria) *
Roupala montana Aubl.	**W**; AEM, FAL, GAM, IBG, JBB, PNB	Proença *et al.* 5491 (UB)
RHAMNACEAE		
Colubrina glandulosa Perkins	**W**; CULTIVATED	Heringer 5688 (NY)
Crumenaria choretroides Mart. ex Reissek	**BC**; FAL, GUA, IBG, JBB, PNB	Pereira-Silva 5456 (CEN)
RUBIACEAE		
Alibertia edulis (Rich.) A.Rich.	**W**; FAL, GAM, IBG, JBB, PNB	Kuhlmann 196 (HEPH, UB)
Borreria poaya (A.St.-Hil.) DC.	**W**; AEM, IBG, JBB, PNB	FMM 01403
Chomelia ribesioides Benth. ex A.Gray	**W**; AEM, FAL, GAM, IBG, JBB, PNB	Matos 13 (UB)
Ferdinandusa speciosa (Pohl) Pohl	**W**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	Proença *et al.* 5500 (UB)
Palicourea officinalis Mart.	**BC**; IBG, PNB	FMM 01423
Palicourea rigida Kunth	**W**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	Kubota *et al.* 91 (UB)
Sabicea brasiliensis Wernham	**WC**; AEM, FAL, GAM. GUA, IBG, JBB, PNB	Observation by author CEBP (no voucher)
Tocoyena formosa (Cham. & Schltdl.) K.Schum.	**W**; AEM, FAL, GAM, IBG, JBB, PNB	Matos 4 (UB)
RUTACEAE		
Spiranthera odoratissima A.St.-Hil.	**W**; AEM, FAL, GUA, IBG, JBB, PNB	FMM 01467
SALICACEAE		
Casearia grandiflora Cambess.	**W**; AEM, FAL, GAM, IBG, JBB, PNB	FMM 01475
Casearia sylvestris Sw.	**W**; IBG, PNB	Proença *et al.* 5427 (UB)
SAPINDACEAE		
Matayba guianensis Aubl.	**W**; AEM, FAL, IBG, JBB, PNB	Matos 5 (UB)
Serjania lethalis A.St.-Hil.	**W**; IBG, FAL, GAM, JBB, PNB	FMM 01484
SIMAROUBACEAE		
Homalolepis suffruticosa Engl.	**BC**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	Pereira-Silva 5461 (CEN)
SIPARUNACEAE		
Siparuna brasiliensis (Spreng.) A.DC.	**B**; AEM, FAL, GUA, IBG, JBB, PNB	Armando 25 (INPA)
SMILACACEAE		
Smilax goyazana A.DC.	**W**; FAL, GAM, IBG, JBB, PNB	FMM 01506
SOLANACEAE		
Cestrum obovatum Sendtn.	**B**; GAM, IBG	Pereira-Silva 5476 (CEN)

Families/*Species*	**Endemism;** Preservation Areas with records	Voucher (Herbaria) *
Solanum paniculatum L.	**W**; IBG, JBB	Observation by author CEBP (no voucher)
Solanum subumbellatum Vell.	**B**; FAL, GAM, GUA, IBG, JBB, PNB	FMM 01521
TURNERACEAE		
Turnera lamiifolia Cambess.	**BC**; AEM, FAL, GUA, IBG, JBB, PNB	FMM 01529
Turnera longiflora Cambess.	**BC**; AEM, GUA, IBG, JBB, PNB	Kubota *et al.* 86 (UB)
VELLOZIACEAE		
Vellozia squamata Pohl	**BC**; AEM, FAL, GAM, IBG, JBB, PNB	FMM 01540
Vellozia swallenii L.B.Sm.	**BC**; GAM, PNB	Pereira-Silva 5444 (CEN)
VERBENACEAE		
Lippia alba (Mill.) N.E.Br. ex P. Wilson	**W**; IBG, JBB, PNB	Vidal 73 (HEPH)
Lippia horridula (Epling) Salimena, Múlgura & Harley	**BC**; FAL, JBB	Reis 3 (UB)
Lippia lacunosa Mart. & Schauer	**WC**; AEM, FAL, GAM, GUA, IBG, JBB, PNB	Vieira 2611 (CEN)
Lippia origanoides Kunth	**W**; FAL, GAM, IBG, JBB, PNB	Vieira 2420 (CEN, CESJ)
Lippia renifolia Turcz.	**B**; PNB	Pereira-Silva 5440 (CEN)
Stachytarpheta longispicata (Pohl) S.Atkins	**BC**; AEM, FAL, GAM, IBG, JBB, PNB	Kubota *et al.* 90 (UB)
VIOLACEAE		
Pombalia lanata (A.St.-Hil.) Paula-Souza	**BC**; FAL, GAM, IBG, JBB, PNB	Pereira-Silva 5477 (CEN)
VOCHYSIACEAE		
Qualea grandiflora Mart.	**W**; AEM, FAL, GAM. IBG, JBB. PNB	FMM 01593
Qualea multiflora Mart.	**W**; AEM, FAL, GAM, IBG, JBB, PNB	FMM 01599
Qualea parviflora Mart.	**W**; AEM, FAL, GAM, IBG, JBB, PNB	FMM 01608
Vochysia elliptica Mart.	**B**; AEM, FAL, GAM, IBG, JBB, PNB	Proença *et al.* 5287 (UB)
Vochysia rufa Mart.	**BC**; AEM, FAL, GAM, IBG, JBB, PNB	Proença *et al.* 5288 (UB)
Vochysia thyrsoidea Pohl	**BC**; AEM, FAL, GAM, IBG, JBB, PNB	FMM 01633

*(FMM) - Photographic register by Mauricio Mercadante found in https://www.flickr.com/photos/mercadanteweb/

Most of the species recorded were common elements of the *Cerrado* flora. However, it is worth noting the presence of several uncommon species, four of which are illustrated in Figure 4. *Mimosa gatesiae* Barneby (*Fabaceae*) that has only been recorded three other times in the Distrito Federal and only once in any of its preserved areas, the *Jardim Botânico de Brasília* Ecological Station; it has a narrow distribution in the eastern Distrito Federal and *Chapada dos Veadeiros* in Goiás (M.F. Simon, personal communication in April 2020) and was reasonably common in the Park. *Myrcia capitata* O.Berg and *M. federalis* Bezerra & Faria, virtually endemic to the Distrito Federal, although quite common there (and in the Park), were also recorded. Another interesting species found was *Anemopaegma goyazense* K.Schum. (*Bignoniaceae*), widely distributed in the *Cerrado* biome, but rare in the well-collected Distrito Federal (and never before recorded in any of its preservation areas); only one individual was seen. There are two registered collections of this species in preservation areas, both very distant from Distrito Federal: one in the *Parque Estadual do Jalapão*, Tocantins (see Herbarium CEN) and the other in the *Parque Nacional das Emas*, in Southwestern Goiás (see Herbarium HUEFS) according to the SpeciesLink network (http://www.splink.org.br consulted on the 6th of April, 2020).

The floristic survey revealed the influence of human presence on the *Ermida Dom Bosco* vegetation. *Lepidaploa aurea* (Mart. ex DC.) H.Rob., for example, was extremely abundant on the edge of the trails. This *Asteraceae* is native, but opportunistic and may present a yearly cycle (Silva 2014). Once introduced, possibly by people who walk on the trails, its fruits with feathery pappi are dispersed by the wind, dominating the disturbed areas with large populations. The occurrence of introduced *Melinis minutiflora* P.Beauv. and *Urochloa* sp. (both *Poaceae*) was also observed. Both these species have great invasive potential, which is increased with human presence (Barbosa *et al.* 2008; Martins *et al.* 2011). Despite this being a partially positive process, since it maintains coverage of the soil, the super-dispersion of exotic or native opportunistic species may threaten the more specialized native plants by reducing or altering their habitat. Another observation made during the study was regarding the presence of trash and rubble on the edge of the trails and inside the lake, which may be influencing the quality of the soil, as well as its flora and fauna.

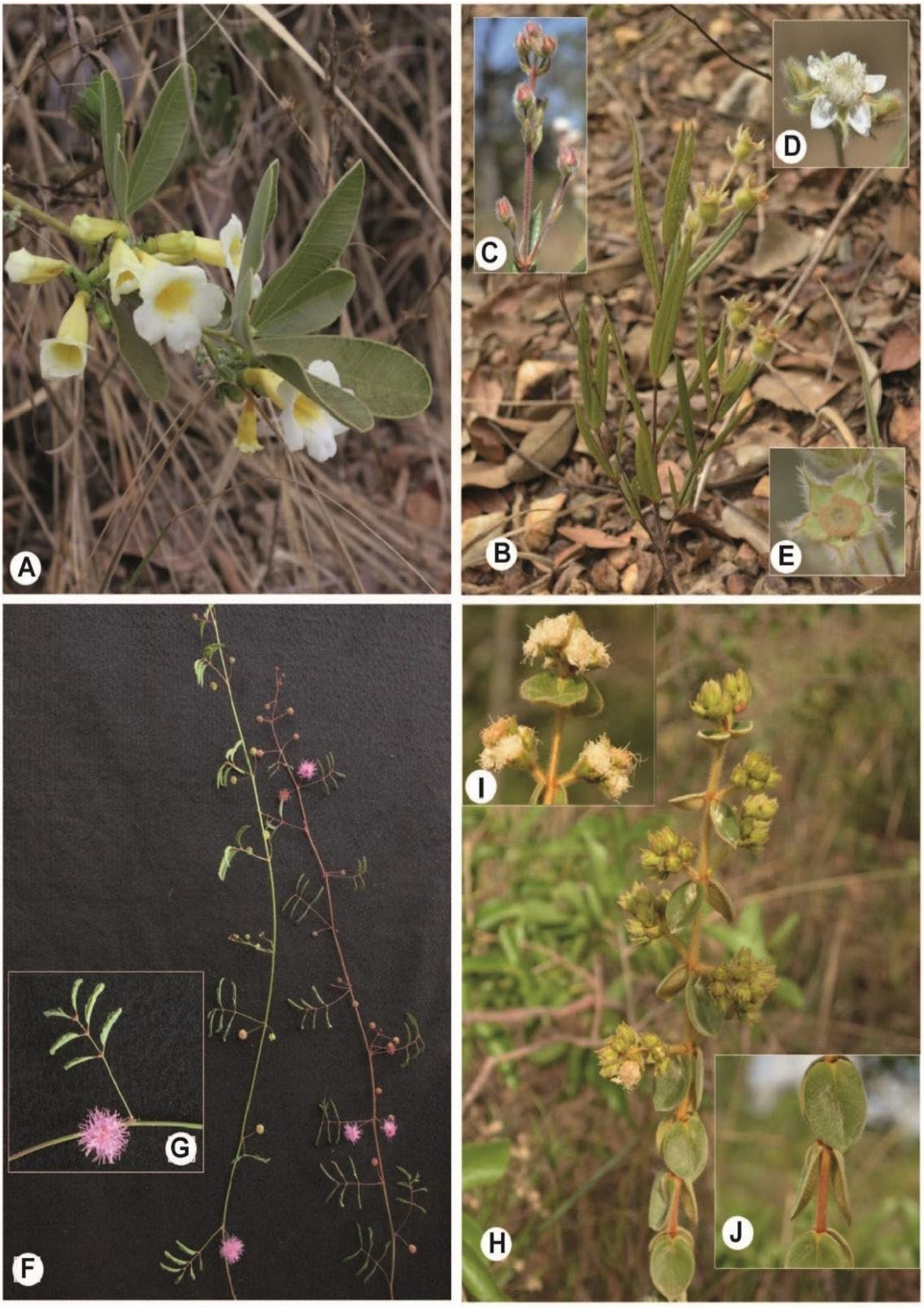

Figure 4. A. *Anemopaegma goyazense* K.Schum. **A.**habit of flowering plant. Voucher: *K.G. Kubota et al. 68* (UB). **B-E.** *Myrcia federalis* Bezerra & Faria. **B.** habit of fruiting plant; **C.** inflorescence with young buds; **D.** flower during anthesis; **E.** old flower showing calyx, staminal disk and stylar abscission. Vouchers: **B, C**. *J.E.Q. Faria 8965* (HEPH). **D, E.** *J.E.Q. Faria 8777* (HEPH). F-**G.** *Mimosa gatesiae* Barneby.**F.** Habit; **G.** Inflorescence and leaf detail. Voucher: *M.F. Simon 1810* (CEN). **H-J.** *Myrcia capitata* O. Berg. **H.** habit of flowering plant; **I.** inflorescence; **J.** leaf detail. Vouchers: **H, J.** *J.E.Q. Faria 8954* (HEPH); **I.** *J.E.Q. Faria 8968* (HEPH).

CONCLUSIONS

We conclude that the *Monumento Natural Dom Bosco* flora, although mostly composed of species that are common and represented in most of the other Distrito Federal preserved areas in all its vegetation types, also has several rare and unusual species. Despite our study obtaining significant results in the knowledge of its floristic diversity, we believe that more efforts in collecting are still necessary to record the rarer elements, and for its flora to be completely cataloged. The species that occur in the forest pockets that appear along the lakeshore, more difficult to access than the *cerrado* areas, are poorly represented in our list and need more collecting; they are common gallery forest species. When collecting in the lakeshore forest pockets, additional ferns were observed but were not collected due to being sterile at the time; therefore, the ferns recorded are almost certainly an underestimate of the true fern flora. In spite of being the sixth most species-rich family, *Poaceae* particularly probably needs more collecting as the species recorded are either characteristic of humid, poorly drained areas or introduced weeds; typical *cerrado* species that would be highly expected to occur, since the vegetation is predominantly *cerrado sensu stricto*, have not been recorded (R.C. de Oliveira, personal communication, 2020).

ACKNOWLEDGEMENTS

We thank Andressa Dantas da Silveira, Maria Eduarda Braga, Iane Perdigão Ferreira, Fernando Kubota, Maurício Mercadante, Stephen Andrew Harris and Raphael Elias Ferreira Abilio for their help in the field. We also thank the specialists João Bernardo Bringel and Vanessa Lopes Rivera (UB Herbarium, *Asteraceae*), André Rodolfo de Oliveira Ribeiro (UB Herbarium, *Cyperaceae*), Christopher Fagg (UB herbarium, *Fabaceae*), Marlon Garlett Facco (CEN Herbarium, *Lythraceae*) and Regina Célia de Oliveira (UB Herbarium, *Poaceae*) and for their identification of botanical material as specialists, as well as the technicians of the UB Herbarium. Marcelo F. Simon (CEN herbarium) and Jair E.Q. de Faria (HEPH herbarium) kindly contributed images and shared information pertaining to *Mimosa gatesiae* and *Myrcia* spp. respectively. The first author thanks FAPDF for a scientific initiation grant (PIBIC) via Universidade de Brasília and the last author thanks CNPq for a Produtividade em Pesquisa PQ-2 grant. The study was authorized by Secretaria do Meio Ambiente do Distrito Federal, IBRAM Licence no.00391-00017333/2017-31, issued on 18/08/2017. The text was translated by Filipe B. Pedrosa.

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