

Floristic List from a Caatinga Remnant in Poço Verde, Sergipe, Brazil

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ABSTRACT: A study of the vegetation in a 71,42 ha fragment of Caatinga in Poço Verde, state of Sergipe, was carried out, and the occurrence of 170 species, 129 genera and 46 botanical families was recorded. Fabaceae (25 spp.); Euphorbiaceae (16 spp.); Solanaceae (nine spp.); Poaceae (eight spp.); Malvaceae (seven spp.); and Apocynaceae, Asteraceae, Convolvulaceae, Lamiaceae and Verbenaceae (six spp.) were the most represented families, corresponding to 55.8% of the sampled flora. The genera which represented greater floristic richness were: *Croton* (eight spp.), *Solanum* (six spp.), *Senna* and *Mimosa* (four spp.). We found 39 species of trees, 47 of shrubs, 15 of lianas and 69 of herbs. Among the species found in the studied area, 10.2% are considered endemic to the Caatinga. Compared to other areas of Caatinga, the studied area is characterized by a dry and dense forest which has suffered a medium impact due to plant extraction, being found today in a natural state of regeneration.

INTRODUCTION

The Caatinga is the type of vegetation found in the semi-arid part of northeastern Brazil, occupying an area of approximately 734.478 Km² (UFPE 2002), which corresponds to 10% of the Brazilian territory (Ab'Saber 2003; Fernandes 2003). It covers parts of the states of Piauí, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Sergipe, Bahia and the northern part of Minas Gerais; it is considered the main terrestrial ecosystem in the northeastern region of Brazil.

The Caatinga began to be more studied only in the last decade. Previously, it was seen as a poor ecosystem regarding its biodiversity. Until today, less is known about its biodiversity when compared to other Brazilian biomes (Santos *et al.* 2011) and although taxonomically many species have been described, little is known about their physiological aspects (Leal *et al.* 2003).

The floristic study of a forest represents the initial step towards acquiring knowledge because, associated to information about its structure and dynamics, it provides a base that subsidizes a better biogeographical understanding, the conservation of genetic resources, the conservation of similar areas, and the restoration of degraded forest fragments, contributing substantially towards their management or towards the conservation of the fragments (Arruda and Daniel 2005; Moro and Martins 2011).

This study aimed to describe the floristic composition of a Caatinga fragment, located at “Santa Maria da Lage” settlement, in Poço Verde municipality, state of Sergipe, northeastern Brazil, with the objective of recording the floristic composition of the species in the studied area, especially based on data from taxonomic studies. The results of this work will expand the knowledge about the

native vegetation of the municipality and provide subsidies to assist future projects for recovering and maintaining the Caatinga of the region.

MATERIAL AND METHODS

Study Area

The studied area (geographic coordinates 10°42'11”S and 38°11'06”W) is located in the municipality of Poço Verde, having a mean altitude of 273 meters. This municipality is situated in the geographic mesoregion of the *Sertão* of Sergipe and in the micro-region of Tobias Barreto and Simão Dias. According to IBGE (2008), this municipality has an area of 380.7 Km², which corresponds to 18.47% of the micro-region and 1.72% of the state of Sergipe. Poço Verde has a slight highland relief in the eastern half, bordering other highlands such as Caraíba, Poço Dantas and São José. The predominant climate is hot, megathermal semi-arid with a transition to dry sub-humid. The annual average rainfall is 786.5 mm, with a rainy period between March and July. The temperature varies between 38°C in the hottest months and 17°C during the coldest months (IBGE 2008).

Inserted in the rural area of Poço Verde, the studied remnant of Caatinga is located on the Santa Maria da Lage farm, which was dispossessed for Agrarian reform purposes on October 24th 1996 and taken over by the INCRA (Brazilian Institute for Land Management) on December 31st 1997. The farm is located about 9 Km away from the town centre. The settlement has an area of 433 hectares and is divided into 26 family agricultural units, a space destined for the construction of an urban nucleus, two legal reserves, and five collective areas for exploitation, mainly with extensive cattle farming and subsistence cultivation, such as corn and beans (INCRA 2007).

In the settlement there is an area of about 71.42 ha (called "Reserva Legal") which is destined to protect the vegetation. This area was already explored, being characterized by a dry and dense forest, which has suffered medium intensity impacts, such as selective logging, but is now in a natural stage of regeneration.

Collection of data

The collection of the botanical material was carried out between the months of October 2009 and November 2010, registering plants with herbaceous, shrubby and arboreal habits. Reproductive samples of all species were collected, following the usual procedures suggested by Mori *et al.* (1989), with an effort to include the largest number of species representing plants of all habits. The collected botanical materials are deposited in the Herbarium of the Federal University of Sergipe (ASE).

The identifications were made through comparisons with existing exsiccates in the Herbarium ASE and consultations of the literature and specialists. The classification of the species into families followed the system of the Angiosperm Phylogeny Group III (APG III 2009).

RESULTS AND DISCUSSION

A total of 243 plants, belonging to 170 species, distributed into 129 genera and 46 botanical families (Table 1) were collected, of which 153 taxa were identified to the species level.

The richest families were: Fabaceae (25 species: Caesalpinioideae with eight species, Mimosoideae with 13, and Faboideae with four); Euphorbiaceae (16); Solanaceae (nine); Poaceae (eight); Malvaceae (seven); Apocynaceae, Asteraceae, Convolvulaceae, Lamiaceae and Verbenaceae (six); Acanthaceae, Anacardiaceae, Araceae, Orchidaceae and Rubiaceae (five); Bromeliaceae and Cactaceae (four); and, Boraginaceae, Capparaceae and Sapindaceae (three), altogether representing 79.4% of the sampled flora. Moreover, 20 families had only one species in the studied area and five families had only two species. The first two families were also the most representative in the survey carried out in the Caatinga of Pernambuco by Alcoforado-Filho *et al.* (2003).

The families Fabaceae and Euphorbiaceae are often found in studies carried out in other areas of Caatinga (Araújo *et al.* 1995; Alcoforado-Filho *et al.* 2003). These results confirm the observations by Rodal *et al.* (1992) who indicated these as the main families for the Caatinga, in number of genera, species and abundance of plants. Pereira *et al.* (2001) highlighted that the occurrence of the Rubiaceae family was also recorded in the woody component of other areas of Caatinga, but only in areas of higher humidity.

According to Andrade *et al.* (2005), *Myracrodruon urundeuva* Allemão, *Commiphora leptophloeos* (Mart.) J.B. Gillett and *Capparis flexuosa* L. are more commonly found in protected areas or in well conserved forests and are rarely found in strongly disturbed sites. These species were found in the present study, which may indicate that the area is under recovery.

Among the species found in the studied area, 10.2% of the total is considered endemic to the Caatinga, e.g.:

Aspidosperma pyriforme Mart., *Commiphora leptophloeos* (Mart.) J.B. Gillett, *Cereus jamacaru* DC, *Maytenus rigida* Mart., *Jatropha mollissima* (Pohl) Baill. and *Ziziphus joazeiro* Mart. (Giulietti *et al.* 2002).

The families with the highest number of genera were Fabaceae (18), Euphorbiaceae and Malvaceae (seven each), Poaceae and Asteraceae (six each), Apocynaceae, Orchidaceae and Rubiaceae (five each), and Anacardiaceae, Araceae, Cactaceae and Verbenaceae (four each). Twenty three families (50%) had only one genus. The richest genera were: *Croton*, with eight species; *Solanum*, with six; *Senna* and *Mimosa*, with four; and *Ruellia*, *Hyptis*, *Jatropha*, *Cnidoscolus*, *Capparis*, *Mimosa* and *Lantana*, with three species each. The other genera (108) were represented by one or two species. The high frequency of representatives of the genus *Croton*, especially in the understory, confirms the importance of the Euphorbiaceae family in the Caatinga.

The habits found were trees, shrubs, lianas, and herbs, with the herbaceous component representing the largest number of species (69 species or 40% of the total flora) distributed into 28 families. The richest families in the non-woody component were Poaceae, with seven species, and Asteraceae, Lamiaceae and Verbenaceae, with six species each (Table 1). The high percentage of herbaceous habits found in the area demonstrates the importance of this component in the protection of the soil and in the availability of resources for the local fauna.

The arboreal and shrubby components were represented by 39 and 47 species, respectively. For the arboreal component, the most representative families were Fabaceae, with seven species, and Anacardiaceae, with five species. The most notable arboreal elements were *Aspidosperma pyriforme* (Apocynaceae), *Poincianella pyramidalis* (Fabaceae) and *Capparis jacobinae* (Capparaceae), cited in most of the surveys carried out in the Caatinga vegetation from northeastern Brazil (Araújo *et al.* 1995; Ferraz *et al.* 1998). Besides these species, the presence of *Psidium schenckianum* (Myrtaceae) was recorded, even though it is more common in wet mountain forests ("brejos de altitude"). This probably occurred as a result of the higher local humidity. The occurrence of this species was also observed by Alcoforado-Filho *et al.* (2003) in a Caatinga site in the state of Pernambuco.

Regarding the shrubby extract, the more relevant families were: Euphorbiaceae and Fabaceae, with 14 and 11 species, respectively, representing species common to other areas of the Caatinga. Giulietti *et al.* (2002) observed that Euphorbiaceae presented the highest number of species among shrubs (Kent and Coker 1992) in less dry areas of thorny deciduous vegetation, being substituted by cacti in drier areas. Regarding the 15 species of climbers (8.8% of the total recorded species), these were distributed among eight families, of which Fabaceae was the richest, represented by three species. Thus, contrary to what has been suggested in the literature (Rizzini 1979), the semi-arid vegetation presents a considerable number of species in this component.

The studied Caatinga fragment presents a high diversity of species. Besides the typical species of the Caatinga vegetation, species that are generally found in wetter areas contributed towards a richer flora than most of the studied areas of Caatinga in the state of Sergipe.

TABLE 1. Species list with popular name, habits and voucher numbers in the ASE herbarium, recorded in the Caatinga forest fragment from Santa Maria da Lage settlement, Poço Verde municipality, state of Sergipe, Brazil.

FAMILY/SPECIES	POPULAR NAME	HABIT	VOUCHER
Acanthaceae			
<i>Justicia</i> sp.	-	shrub	ASE 17863
<i>Poikilacanthus harleyi</i> Wassh.	-	herb	ASE 17820
<i>Ruellia asperula</i> (Mart. and Nees) Lindau	camaratu	shrub	ASE 16049
<i>Ruellia bahiensis</i> (Nees) Morong	-	shrub	ASE 17814
<i>Ruellia geminiflora</i> Kunth	-	shrub	ASE 17812
Alstroemeriaceae			
<i>Bomarea edulis</i> (Tussac.) Herb.	-	herb	ASE 17916
Amaranthaceae			
<i>Althernanthera tenella</i> Colla	-	shrub	ASE 17636
Anacardiaceae			
<i>Myracrodruon urundeuva</i> Allemão	aroeira	tree	ASE 17961
<i>Schinopsis brasiliensis</i> Engl.	braúna	tree	ASE 17987
<i>Spondias mombin</i> L.	cajazeira	tree	ASE 16069
<i>Spondias tuberosa</i> Arr. Cam	umbuzeiro	tree	ASE 16063
<i>Thyrsodium spruceanum</i> Benth.	catingafaba	tree	ASE 17985
Apiaceae			
<i>Foeniculum vulgare</i> Mill.	endro	herb	ASE 17809
Apocynaceae			
<i>Aspidosperma pyrifolium</i> Mart.	pereiro	tree	ASE 16060
<i>Mandevilla microphylla</i> (Stadelm.) M. F. Sales and Kinoshita Gouvêa	-	herb	ASE 17806
<i>Marsdenia altissima</i> (Jacq.) Dugand	-	liana	ASE 20408
<i>Matelea ganglinosa</i> (Vell.) Rapini	-	herb	ASE 17983
<i>Matelea maritima</i> (Jacq.) Woodson	-	herb	ASE 17983
<i>Matelea nigra</i> (Decne.) Morillo and Fontella	-	herb	ASE 17988
<i>Ditassa</i> sp.	-	herb	ASE 17917
Araceae			
<i>Monstera adansonii</i> Schott	-	herb	ASE 16056
<i>Taccarum ulei</i> Engl. and K. Krause	milho de cobra	herb	ASE 16516
<i>Colocasia</i> sp.	banana de macaco	herb	ASE 16517
<i>Spathicarpa</i> sp.	-	herb	ASE 17831
Araceae sp.	-	herb	ASE 17835
Areaceae			
<i>Syagrus coronata</i> (Mart.) Becc.	licuri	tree	ASE 20411
Aristolochiaceae			
<i>Aristolochia</i> sp.	-	shrub	ASE 18792
Asteraceae			
<i>Baccharis</i> sp.	-	herb	ASE 17997
<i>Bidens pilosa</i> L.	carrapicho-de-agulha	herb	ASE 17974
<i>Centratherum punctatum</i> Cass.	cega-ovelha	herb	ASE 17861
<i>Emilia sonchifolia</i> (L.) DC.	carrapicho	herb	ASE 17932
<i>Tridax procumbens</i> L.	-	herb	ASE 17830
<i>Vernonia remotiflora</i> Rich.	-	shrub	ASE 17976
Begoniaceae			
<i>Begonia ulmifolia</i> Willd.	-	shrub	ASE 17946
Bignoniaceae			
<i>Handroanthus impetiginosus</i> Mart. ex DC.) Mattos	pau d'arco	tree	ASE 17973
Boraginaceae			
<i>Heliotropium indicum</i> L.	crista de galo	herb	ASE 16064
<i>Varronia leucocephala</i> (Moric.) J.S. Mill.	pau de sapo	herb	ASE 17825
<i>Cordia globosa</i> (Jacq.) Kunth	-	shrub	ASE 17851
Bromeliaceae			
<i>Aechmea aquilega</i> (Salisb.) Griseb.	gravatá	herb	ASE 16511
<i>Aechmea lingulata</i> (L.) Baker	-	herb	ASE 16071
<i>Bromelia laciniosa</i> Mart.	-	herb	ASE 20428
<i>Neoglaziovia variegata</i> (Arruda) Mez	crauí	herb	ASE 17815
Burseraceae			
<i>Commiphora leptophloeos</i> (Mart.) J.B. Gillett	imburana	tree	ASE 17979

TABLE 1. CONTINUED.

FAMILY/SPECIES	POPULAR NAME	HABIT	VOUCHER
Cactaceae			
<i>Cereus jamacaru</i> DC.	mandacaru	tree	ASE 16525
<i>Melocactus zhentneri</i>	coroa-de-frade	herb	Observed
<i>Pilosocereus</i> sp.		tree	
<i>Tacinga palmadora</i> (Britton and Rose) N.P. Taylor and Stuppy	mandacaru miúdo	herb	ASE 17952
Capparaceae			
<i>Capparis flexuosa</i> L.	feijão de jacu	tree	ASE 16045
<i>Capparis jacobinae</i> Moric. ex Eichler	icozinho	tree	ASE 16055
<i>Capparis yco</i> Mart.	icó	tree	ASE 16054
Celastraceae			
<i>Maytenus rigida</i> Mart.	pau de colher	tree	ASE16051
Convolvulaceae			
<i>Cuscuta americana</i> L.		herb	ASE 18786
<i>Ipomoea brasiliensis</i> (L.) Sweet	-	liana	ASE 17848
<i>Ipomoea brasiliana</i> Meisn.	cipó branco	liana	ASE 16048
<i>Ipomoea hederifolia</i> L.	-	herb	ASE 17943
<i>Jacquemontia</i> sp.	-	herb	ASE 17943
<i>Merremia umbellata</i> (L.) Hallier f.	-	liana	ASE 17989
<i>Operculina macrocarpa</i> (Linn) Urb.	-	herb	ASE 17813
Cucurbitaceae			
<i>Cucumis dipsaceus</i> Ehrenb.	-	herb	ASE 16530
<i>Gurania bignoniacea</i> (Poepp. and Endl.) C. Jeffrey	-	liana	ASE 18787
Dioscoreaceae			
<i>Dioscorea campestris</i> Griseb.	-	herb	ASE 17838
Euphorbiaceae			
<i>Cnidoscolus phyllacanthus</i> Mull Arg.	cansanção	shrub	ASE 16057
<i>Cnidoscolus urens</i> (L.) Arthur	cansanção	shrub	ASE 16522
<i>Cnidoscolus vitifolius</i> (Mill.) Pohl	favela	shrub	ASE 16057
<i>Croton campestris</i> A. St.-Hil.	velame branco	shrub	ASE 18788
<i>Croton grewiooides</i> Baill.	velame	herb	ASE 17934
<i>Croton heliotropifolius</i> Kunth	quebra facão	shrub	ASE16058
<i>Croton sonderianus</i> Müll. Arg.	marmeheiro b ranco	shrub	ASE 17956
<i>Croton tetradenius</i> Baill.	velandinho-de-cheiro	shrub	ASE 16518
<i>Croton urticifolius</i> Lam.	marmeheiro	shrub	ASE 17915
<i>Dalechampia scandens</i> L.	-	liana	ASE 17866
<i>Euphorbia insulana</i> Müll. Arg.	-	herb	ASE 17990
<i>Jatropha gossypifolia</i> L.	pinhão manso	shrub	ASE 16521
<i>Jatropha mollissima</i> (Pohl) Baill.	pinhão bravo	shrub	ASE 16043
<i>Jatropha ribifolia</i> (Pohl) Baill.	pinhão branco	shrub	ASE 16062
<i>Manihot dichotoma</i> Ule	mandioca brava	shrub	ASE 16526
<i>Sapium glandulosum</i> (L.) Morong	pau de leite	tree	ASE 17840
Fabaceae			
<i>Acacia bahiensis</i> Benth.	espinheiro	shrub	ASE 16514
<i>Aeschynomene ciliata</i> Vogel	-	liana	ASE 17868
<i>Albizia polycephala</i> (Benth.) Killip	angico branco	tree	ASE 20425
<i>Amburana cearensis</i> (Allemão) A.C. Sm.	amburana	shrub	ASE 20419
<i>Anadenanthera colubrina</i> (Vell.) Brenan	angico	tree	ASE 17959
<i>Bauhinia cheilantha</i> (Bong.) Steud.	mororó	shrub	ASE 17858
<i>Caesalpinia ferrea</i> Mart.	pau ferro	tree	ASE 17958
<i>Canavalia brasiliensis</i> Mart. ex Benth.	-	liana	ASE 17853
<i>Chaetocalyx brasiliensis</i> (Vogel) Benth.	-	shrub	ASE 18798
<i>Desmanthus virgatus</i> (L.) Willd.	inhadê	shrub	ASE 17968
<i>Dioclea</i> sp.	-	liana	ASE 16519
Fabaceae sp.1		herb	ASE 17821
<i>Mimosa acutistipula</i> (Mart.) Benth.	jurema branca	tree	ASE 18000
<i>Mimosa arenosa</i> (Willd.) Poir.	-	shrub	ASE 17822
<i>Mimosa quadrivalvis</i> L.	serraguela	shrub	ASE 17994
<i>Parapiptadenia zehntneri</i> (Harms) M.P.Lima and H.C.Lima	angico vermelho	tree	ASE 16059

TABLE 1. CONTINUED.

FAMILY/SPECIES	POPULAR NAME	HABIT	VOUCHER
<i>Pithecellobium diversifolium</i> Benth.	carcarazeiro	shrub	ASE 16046
<i>Poincianella pyramidalis</i> (Tul.) L.P. Queiroz	catingueira	tree	ASE 16066
<i>Senegalia bahiensis</i> (Benth.) Seigler and Ebinger	calombi branco	shrub	ASE 17847
<i>Senegalia tenuifolia</i> (L.) Britton and Rose	calombi	shrub	ASE 17811
<i>Senna alata</i> (L.) Roxb.	canudinho	shrub	ASE 17936
<i>Senna cana</i> (Nees and Mart.) H.S. Irwin and Barneby	fedegoso	shrub	ASE 17930
<i>Senna spectabilis</i> (DC.) H.S. Irwin and Barneby	canafístula	tree	ASE 16052
<i>Senna uniflora</i> (Mill.) H.S. Irwin and Barneby	mata pasto cabeludo	shrub	ASE 17837
<i>Vachellia farnesiana</i> (L.) Wight and Arn.	-	liana	ASE 16520
Hyppoxidaceae			
<i>Hypoxis decumbens</i> L.	-	herb	ASE 17921
Lamiaceae			
<i>Hyptis fruticosa</i> Salzm. ex Benth.	alecrim-do-mato	shrub	ASE 17845
<i>Hyptis pectinata</i> (L.) Poit.	-	herb	ASE 17964
<i>Hyptis suaveolens</i> (L.) Poit.	-	herb	ASE 17975
<i>Leonotis nepetifolia</i> (L.) R.Br.	cordão-de-são-francisco	herb	ASE 16044
<i>Ocimum basilicum</i> L.	alfavaca	herb	ASE 17824
<i>Ocimum campechianum</i> Mill.	manjeriço	herb	ASE 17823
Lythraceae			
<i>Lafoensia pacari</i> A. St.-Hil.	-	tree	ASE 17929
Malpighiaceae			
<i>Stigmaphyllon blanchetii</i> C.E. Anderson	-	tree	ASE 17817
Malvaceae			
<i>Apeiba tibourbou</i> Aubl.	-	herb	ASE 17846
<i>Ceiba glaziovii</i> (Kuntze) K. Schum.	barriguda	tree	ASE 17998
<i>Corchorus hirtus</i> L.	-	herb	ASE 17864
<i>Helicteres lhotzkyana</i> (Schott and Endl.) K. Schum.	-	shrub	ASE 18799
<i>Malvastrum coromandelianum</i> (L.) Garcke	-	herb	ASE 16068
<i>Melochia tomentosa</i> L.	-	herb	ASE 17841
<i>Sida spinosa</i> L.	vassourinha	shrub	ASE 17913
Marantaceae			
<i>Calathea crocata</i> E. Morren and Joriss.	-	herb	ASE 17834
<i>Marantha</i> sp.	-	herb	ASE 17981
Meliaceae			
<i>Cedrela fissilis</i> Vell.	cedro	tree	ASE 17949
Myrtaceae			
<i>Psidium schenckianum</i> Kiaersk.	araçá	tree	ASE 16050
<i>Eugenia puniceifolia</i> (Kunth) DC.	pitomba de cágado	tree	ASE 17993
Nyctaginaceae			
<i>Pisonia tomentosa</i> Casar.	bandola	tree	ASE 16042
Orchidaceae			
<i>Brassavola tuberculata</i> Hook.	-	herb	ASE 17819
<i>Catasetum uncatum</i> Nees and Sinning	-	herb	ASE 17950
<i>Cyrtopodium holstii</i> L.C. Menezes	-	herb	ASE 17957
<i>Oeceoclades maculata</i> (Lindl.) Lindl. (exotic species)	-	herb	ASE 16524
<i>Vanilla palmarum</i> (Salzm. ex Lindl.) Lindl.	-	herb	ASE 17859
Passifloraceae			
<i>Passiflora cincinnata</i> Mast.	maracujá do mato	liana	ASE 16515
Poaceae			
<i>Cenchrus echinata</i> L.	carrapicho	herb	ASE 17829
<i>Chloris gayana</i> Kunth.	-	herb	ASE 16529
<i>Eragrostis cilianensis</i> (All.) Vign. ex Janchen	-	herb	ASE 17833
<i>Eriochloa punctata</i> (L.) Desv. ex Ham.	-	herb	ASE 17855
<i>Setaria parviflora</i> (Poir.) Kerguélen	-	herb	ASE 17832
<i>Paspalum fimbriatum</i> Kunth	-	herb	ASE 16528
<i>Paspalum oligostachyum</i> Salzm. ex Steud.	-	herb	ASE 17828
<i>Urochloa fusca</i> (Sw.) B.F. Hansen & Wunderlin	-	herb	ASE 17856
Polygalaceae			
<i>Polygala decumbens</i> A.W. Benn.	-	herb	ASE 17865

TABLE 1. CONTINUED.

FAMILY/SPECIES	POPULAR NAME	HABIT	VOUCHER
Portulacaceae			
<i>Talinum portulacifolium</i> (Forssk.) Asch. ex Schweinf.	-	herb	ASE 17839
Rhamnaceae			
<i>Rhamnidium elaeocarpum</i> Reissek	melassonhim	tree	ASE 17953
<i>Ziziphus joazeiro</i> Mart.	juazeiro	tree	ASE 16513
Rubiaceae			
<i>Alseis floribunda</i> Schott	goiabeira do mato	tree	ASE 17996
<i>Borreria verticillata</i> (L.) G. Mey.	vassourinha-de-botão	herb	ASE 17852
<i>Coutarea alba</i> Griseb.	quina-quina branca	tree	ASE 17970
<i>Guettarda angelica</i> Mart. ex Müll. Arg.	quina-quina	tree	ASE 17807
<i>Tocoyena bullata</i> (Vell.) Mart.		tree	ASE 20414
Rutaceae			
<i>Citrus aurantium</i> L.	laranja brava	tree	ASE 17965
Salicaceae			
<i>Casearia sylvestris</i> Sw.	estralador	tree	ASE 17977
Sapindaceae			
<i>Cardiospermum halicacabum</i> L.	-	herb	ASE 17972
<i>Serjania communis</i> Cambess.	-	liana	ASE 17942
<i>Urvillea ulmacea</i> Kunth	-	liana	ASE 17857
Sapotaceae			
<i>Sideroxylon obtusifolium</i> (Humb. ex Roem. and Schult.) T.D. Penn.	quixabeira	tree	ASE 17969
Solanaceae			
<i>Aureliana fasciculata</i> (Vell) Sendth	-	tree	ASE 17966
<i>Datura stramonium</i> L.	zabumba	herb	ASE 17867
<i>Solanum americanum</i> Mill.	-	shrub	ASE 17944
<i>Solanum stipulaceum</i> Willd. ex Roem. and Schult.	-	shrub	ASE 17938
<i>Solanum caavurana</i> Vell.	-	shrub	ASE 17818
<i>Solanum gardneri</i> Sendtn.	-	shrub	ASE 17939
<i>Solanum paniculatum</i> L.	jurubeba	shrub	ASE 17634
<i>Solanum</i> sp.	sacatinga	shrub	ASE 16061
Solanaceae sp.1.	-	shrub	ASE 17928
Solanaceae sp.2	-	shrub	ASE 17945
Solanaceae sp.3	-	shrub	ASE 17818
Verbenaceae			
<i>Lantana camara</i> L.	chumbinho	shrub	ASE 16067
<i>Lantana canescens</i> Kunth	-	shrub	ASE 17919
<i>Lantana</i> sp.	malva	shrub	ASE 17914
<i>Lippia alba</i> (Mill.) N.E. Br. ex Britton and P. Wilson	-	herb	ASE 17842
<i>Priva bahiensis</i> A. DC.	pega pinto	herb	ASE 17843
<i>Tamonea</i> sp.	-	herb	ASE 17912
Vitaceae			
<i>Cissus blanchetiana</i> Planch.	-	herb	ASE 17980
<i>Cissus albida</i> Cambess.	-	liana	ASE 17992
Undetermined			
<i>Undetermined species 1</i>	-	herb	ASE 17862
<i>Undetermined species 2</i>	-	herb	ASE 17926

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