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"Luiz de Queiroz" College of Agriculture

What is planted in the restoration of the Atlantic Forest: floristic and functional analysis

Crislaine de Almeida

Thesis presented to obtain the degree of Doctor in Science. Area: Forest Resources. Option in: Conservation of Natural Ecosystems

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Crislaine de Almeida
Bachelor's and Master's in Biological Sciences

What is planted in the restoration of the Atlantic Forest: floristic and functional analysis

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Advisor:
Prof. Dr. **RICARDO AUGUSTO GORNE VIANI**

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Dedico a todos que lutam por um mundo mais justo, igualitário, com respeito ao meio-ambiente, a todas as formas de vida e todas as pessoas; dedico a essas pessoas que nunca desistem de sonhar com um mundo melhor.

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(...)

Houve um tempo em que a minha janela se abria para uma cidade que parecida feita de giz. Perto da janela havia um pequeno jardim quase seco. Era uma época de estiagem, de terra esfarelada, e o jardim parecia morto. Mas todas as manhãs vinha um pobre homem com um balde e, em silêncio ia atirando com a mão umas gotas de água sobre as plantas. Não era uma rega: era uma espécie de aspersão ritual, para que o jardim não morresse. E eu olhava para as plantas, para o homem, para as gotas de água que caíam de seus dedos magros, e meu coração ficava completamente feliz.

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* Crônica extraída do Livro “Escolha o seu sonho” de Cecília Meireles. 4ª ed., Rio de Janeiro: Global Editora, 2016

(Estou aprendendo a olhar na direção certa...)

SUMMARY

RESUMO

O que se planta na restauração da Mata Atlântica: uma análise florística e funcional

O desmatamento provoca perda na diversidade taxonômica e alteração nos processos ecológicos dos ecossistemas alterados. Os plantios de restauração florestal têm o papel de conservar as espécies da paisagem, mas se as espécies plantadas não representam a flora local, espécies nativas podem ser perdidas, levando à homogeneização biótica. As espécies arbóreas inseridas na prática da restauração florestal são aquelas disponíveis em viveiro e priorizadas pela facilidade de obtenção de sementes e produção de mudas, criando um filtro à biodiversidade usada na restauração ecológica, que define o conceito de *restoration species pool*. A Mata Atlântica brasileira é um dos hotspots mundiais para a conservação da biodiversidade e onde muitas iniciativas de restauração florestal são desenvolvidas, e o objetivo dessa tese foi comparar a diversidade florística e funcional de plantios de restauração florestal com a de remanescentes florestais da Mata Atlântica. Para isso utilizamos um banco de dados com 1073 listas de árvores plantadas na restauração da Mata Atlântica de 2002 até 2018 pelo programa "Click Árvore" e 268 remanescentes do banco de dados secundário Treeco, que possui levantamentos florísticos e fitossociológicos realizados em remanescentes florestais da Mata Atlântica. Foram realizadas análises para toda a Mata Atlântica e para três tipos florestais separadamente: Floresta Ombrófila Densa, Floresta Ombrófila Mista e Floresta Estacional Semidecidual. No primeiro capítulo nós avaliamos quão bem os plantios de restauração representam as síndromes de dispersão, classes sucessionais e a proporção de espécies e árvores fixadoras de nitrogênio e ameaçadas de extinção em comparação com os remanescentes florestais. Constatamos que 423 espécies arbóreas são plantadas em ações de restauração, o que representa menos de 8% da flora arbórea da Mata Atlântica. Os plantios de restauração têm uma proporção maior de indivíduos e espécies fixadoras de nitrogênio (15% nas plantações vs. 8% nos remanescentes) do que os remanescentes florestais, mas uma sub-representação de espécies tardias (85% vs. 67%), dispersas por animais (50% vs. 71%) e ameaçadas de extinção (18 em plantações vs. 83 em remanescentes). No segundo capítulo nós testamos se os plantios representam a diversidade dos remanescentes florestais. Nós calculamos o índice de dominância de Simpson e o Índice de dissimilaridade para plantios, para remanescentes e entre plantios e remanescentes. Para avaliar a ordenação de plantios e remanescentes de acordo com sua composição florística, fizemos uma análise de escala multidimensional não métrica (NMDS) e o teste post-hoc PERMANOVA e, para inferir se a dissimilaridade florística aumenta com a distância e de forma semelhante para remanescentes florestais e plantios, calculamos modelos lineares generalizados (GLMs) usando o índice de Bray Curtis. Nossos resultados mostraram que os plantios de restauração, independentemente do tipo de floresta em restauração, são mais semelhantes entre si do que com os remanescentes de vegetação nativa do mesmo tipo florestal onde se inserem, ou seja, enfrentamos um processo de homogeneização biótica, uma vez que as espécies plantadas não representam bem o conjunto de espécies remanescentes. Nós recomendamos a inclusão de mais espécies ameaçadas de extinção, endêmicas e sub-representadas nos plantios de restauração florestal.

Palavras-chave: Homogeneização biótica, Restauração florestal, Grupos funcionais, Plantios.

ABSTRACT

What is planted in the restoration of the Atlantic Forest: floristic and functional analysis

Forest deforestation causes loss of taxonomic diversity and alteration in ecological processes. Forest restoration plantings aims to conserving landscape species, but if the planted species do not represent the local flora, native species can be lost, leading to biotic homogenization. Species planted for forest restoration are those available in nurseries and prioritized for the ease of obtaining and production, creating a filter called of restoration species pool. The Brazilian Atlantic Forest is one of the world's hotspots for biodiversity conservation and where many forest restoration initiatives are developed. Our objective in this work was to compare the floristic and functional diversity between lists of forest restoration plantings and forest remnants of the Atlantic Forest. We used a database with 1073 lists of restoration plant carried out in the Atlantic Forest from 2002 to 2018 by the "Click Tree" program and 268 remnants of the Treeco secondary database that has floristic and phytosociological surveys carried out in forest remnants. of the Atlantic Forest. Analyzes were carried out for the entire Atlantic Forest and for three forest types separately: Mixed Ombrophilous Forest, Ombrophilous Dense Forest, and Semideciduous Seasonal Forest. In the first chapter we evaluated if restoration plantings represent dispersal syndromes, ecological groups and the proportion of nitrogen-fixing and threatened species compared to forest remnants. We found that 423 tree species are planted in restoration plantings, which represents less than 8% of the Atlantic Forest flora. Restoration plantings had a higher proportion of nitrogen fixing species (15% in plantings vs. 8% in remnants) and individuals than forest remnants, but underrepresentation of secundary species (85% vs. 67%) animal-dispersed species (50% vs. 71%) and threatened species (18 in plantings vs. 83 in remnants). In the second chapter we tested whether the planted species are representing the diversity of forest remnants. We calculated the Simpson dominance index and the dissimilarity index for plantings and remnants and between plantings and remnants for each forest type and for forest types comparing plantings and remnants. To assess the ordering of plantings and remnants according to their floristic composition, we calculated a non-metric multidimensional scale analysis (NMDS) and the PERMANOVA post-hoc test, and to infer whether floristic dissimilarity increases with distance and similarly for forest remnants and forest plantings, we calculated generalized linear models (GLMs) using the Bray Curtis index. Our results showed that forest plantings are more similar to each other than to the remnants, that is, we face a process of biotic homogenization, since the planted species did not represent remnant species. We recommend including more endangered, endemic and underrepresented species in forest restoration.

Keywords: Biotic homogenization, Forest restoration, Functional groups, Plantings.

1. INTRODUCTION

The deforestation and fragmentation of natural ecosystems reduce regional species richness over time, which decreases the number of species found in fragmented landscapes compared to undisturbed ones (Lopes et al. 2009; Munguía-Rosas et al. 2014). Tropical forests have a high species turnover due to the replacement of species throughout their area (Myers et al. 2013). After deforestation, the loss of taxonomic species diversity causes loss of functions, such as pollination (Girão et al. 2007; Wesche et al. 2012; Winfree et al. 2018), dispersal (McConkey et al. 2012), and nutrient fixation (Siddique et al. 2008; Aleixo et al. 2020), and the loss of endangered and endemic species (de Lima et al. 2020).

In the face of this alarming forest loss, fragmentation, and degradation, many forest restoration goals have been set to restore forest cover and to reverse economic and environmental damage (SCBD 2011; IUCN 2016, UNFCCC 2020). Forest restoration aims to re-establish the composition and functionality of an ecosystem that has been destroyed or modified (Gann et al. 2019), and native tree planting is the predominant method in low-resilience regions (Suganuma & Durigan 2021). When this method is used, nearby forest remnants are recommended as reference sites to guide species selection and planting (Gann et al. 2019). However, in many landscapes, these reference forests are frequently small remnants where the tree species compositions are often inadequate guides to the original or conserved forests (Holl & Cairns 2002; Balaguer et al. 2014).

The concept of the restoration species pool proposes that forest restoration species are defined more by the availability of seeds or seedlings in nurseries than by the regional flora (Ladouceur et al. 2018). However, in practice, the species composition of restoration plantings in a given region may depend on the season of the year, the level of fragmentation and degradation of the native vegetation in the landscape where propagules are collected, the structure of the regional nurseries, the strategy used to obtain the propagules, and the sowing, production, survival, and development of seedlings produced (Harrison et al. 2008). Each of these steps imposes filters that limit the production of species in nurseries and determine which species are available and consequently planted in forest restoration initiatives. Thus, the most planted tree species are commonly those with propagules available in each season. Furthermore, nurseries usually have few endangered species in the composition of seedlings produced because most of these species are rare and trees for providing seeds for restoration are limited (Hoffmann et al. 2015; Vidal et al. 2020). Some species may also be uncommon in restoration initiatives because they have become rare over time due to intensive exploitation (Mori et al.

2018), whereas others have barriers to commercial production in nurseries (Ladouceur et al. 2018).

Remaining forest fragments frequently have a small representation of local flora species. Therefore, if the forests are restored using a small set of native species, the species are confined to the remnants and are not good colonizers in restoration sites (Suganuma & Durigan 2021). This implies that these native species may become extinct over time by the most planted species in the restoration initiative. The landscape can become dominated by a restricted set of species due to a process called biotic homogenization (Lesage et al. 2018). Planting during forest restoration of the same species over large areas, such as the extension of the Atlantic Forest, without respecting the regional and/or local occurrence of these species in the remaining forest fragments, can contribute to biotic homogenization in these large extensions (Lesage et al. 2018). Therefore, identifying restoration plantings that are recovering ecosystem functionality and whether this occurs in a similar manner to that observed in the remaining native forests (Huang et al. 2009) is crucial. However, few studies have evaluated the functional richness of forest restoration plantings or large initiatives (Aerts & Honnay 2011; Brancalion et al. 2018; Engert et al. 2020).

The Brazilian Atlantic Forest is one of the most degraded tropical forests in the world, with less than 16% of its original forest cover remaining (Ribeiro et al. 2009). The loss of important ecosystem services and the legal requirement for forest restoration on private lands imposed by laws (existing since the 1930s, but currently enforced by the Native Vegetation Protection Law from 2012) have fostered the creation of many forest restoration initiatives in the Atlantic Forest (Rodrigues et al. 2011; Holl 2017). However, the tree species planted in these forest restoration initiatives only comprise a fraction of the original floras, and whether these plantings are similar to the reference remnants in taxonomy and functional composition is unknown. Thus, this study was aimed to conduct a floristic and functional analysis of a large list of 1073 forest restoration plantings performed from 2002 to 2018 in the Brazilian Atlantic Forest.

The first chapter is a descriptive analysis of the plantings, which analyzed the representation of the syndromes of dispersal, the successional groups, and the nitrogen-fixing and threatened species in restoration plantings. We also utilized a second database, TreeCo (de Lima et al. 2015, 2020), which compiled information on species abundance in the forest remnants of eastern South America. Thus, we split Atlantic Forest plantings and forest remnants into three forest types: Mixed Ombrophilous Forest (Araucaria Forest), Ombrophilous Dense

Forest, and Seasonal Semideciduous, and compared the representation of each group of species between restoration plantings and forest remnants.

In the second chapter, we juxtaposed the planting composition of forest remnants along the Atlantic Forest. We hypothesized that regardless of the location, tree plantings are floristically more similar among themselves than with the remaining native forest. This is proposed by the concept of the "restoration species pool," according to which, the flora is determined more by the availability of the plants at nurseries (which according to our premise is similar throughout the Atlantic Forest) than by the regional diversity (Ladouceur et al., 2018).

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2 RESTORATION IN THE ATLANTIC FOREST USES A SMALL, BIASED, AND HOMOGENEOUS SET OF TREE SPECIES

Authors: Crislaine de Almeida, J. Leighton Reid, Renato Augusto Ferreira de Lima, SOS Mata Atlântica, Ricardo Augusto Gorne Viani

School of Plant and Environmental Sciences, Virginia Tech, 185 Ag Quad Lane, Blacksburg, VA 24061, USA

Departamento de Ecologia, Instituto de Biociências, Universidade de São Paulo. Rua do Matão, trav. 14, 321, 05508-090, São Paulo, Brazil.

Abstract

Investigating which species are planted in active restoration initiatives is useful for identifying underrepresented species and functional groups, which in turn can inform and improve the practice and policies of forest restoration. The Brazilian Atlantic Forest is one of the global hotspots for biodiversity conservation and a region where many forest restoration initiatives have been carried out in recent decades. We conducted a taxonomic and functional analysis of a database with 1,073 forest restoration plantings implemented from 2002 to 2018 in the Atlantic Forest. We assessed how well restoration plantings represent the dispersal syndromes, ecological strategies, and the ratio of nitrogen-fixing, threatened and rare species compared to 268 Brazilian Atlantic Forest remnants. Comparisons were made for the entire biome as well as three subtypes: Mixed Ombrophilous Forest, Ombrophilous Dense Forest and Seasonal Semideciduous Forest. We found that 423 tree species are planted in restoration efforts, which represent less than 8% of the Atlantic Forest tree flora. Restoration plantings have a greater proportion of nitrogen-fixing species (15% in plantings vs. 8% in remnants) and individuals than forest remnants, but underrepresent of late-successional (85% vs. 67%), animal-dispersed (50% vs. 71%), and threatened species (18 in plantings vs. 83 in remnants). We recommend actions to increase the representation of the native tree flora in Atlantic Forest restoration plantings, especially concerning the inclusion of animal-dispersed and threatened species.

Keywords: Biotic homogenization, Forest restoration, Functional groups, Landscape restoration, Nurseries, Rarity, Reforestation, Remnants, Seedlings, Tree.

2.1 Introduction

Society is currently making unprecedented investments in ecological restoration to address the interrelated global challenges of climate change, mass extinction, and desertification (UNFCCC, 2020). Dozens of nations have committed to restore hundreds of millions of hectares over the current decade. There are many ambitious forest restoration programs established across the world (Haase & Davis 2017, Aronson et al. 2020), we have just

started the United Nations decade on ecosystem restoration (Abhilash 2021; Ceccon et al. 2020), and how these restorations are accomplished could have far-reaching consequences for biodiversity recovery or a lack thereof.

Planting native tree seedlings is the most used forest restoration techniques in many tropical regions (Palma & Laurance 2015; Rodrigues et al. 2011). Thus, compiling and evaluating the pool of species used in restoration plantings in a given region or biome is important not only to know whether and which species are being planted, but also to identify missing and underrepresented species and functional groups in restoration efforts (Holl et al. 2017, Brancalion et al. 2018). Some groups such as slow-growing species dispersed by gravity or large mammals fail to colonize on forest restoration plantings (Holl et al. 2020, Suganuma & Durigan 2021). This group, for instance, will be confined to remaining forests if not introduced by active restoration initiatives. Thus, knowledge on the species planted is crucial to guide the creation and improvement of public policies aimed to stimulate seed collecting, seedling production and, thus, the inclusion of missing species and functional groups that tend to fail colonizing in restoration plantings.

In the last decades, many restoration initiatives have been carried out in the highly diverse Atlantic Forest (Rodrigues et al. 2009; Shaw et al. 2019, de Siqueira et al. 2021), a hotspot for biological conservation, with high ratios of plant endemism (Fiaschi & Piraji 2009, de Lima et al. 2020b) and loss of species and carbon (Joly et al. 2014, de Lima et al. 2020a). However, we do not have studies of the representation of functional groups in planted forests of different types of forest in the Brazilian Atlantic Forest. Our objective was to carry out a descriptive and critical analysis of the tree species planted in the southern part of the Brazilian Atlantic Forest in the last two decades. We evaluated whether threatened and endemic species, as well as species and individuals belonging to important functional groups, such as animal-dispersed, nitrogen fixing, pioneer trees, and slow-growing species are under or overrepresented in forest restoration plantings. We considered these functional groups because of the key role animal-dispersed (Viani et al. 2015; Camargo et al. 2020, de Almeida & Viani 2021), early-successional (Martínez-Garza et al. 2013; de Almeida & Viani 2019) and nitrogen-fixing (Siddique et al. 2008) species have for accelerating tropical forest restoration processes. Also, we considered slow-growing species dispersed by large-mammals as a specific group because their species tend to not colonize spontaneously in restoration plantings (Tabarelli et al. 2012, Reid et al. 2015, Suganuma & Durigan 2021).

Tree species seedlings for forest restoration purposes are produced by forest nurseries, which frequently limit the pool of species available for forest restoration at regional scales

(Jalonen et al. 2018; Ladouceur et al. 2018; Vidal et al. 2020). The restoration species pool (*i.e.* the set of species available to restoration) is composed mainly by the most abundant species in regional forest fragments, while rare and threatened species, which seeds are supposedly more difficult to obtain, tend to be less often and less abundant or, alternatively, completely absent in nurseries (Hoffmann et al. 2015; Vidal et al. 2020). Brancalion et al. (2018) showed that the number of species with animal dispersed seeds in plantings was approximately equal to the number of species with other types of dispersal, which is less than that observed in the forest remnants. Thus, we hypothesized that non-pioneer, slow-growing and animal-dispersed species are underrepresented in restoration plantings overall, because pioneer and abiotic-dispersed species are more easily found in the edges of the forest fragments used for seed collection (Santos et al. 2008), once remnants available in the landscapes are mainly degraded and colonized by early-successional species (Martínez-Garza & Howe 2003). Furthermore, we expected that few threatened and endemic species are planted, and that abundancy and frequency of them are lower in restoration plantings than in the remaining forest fragments. The cause is that, generally, endemic species have restrict distributions, while threatened species have reduced populations due to overexploitations, bothbeing difficult to find for seed collecting in the remaining degraded fragments (Mori et al. 2018).

2.2 Material and Methods

2.2.1 Study site

The Brazilian Atlantic Forest variation in temperature, rainfall regime and in latitude and altitude drive differences in its taxonomic composition (Oliveira-Filho & Fontes, 2000), and consequently the formation of different forest subtypes. In our study, we considered three forest types: Ombrophilous Dense Forest, Seasonal Semideciduous Forest and Araucaria Forest (Figures 1, Figure S1).

The Ombrophilous Dense Forest is on the coast of Brazil, and is characterized by highlands with altitude ranging from 0 to 3,000 m. The climate is humid subtropical (Cfa/Cfb) without a dry season, with an average annual precipitation greater than 2,200 mm and an average annual mean temperature around 17°C (Scudeller et al. 2001; Joly et al. 2012).The Seasonal Semideciduous Forest is on the hinterland highlands in the center and southeastern interior of Brazil (Oliveira-Filho & Fontes, 2000). This vegetation type is under a seasonal climate with a dry season in the winter, from April to September (Morellato et al. 2000; Oliveira-Filho & Fontes 2000). Average annual rainfall is 1,000-1,500 mm while average annual mean temperature is 20-26°C (Behling, 2002). Finally, the Mixed Ombrophilous Forest

(Araucaria Forest) is characterized by the dominance of the coniferous *Araucaria angustifolia* (Marques et al. 2004), and it is found in the highlands of Southern Brazil and in the south of the Serra da Mantiqueira. The climate is temperate and humid, without dry periods, with an average annual precipitation between 1,400 and 2,200 mm (Hueck, 1953). The average annual mean temperature is 12-18°C, and winter temperatures approach 0°C (Nimer, 1989; Oliveira-Filho 2009).

We used the Brazilian official delimitation of the Atlantic Forest regions (IBGE 2004) to place each planting in each forest type. By this classification, we found 958 plantings in the Seasonal Semideciduous Forest, 81 in the Ombrophilous Dense Forest and 34 in the Mixed Ombrophilous Forest (Figure 1).

2.2.2 Databases

We used a database of the "Click Árvore" restoration program, coordinated by the NGO SOS Mata Atlântica (https://www.sosma.org.br), that contain the list of trees planted from 2002 to 2018, in 1,073 Atlantic Forest restoration sites (Figure 1, Table S1). Seedlings for these planting came from 29 nurseries and plantings ranged of 1.5 to 32.8 ha (Table S1). The list contains the number of individuals of each species, sent by the nursery, for each of the plantings. The database is very expressive as it gathers the largest number of plantings carried out in a given region and has information stored for a period of 16 years, which allows us to carry out spatial and temporal analyzes on the identity of the species used for forest restoration in this region, one of the most threatened in the world (de Lima et al. 2020a).

The Click Árvore program was created in 2000 in collaboration between the NGO SOS Mata Atlântica, the Instituto Ambiental Vidágua and the Abril Group, with the idea that each click by an Internet user would result in a seedling donated for planting in the Atlantic Forest. Thus, the program initially had seedling nurseries, sponsoring companies, NGOs and, mainly, internet users and landowners in the Atlantic Forest. The program's actions aim to support local restoration initiatives by promoting and donating native Atlantic Forest tree seedlings; encourage the collection of seeds and the production of seedlings; contribute to the restoration of important places for water conservation and to build ecological corridors among forest fragments, and mobilize the civil society to participate in forest restoration projects (https://www.sosma.org.br/projeto/clickarvore/). The program is currently maintained through individual monetary donations and memberships, in addition to partnerships with companies.

We also used data stored in the TreeCo database (de Lima et al. 2015, 2020b), that compiles information on species abundances and functional traits in eastern South America.

From the TreeCo database, we selected 268 remnants (286,660 trees, Figure 1) which had 1) inventories including trees with diameter at breast height > 5 cm, 2) no evidence of disturbance and, 3) available information on the inventoried forest type. The sampled area of the remnants ranged of 0.1 to 5.04 ha (Table S2). We used 140 scientific publications, including monographs, master's dissertations, doctoral theses, and national and international publications, that carried out the 268 tree surveys used here. Thus, we included in our analyses a subset containing 85 Ombrophilous Dense Forest, 27 Mixed Ombrophilous Forest (Araucaria Forest) and 156 Seasonal Semideciduous Forest fragments of a sampling effort of 207 ha (Figure 1, Table S2).

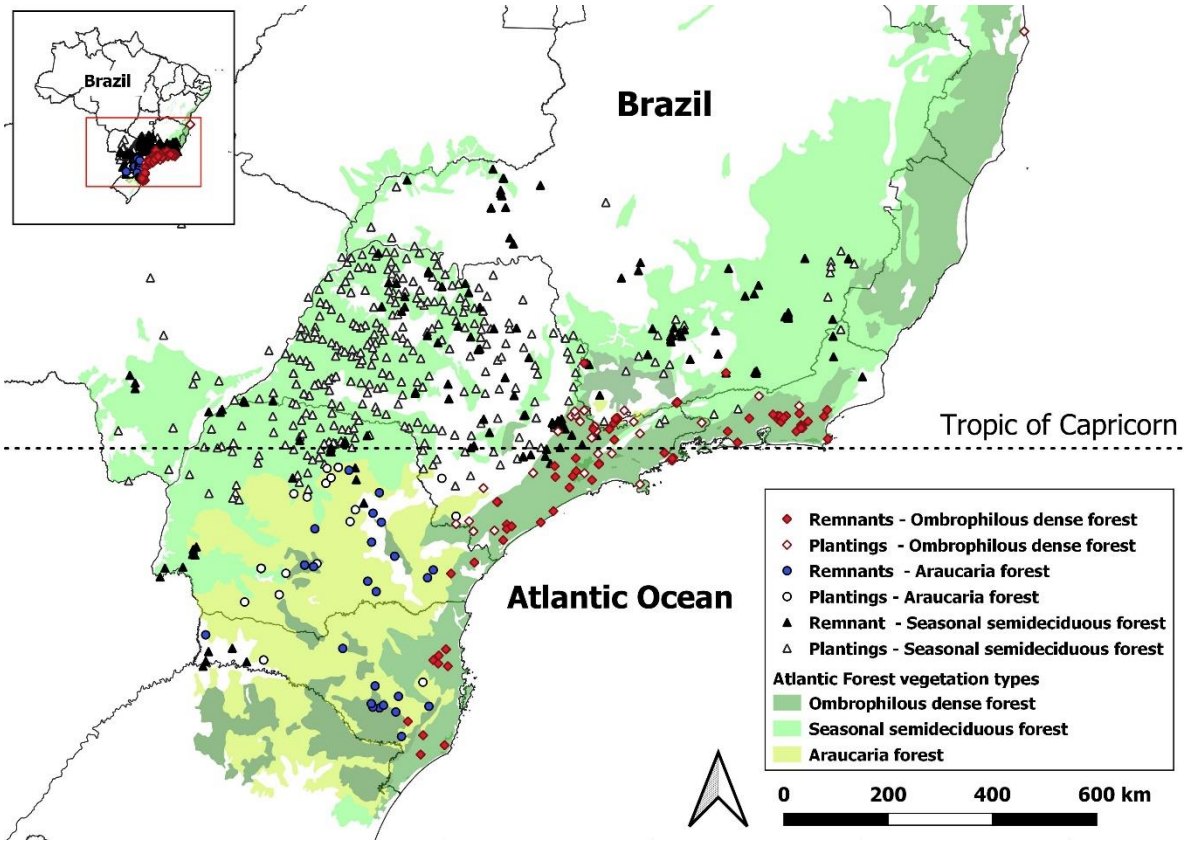

Figure 1: Limits for the Atlantic Forest subtypes in Brazil, and the location of the studied restoration plantings and remnants.

2.2.3 Species information

First, we check species name and synonyms for all the species in the plantings and remnants lists, using the Flora do Brasil 2020 database (Flora do Brasil, 2020). Then, we classified all tree species according to their seed dispersal syndrome, sucessional group, and nitrogen fixation status. For the dispersal syndrome classification, species were defined as

animal-dispersed or non-animal dispersed (anemochoric or autochoric) based on our recognition of their fruit types. For classifying into successional groups, first we classified each species as pioneer, initial secondary, late secondary or late successional (Budowski 1965; Whitmore 1993) considering previous information of the Treeco database and knowledge of the authors. If there was no information whether the species is initial or late secondary, it was classified only as secondary. Species without classification were listed as non-defined. For the analysis, we used only the classification as pioneer (only pioneer) or non-pioneer (all other categories). The species were classified as nitrogen-fixing or non-nitrogen-fixing using a global nitrogen status database (Tedersoo et al., 2018). Species listed in Tedersoo (et al., 2018) as rhizobia, likely rhizobia and Frankia were considered nitrogen fixing, while species listed as unlike rhizobia were considered as non-nitrogen-fixing.

Species were classified according to their extinction risk as vulnerable, endangered, critically endangered or not endangered based on the Brazilian Official List of Threatened Plant Species (MMA, 2014). Knowing whether threatened species are being planted in restoration initiatives is useful to infer the role these plantings play for tree species conservation.

Additionally, we classified species used in forest restoration following the results of three recently published articles that categorized Atlantic Forest species by facility of colonizing forest restoration areas (Suganuma & Durigan 2021), higher-than-average potential for carbon storage, ecological interactions and biodiversity conservation (de Lima et al. 2020a), and endemism (de Lima et al. 2020b). All these categorizations were carried out using robust and extensive databases, generating classifications that can collaborate, along with real data on the species used in forest restoration plantings, to make recommendations on the species that should receive more attention in the forest restoration of the Atlantic Forest.

2.2.4 Data analysis

We evaluated the number of species shared between restoration plantings and remnants. We calculated absolute frequency and relative abundance of each species in restoration plantings and in forest remnants. We also calculated the percentage of trees and individuals by dispersal syndrome, sucessional group, nitrogen-fixing and threat of extinction. Then, to infer if some groups are over or underrepresented in restoration plantings, we compared the proportions of each category within a given functional group between plantings and remnants, for species and individuals, using the Chi-square test. All these analyses were done for all forest types combined and for each forest type. Additionally, we created a list with all species, from both plantings and remnants. Then, we used a Chi-square test to compare the proportion of

animal versus non-animal dispersed species within the groups of pioneers and non-pioneer species, using the whole set of species, to know whether the prevalence of one of these successional groups in plantings may affect the representativeness of species and trees of a given dispersal syndrome in the restoration initiatives.

All the analyses were performed in the R software 3.5.1. (R Development Core Team, 2018) and interpreted following ranges of evidence to P-value, therefore values < 0.001 represent very strong evidence, 0.001 – 0.01 is strong evidence, 0.01 – 0.05 is moderate evidence, 0.05 – 0.1is weak evidence and 0.1 – 1 is little or no evidence (Muff et al. 2021). We applied the Bonferroni correction to all Chi-square tests.

2.3 Results

2.3.1 Taxonomic diversity of restoration plantings and remnants

A total of 423 species belonging to 66 botanical families were found in the database of Atlantic Forest restoration plantings, totaling about 21.7 million seedlings. Overall, the five most-frequent species in the Atlantic Forest plantings are, in a descending order, *Schinus terebinthifolia* (present in 94% of the plantings), *Ceiba speciosa* (93%), *Cedrela fissilis* (88%), *Croton floribundus* (86%), and *Guazuma ulmifolia* (85%). The three most-abundant species were *S. terebinthifolia*, *C. speciosa*, and *Parapiptadenia rigida*, which together made up 7% of all seedlings planted. The ten most-abundant species represent 18% of all seedlings planted. The most-abundant species overall are also the most-planted ones in the Seasonal Semideciduous Forest, but slightly differed in the Ombrophilous Dense Forest and in the Mixed Ombrophilous Forest (Figure 2; Table S3).

We found 1,891 tree species in the selected remnants, with 1,327 in the Seasonal Semideciduous Forest, 1,309 in the Ombrophilous Dense Forest and 409 in the Mixed Ombrophilous Forest. The most abundant and most frequent species in the remnants, overall and within forest subtypes, are generally different from those in restoration plantings (Table S4). Of the 20 most-abundant species in the remnants, 15 are non-pioneer and dispersed by animals and only one, *Croton floribundus*, is also within the 20 most-abundant species in restoration plantings. The richest botanical families in the plantings are Fabaceae, with 104 (25%), and Myrtaceae, with 36 (9%) species (table S5, figure S2). Those families are also the richest families in the remnants, Myrtaceae with 273 (14%) and Fabaceae with 223 (12%) species (Table S6, figure S2).

There are 93 threatened species (vulnerable or endangered) in remnants, and 18 in plantings, representing 4% of the species and 4% of the seedlings in restoration plantings.

Cedrela fissilis is the most-abundant threatened species, and it is the only threatened species among the top-20 most-planted species overall and in the top-five in the Ombrophilous Dense Forest. Only three threatened species, *C. fissilis*, *Psidium myrtoides*, and *Zeyheria tuberculosa* are in more than 50% of the plantings (Figure 3). However, 99% of the plantings (1,055) have at least one threatened tree, with the number of threatened species in each planting varying from one to 12. We also found two exotic species in the restoration plantings: *Psidium guajava*, with 128,177 seedlings, found in 444 (41%) sites and *Tecoma stans*, present in five (0.5%) plantings and totaling 651 individuals (Table S1).

Species sharing among forest subtypes is higher for plantings than for remnants (figure 4A). A total of 360 are shared between remnants and plantings, representing 19% of the species in the remnants and 85% in the plantings. The majority of species found in remnants are not planted in Atlantic Forest restoration, overall (81%) and for all forest subtypes individually (figure 4B).

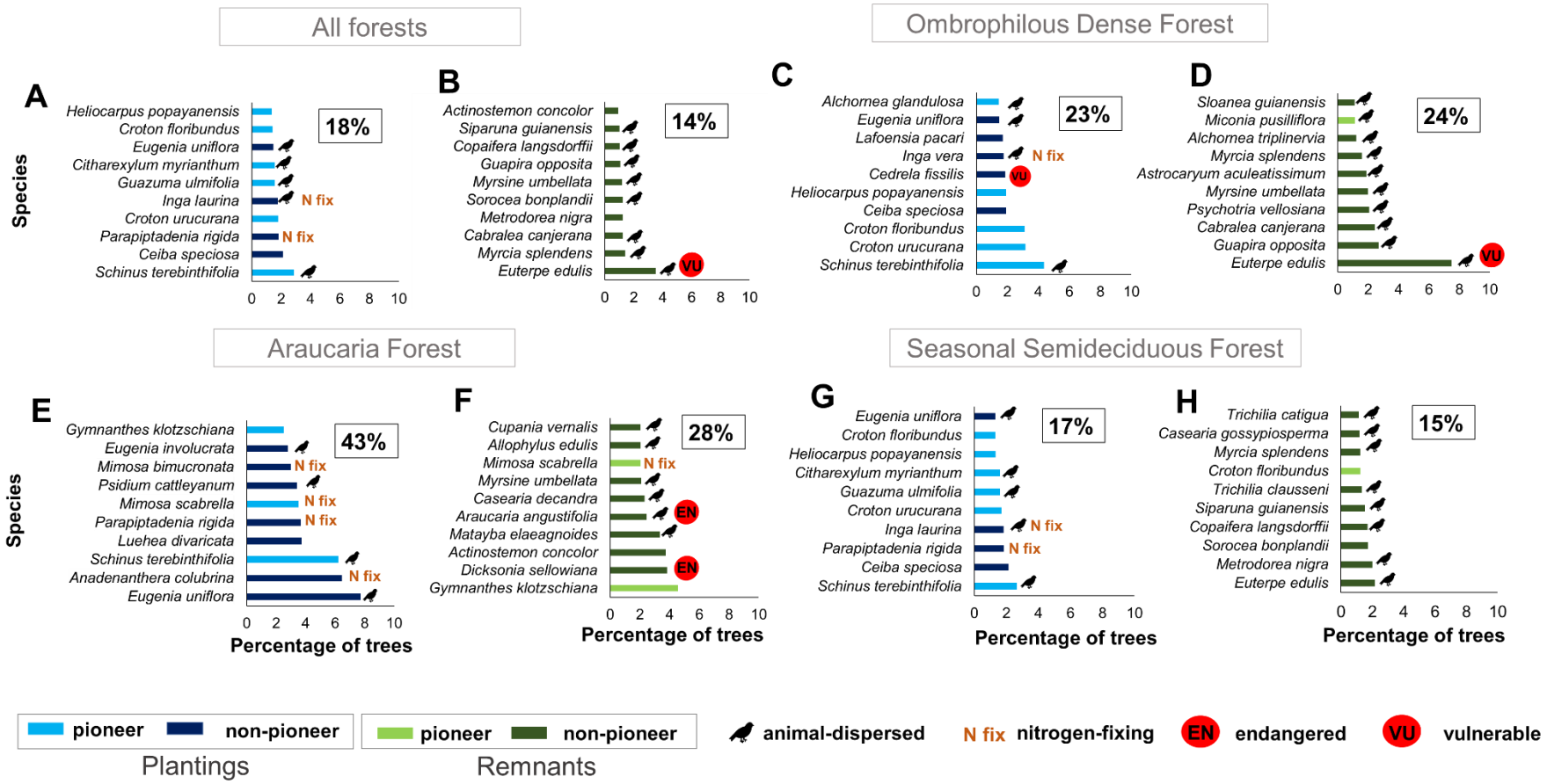

Figure 2: Ten most-abundant species in 1,073 forest restoration plantings (left, blue) and in 238 selected Atlantic Forest remnants (right, green), overall (A, B) and for Ombrophilous Dense Forest (C, D), Mixed Ombrophilous Forest (Araucaria Forest) (E, F) and Seasonal Semideciduous Forest (G, H). The percentage is the sum of relative abundance for the 10 most abundant species.

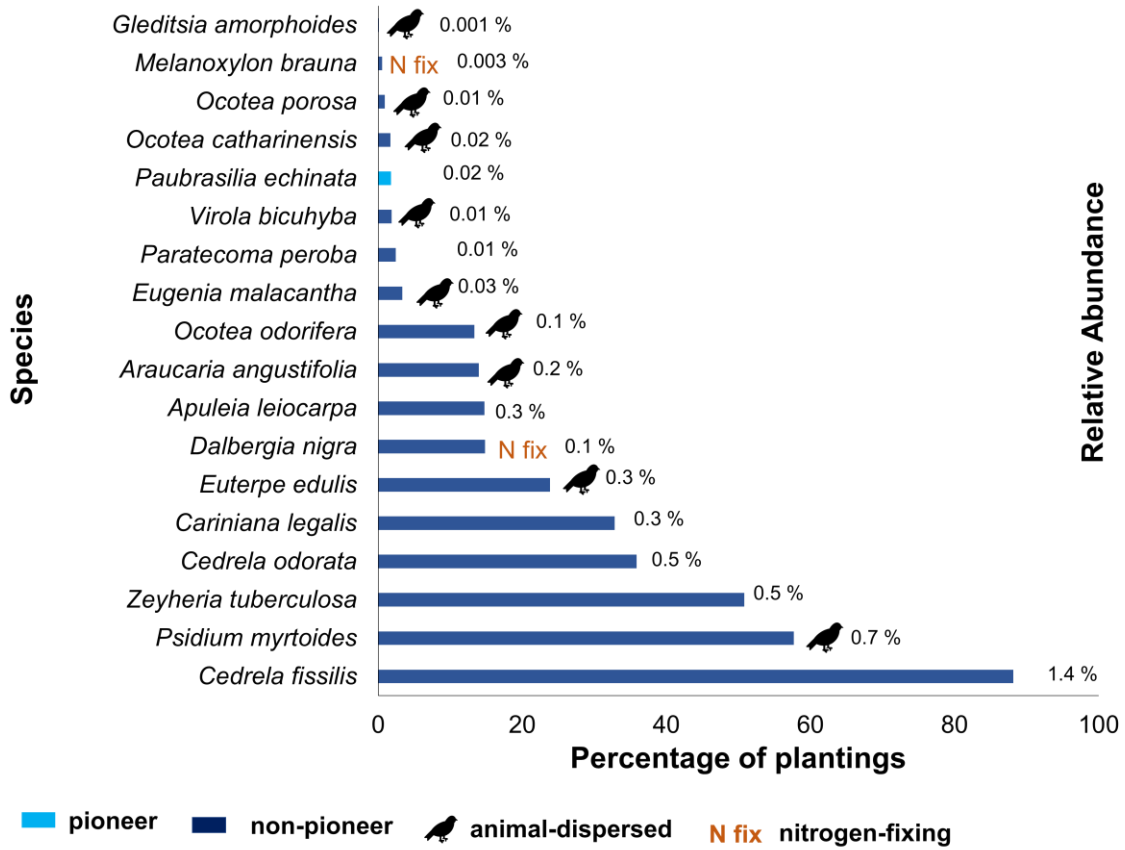

Figure 3. Threatened species in Brazilian Atlantic Forest restoration plantings and percentage of plantings in which each threatened species in the Brazilian Atlantic Forest restoration plantings was found. The number in front of the bar of each species is its relative abundance (%) in the total amount of seedlings planted.

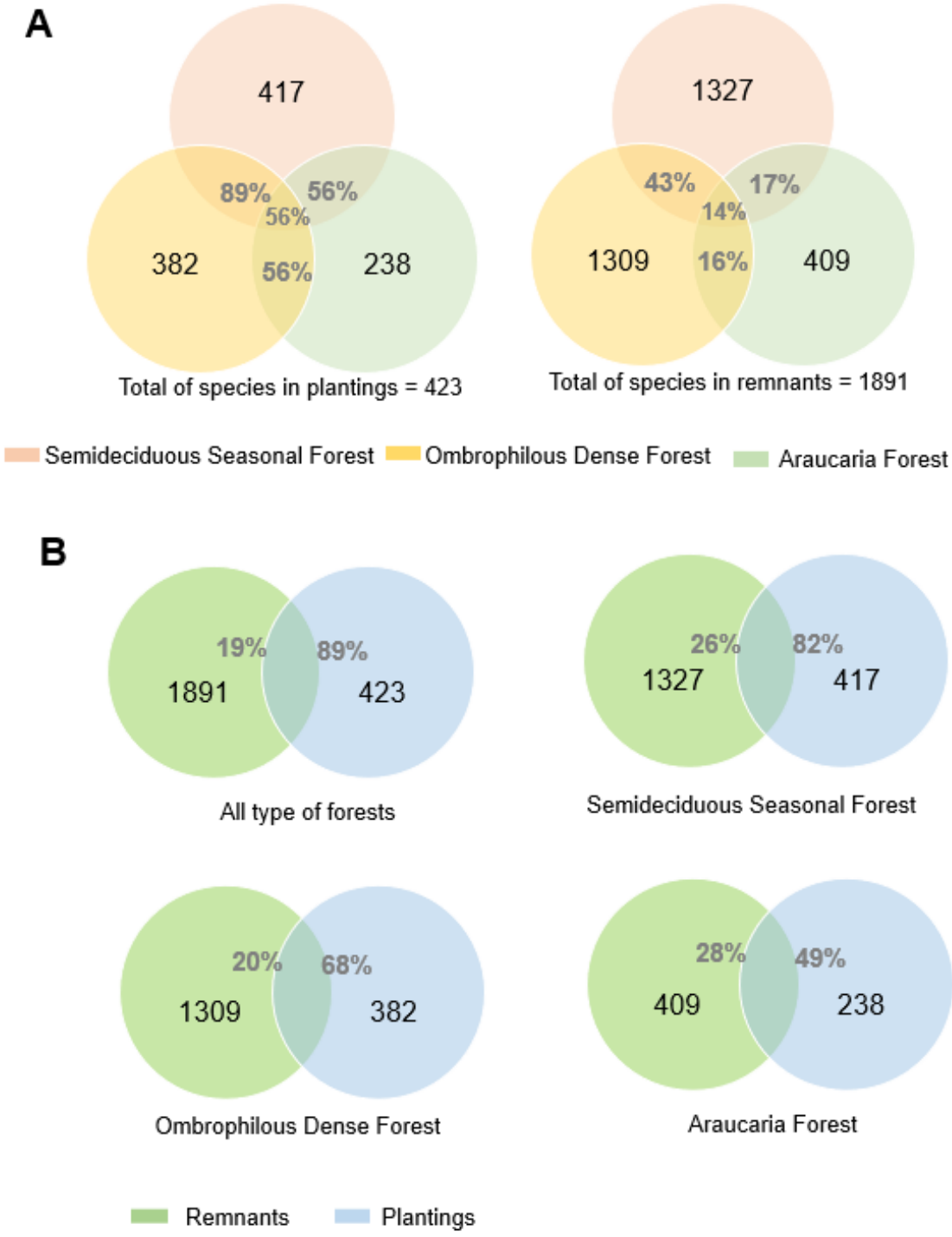

Figure 4: Venn-diagrams for tree species sharing among Atlantic Forest A-) subtypes for restoration plantings and for remnants and B-) overall and for forest type between restoration plantings and renmants. Percentages in B are the percentage of species remnants shaared with plantings and vice-versa.

2.3.2 Functional groups in restoration plantings and reference forests

The proportions of animal dispersed species and trees are lower in restoration plantings than in remnants, overall and for each forest type. Although the proportion of pioneer species seems similar between restoration plantings and remnants, the former has proportionally more pioneer trees, overall and for each forest type. The proportion of nitrogen-fixing trees is greater in restoration planting than remnants in all comparisons, but the proportion of nitrogen-fixing species is greater in restoration plantings only overall and for the Seasonal Semideciduous Forest (Figure 5; Table S8; Table S9). Overall, the most-planted tree species are pioneer and non-animal dispersed. In the top 10 most planted species, there are 10 pioneer and seven non-animal dispersed species. There is a relation between dispersal syndrome and sucessional group for the species in the datasets ($\chi^2 = 34$; $p < 0.001$; strong evidence), with the non-animal dispersed species being more frequent among the group of pioneer species.

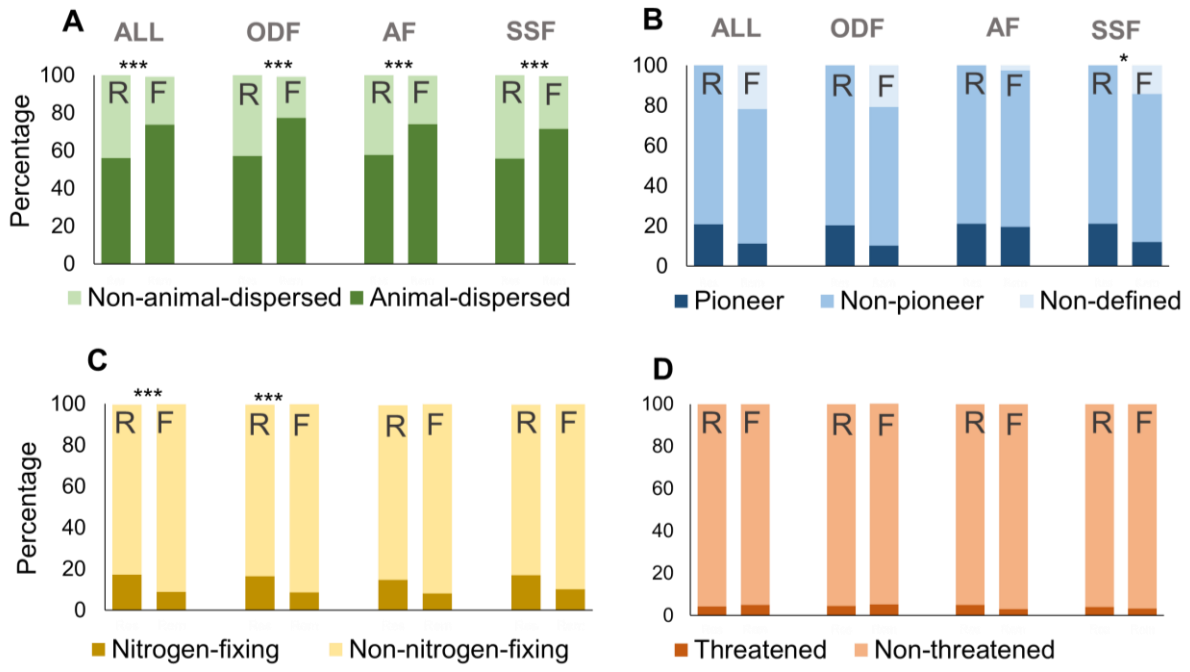

Figure 5: Proportions of functional groups in Atlantic Forest restoration plantings and remnants. R – restoration plantings, F – forest remnants, ODF - Ombrophilous Dense Forest, AF – Mixed Ombrophilous Forest (Araucaria Forest), SSF – Seasonal Semideciduous Forest. *** indicate difference between comparisons with a p-value < 0.0001 and * indicate difference between comparisons with a p-value < 0.05, both based on the Chi-square test.

2.3.3 Threatened and underrepresented species

The proportion of threatened species did not differ between restoration plantings and remnants, but forest remnants have more threatened trees than restoration plantings (Figure 5D;

table S8). In addition, 81% of the threatened species found in the remnants are absent in the restoration plantings. Seventy five percent of the threatened species in the remnants (70 out of 93) are dispersed by animals, while in plantings, it is only 28% (five out of 18).

Plantings incorporated only 16 of the 42 species indicated by Suganuma & Durigan (2021) as species that do not colonize plantings. Only one of this non-colonizer species planted is threatened - *Apuleia leiocarpa* (vulnerable).

Eight species of the ranking of 242 recommended species for with higher-than-average potential for carbon storage, ecological interactions and biodiversity conservation elaborated by de Lima et al. (2020a), are present in restoration plantings. In addition, 12 of the 17 threatened species, and 15 endemic species are represented. Recommend species are 22% of all planted trees, and only 3% of planted trees are threatened and recommended. Just 73 of the 1547 species belong to the group of endemic species defined by de Lima et al. (2020b), and endemic species are 13% of all planted trees. Eight species of them are threatened while three are non-colonizers (Table S9).

2.4 Discussion

We analyzed the largest database with information on the species used in restoration plantings that we have knowledge of so far, for a region where forest restoration has advanced and implemented in so many ways in the last decades, through intense research, policies and large-scale restoration initiatives (Crouzeilles et al. 2019). We found that overall, just 20% of the tree species surveyed in Atlantic Forest fragments is being introduced in forest restoration plantings. This native tree flora representation is even lower, only 8%, if compared to the overall species richness in the whole Brazil Atlantic Forest, which encompasses 5,044 tree species (de Lima et al. 2020b). Additionally, we found that there is a greater overlap of the species planted than there is for the species found in remnants when we compare the species across the different Atlantic Forest subtypes. This means that there is a tendency of planting the same tree species throughout the whole Atlantic Forest, without regard to local flora composition, which could favor biotic homogenization and its undesirable consequences (Palma & Laurance 2015). Biotic homogenization is an increase in the taxonomic similarity of two or more biotas over a time interval, and the consequence is a decline in biodiversity (Olden & Rooney 2006).

The underrepresentation of native flora in restoration plantings probably reflects the underrepresentation found in forest nurseries (Vidal et al. 2020), since forest nurseries filter the species pool available for ecological restoration (Ladouceur et al. 2018). However, whether taxonomic diversity and representation of native species in individual restoration plantings is

really needed, is still a recurrent question (Castro et al. 2021; Guerin et al. 2021). Recently, discussion has moved more to functional than to taxonomic representation, because of the impacts some functional groups have on initiating forest restoration processes (Carlucci et al. 2020). In this regard, we found that animal-dispersed species and late sucessional trees are underrepresented in forest restoration plantings, but nitrogen fixing species are well represented. Animal-dispersed species play an important role attracting seed-dispersers (Martínez-Garza et al. 2013), which therefore favor forest succession in restoration sites (Viani et al. 2015). Brancalion et al. (2018), using an earlier version of our dataset, showed that the number of animal-dispersed species in plantings was approximately equal to the number of species with other types of dispersal, which is lower than that observed in the surrounding forest remnants. Our results corroborate these previous studies and add that this pattern is widespread and similar for all the Atlantic Forest subtypes. This is an alarming observation, since most of the large seed-dispersers have become extinct, and many native animal-dispersed tree species will not be able to reach the plantings and may be destined for eventual extinction from small fragments if they are not artificially introduced in restoration (da Silva & Tabarelli, 2000; Guimarães Jr. et al. 2008, Suganuma & Durigan 2021). Moreover, restoration plantings did not incorporate most species that have already been unable to colonize forest plantings (Suganuma & Durigan 2021). Thus, increasing availability of animal-dispersed species and trees in restoration plantings is needed, especially focused on those species that we have evidences that will not arrive at restoration sites. Our results also demonstrated that there is a greater proportion of nitrogen-fixing trees in plantings than in native Atlantic Forest remnants. Despite this preference of nitrogen-fixing trees species in restoration plantings is probably unintentional and a result of greater availability of Fabaceae seedlings in forest nurseries (Vidal et al. 2020), the planting of species capable of fixing nitrogen can improve soil quality in areas undergoing restoration, accelerating the growth of trees and the canopy closure (Nichols et al. 2001, Siddique et al. 2008, Chaer et al. 2011, Aleixo et al. 2020).

Forest restoration plantings overall have a greater number of pioneer species and individuals, due to their rapid growth and easier seedling production at nurseries (Vidal et al. 2020; Engert et al. 2020). The pioneer species are shade-intolerant trees, that grow faster when exposed to full sunlight – commonly the situation found in forest restoration sites. These species are found mainly in the initial stages of forest succession, shading the forest floor and opening the way for succession to occur (Swaine & Whitmore 1988). If recreating a forest structure with pioneer is enough to establish native biotic composition and functioning in forest restoration sites over time, then the overrepresentation of pioneer species and individuals in plantings is

not a problem and may be recommended to accelerate canopy cover formation and to reduce the cost for tropical forest restoration (de Almeida & Viani 2019). However overrepresentation of pioneers in plantings may result in “pioneer deserts” in some agricultural landscapes in the Atlantic Forest region (Ribeiro et al. 2009) because may cause the underrepresentation of animal-dispersed trees, as we found that frequence of animal-dispersal is lower for pioneers species, and also low representation of groups that will not spontaneously colonize restoration plantings (Suganuma & Durigan 2021).

When there are no remnants surrounding the restoration site, the arrival of species from other successional stages may be slow or not occur, making restoration sites impoverished and degraded again over time (de Souza & Batista 2004; Martínez-Garza & Howe, 2003). This issue could be balanced if more species and individuals of late sucessional stages naturally arrive at restoration sites over time (Rother et al. 2019), otherwise, it may be necessary to introduce late sucessional trees through enrichment plantings (Bertacchi et al. 2016), a strategy to avoid the collapse of restoration sites when the short-living pioneer trees die (Reid et al. 2015; de Souza & Batista 2004), but still not usual, costly and not mastered (Mangueira et al. 2019). Additionally, since animal-dispersed species are less common for the group of pioneers than for the one for non-pioneer species, prioritizing pioneer species and trees in forest restoration plantings may account for a less frequency and density of animal dispersed species and trees in plantings in comparison to forest remnants. Thus, a possible recommendation is selecting and prioritizing animal-dispersed pioneer species, such as preconized by the framework species method (Elliot et al. 2013, Viani et al. 2015, de Almeida & Viani 2020), to avoid this underrepresentation.

Only 19% of the threatened species observed in remnants and 1% of the whole set of 1,544 threatened plant species in the Atlantic Forest (Martinelli & Moraes, 2013) are included in restoration plantings. This means that the threatened species planted are few, usually introduced in low density of trees and mostly the same species throughout the whole Atlantic Forest. Based on this, we suggest that Atlantic Forest restoration plantings contribute insufficiently to the reintroduction of threatened species, which therefore can disappear in the landscapes over time if specific reintroduction programs are not implemented (Tabarelli et al. 2005, Luber et al. 2016). This pattern is partly caused by the difficult in collecting seeds for many of the threatened species (Hoffmann et al. 2015). Thus, if we consider one of the goals of ecosystem restoration is directly contributing to species conservation, more attention should be given, through oriented public programs and policies to encourage seeding collection and inclusion of threatened tree species and individuals in forest restoration plantings. Finally, most

endemic species are absent in restoration plantings. This pattern demonstrates that it is difficult to access and to introduce this species in restoration plantings, although this group predominates in the remaining forest (Caiafa & Martins 2010; Villa et al. 2019). We suggest use multiple types of reference data to increase representativeness and build more realistic scenarios for forest restoration, focusing on individual targets within the reference model, what may be more attainable (Shackelford et al. 2021).

We conclude that despite recent advances and emergence of many technologies and initiatives for forest restoration, the number of species used in Atlantic Forest restoration plantings still represents only a very small subset of its tree flora and that this subset tends to be the same throughout the whole Atlantic Forest, independent of the variation in species composition of natural forest subtypes. In addition, animal-dispersed, endemic and threatened tree species and/or individuals are underrepresented in restoration plantings. We recommend that restoration projects incorporate regional forest variation into their reference models and target species lists. In spite it is being recommended in some regions (Barbosa et al. 2017), our results pointed out that it is overall being not enough considered in the practice of Atlantic Forest restoration. A higher diversity in restoration implementation may not necessarily result in higher taxonomic diversity (Guerin et al. 2021). But, if one of the goals of restoring forests is to achieve taxonomic diversity and conservation, identifying the species and functional groups that do not arrive at restoration sites is a very important further step to verify whether they are underrepresented or not in restoration plantings and whether we need to favor inclusion of these underrepresented ones in our restoration initiatives.

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3 HIGH-DIVERSITY TROPICAL FOREST RESTORATION PLANTINGS FAIL TO RESTORE METACOMMUNITY STRUCTURE IN THE ATLANTIC FOREST

Authors: Crislaine de Almeida, J. Leighton Reid, Renato A. Ferreira de Lima, SOS Mata Atlântica, Ricardo Augusto Gorne Viani

Escola de Agricultura Luiz de Queiroz, Universidade de São Paulo, Av.Pádua Dias, 11 - Caixa Postal 9, 13418-900 Piracicaba, Brazil.

School of Plant and Environmental Sciences, Virginia Tech, 185 Ag Quad Lane, Blacksburg, VA 24061, USA

Departamento de Ecologia, Instituto de Biociências, Universidade de São Paulo. Rua do Matão, trav. 14, 321, 05508-090, São Paulo, Brazil.

Universidade Federal de São Carlos, Centro de Ciências Agrárias, km 174, 13600-970, Araras, Brazil.

Abstract

One of the goals of forest restoration is species conservation, so the selection of species from local floras and relevant forest types is essential to promote native species recolonization and avoid biotic homogenization. Here, we test if species planted in Atlantic Forest restoration projects are a good representation of the tree flora from reference forest remnants, using data from 1073 forest restoration plantings and 268 forest remnants divided into three different types of forest. We performed Simpson index of dominance for plantings and remnants and beta diversity Bray Curtis index of dissimilarity for plantings and remnants and among plantings and remnants for each type of forest and for types of forest comparing plantings and remnants. To compare the floristic composition between plantings and remnants, we used non-metric multidimensional scaling analysis (NMDS) and tested for differences between land use (planting vs. remnant) and forest type using a permutational analysis of variance (PERMANOVA). To infer whether floristic dissimilarity increased with distance in a similar way for remnants and plantings, we performed generalized linear models (GLMs). Forest plantings are more floristically similar to one another than to reference forest remnants, and we obtained a lower beta diversity between plantings compared to beta diversity between remnants; separated groups to planting and remnants; and the results that dissimilarity increases with distance between plantings. Therefore, our results pointed to a process of biotic homogenization; planted species did not represent remnants species. We recommend planting species more similar to reference in restoration plantings to guarantee conservation of species.

Keywords: Alfa-diversity, Beta-diversity, Bray-curtis, Biotic homogenization, Dissimilarity.

3.1 Introduction

Ecosystem restoration must ensure optimal levels of similarity between the restoration site and appropriate reference ecosystems (Gann et al. 2019). The representativeness of native tree species in forest restoration initiatives is an issue that has been concerning the scientific community, especially the conservation of rare and endangered species. Recent studies have identified that rare species are vulnerable in the remaining forest fragments and they are not able to colonize areas undergoing active or passive restoration (da Silva et al. 2000, Holl et al. 2017, Mori et al . 2018, Engert et al. 2020).

In degraded and fragmented forest landscapes, planting native tree seedlings is a common and sometimes necessary restoration strategy (Rodrigues et al. 2011, Lamb 2011, Chazdon et al. 2021). These plantings introduce tree species with the objective of re-creating a forest structure by restoring basic ecological processes, such as the elimination of invasive species, attraction of seed dispersers and thus the promotion of natural regeneration (Holl 1999, Bertacchi et al. 2016). New studies have identified, however, that the arrival of new species in restoration plantings can take a long time or will not happen (Reid et al. 2015, Shoo et al. 2015. So, these species must be actively introduced. If they are not, their populations will probably be confined to the often degraded forest remnants (Suganuma & Durigan 2021). However, current restoration practices are characterized by a low representativeness of the planted species compared to the regional species pool (Jalonen et al. 2018; Ladouceur et al. 2018; Vidal et al. 2020). Most planted species are abundant in forest remnants and are dispersed by wind rather than by animals (Brancalion et al. 2018, Engert et al. 2020). In addition, most planted species are pioneers with small seeds and rapid growth (Holl et al. 2017, Brancalion et al. 2018).

If the same species are planted throughout a whole region, the landscape can become dominated by a restricted set of species, leading to biotic homogenization (McKinney & Lockwood 1999, Olden et al. 2004, Olden & Rooney 2006, Lesage et al. 2018). Biotic homogenization is the replacement of endemic species by widespread ones (Lôbo et al. 2011; McCune & Vellend 2013; Beauvais et al. 2016). Although the process of biotic homogenization is known for some regions, such as the Atlantic Forest (Lôbo et al. 2011; Joly et al. 2014; Zwiener et al. 2017), we lack more robust and comprehensive analysis to understand how restoration efforts may affect this process. This evaluation is especially important to define strategies and public policies to make restoration initiatives more effective in promoting regional biodiversity conservation.

We studied whether the species planted for restoration in the Brazilian Atlantic Forest, represent the natural variation in tree communities found in remnants or exacerbate biotic

homogenization. We hypothesized that plantings are more floristically similar than forest remnants due to limitations imposed by the restoration species pool, i.e., the restricted set of species available for planting from nursery stock (Ladouceur et al., 2018). Specifically, we expected a lower beta diversity among and within plantings than for native forest remnants, that is, what is planted for forest restoration does not change much along the Atlantic Forest and it is little influenced by regional forest composition.

3.2 Material and Methods

3.2.1 Study region and database

We used a database containing lists of trees planted from 2002 to 2018 in 1,073 Atlantic Forest restoration sites, coming from 29 nurseries. The plantings belong to the "Click Árvore" restoration program, coordinated by the NGO SOS Mata Atlântica. We compiled data from reference Atlantic Forest fragments from the Neotropical Tree Communities database (TreeCo) (de Lima et al. 2015), that compiles observations of individual tree species abundances in eastern South America. From TreeCo, we selected 268 forest surveys (286,660 trees) which 1) included trees with diameter at breast height ≥ 5 cm, 2) were conducted in fragments without strong disturbances and, 3) had clear information on the forest type surveyed. In our study, we considered only surveys conducted in three forest types: Ombrophilous Dense Forest (ODF), Seasonal Semideciduous Forest (SSF) and Mixed Ombrophilous Forest (Araucaria Forest - AF). Based on the TreeCo classification, our dataset represented 85 Ombrophilous Dense Forest, 27 Araucaria Forest and 156 Seasonal Semideciduous Forest fragments. The classification of plantings and nurseries in each forest type was done using the official delimitation of the Atlantic Forest regions (IBGE 2004), resulting in 958 plantings in the Seasonal Semideciduous Forest, 81 in the Ombrophilous Dense Forest and 34 in the Mixed Ombrophilous Forest (Araucaria Forest).

3.2.2 Data analysis

For each planting and forest remnant, we calculated the Simpson's diversity index (D) for the tree community, that indicates the probability of two individuals randomly removed from the community belonging to different species. It ranges from 0 to 1 and the higher it is, the greater the probability that the individuals are of the same species. It is calculated as: $D = \Sigma ni\ (ni-1)/N\ (N-1)$, where ni is number of individuals of the species I, and N is total number of sampled individuals. We used T-tests to assess differences in D among plantings and remnant altogether and separately for the three types of forest.

To assess if forest restoration plantings are floristically more similar to themselves than to the remaining native forest, we calculated beta diversity among plantings, among remnants, and between plantings and remnants. We calculated beta diversity using the Bray Curtis Index, which is a dissimilarity index that use species abundance instead of presence or absence (Bray & Curtis 1957). We selected Bray Curtis Index because using the number of individuals of each species in addition to just the species the results are more wide-ranging. This index measures the change or replacement rate in species composition from one location to another and ranges from 0 when two samples show no difference in species composition to 1 when this difference is maximum. Again, all beta-diversity analyses were performed for the whole Atlantic Forest and within and between AF, ODF and SSF.

Bray Curtis Index formula:

$$\frac{\sum^{n}_{i=1} \left| p^{a}_{i} - p^{b}_{i} \right|}{\sum^{n}_{i=1} (p^{a}_{i} - p^{b}_{i})}$$

Description: n is the number of species, pai and pbi are the relative frequencies of species Ii in plots a and b.

Beta diversity is composed of nestedness and turnover (Baselga et al. 2007). Nestedness reflects differences in diversity among sites when species composition from sites with fewer species are subsets of the composition of sites with greater richness (Ulrich & Gotelli 2007), while turnover is the replacement of some species by others (Qian et al. 2005). We calculated turnover and nestedness for Bray-Curtis Index using 'beta.pair.abund' to pairwise and 'beta.multi.abund' to multiple-site measures.

To assess the ordination of plantings and remnants according to their floristic composition, we calculated a non-metric multidimensional scaling analysis (NMDS). We used the Bray–Curtis dissimilarity matrixes of dissimilarity as input for graphing a NMDS using the types of forest AF, ODF and SSF for plantings and remnants. NMDS is an ordination method that plots dissimilar objects far apart in the ordination space and similar objects close to one another, thus it preserves the ordering relationships among objects (Legendre & Legendre 2012). We assessed between-group dissimilarities using the non-parametric permutational test PERMANOVA (Anderson 2001). Ordinations were plotted with NMDS using vegan's ''metaMDS'' procedure with the maximum number of runs set to 100. PERMANOVA was performed in the ''adonis'' procedure in the vegan package in R with the maximum number of runs set to 999.

To infer whether floristic dissimilarity increased with distance and whether differences in this function existed between remnants and plantings, we performed generalized linear

models (GLMs) using Bray Curtis Index versus distance separating the plantings and distance separating the remnants. To obtain distances we used “Imap” and “Reshape2” packages in R software using coordinates of each planting and remnant. Thus, we performed GLMs separately for plantings, for remnants and for each classification of plantings and remnants: AF, ODF and SSF to test if restoration plantings effectively replicate the spatial distribution of tree diversity. All the analyses were performed in R version 3.5.1. (R Development Core Team, 2018) and interpreted following ranges of evidence to P-value, therefore values < 0.001 represent very strong evidence, 0.001 – 0.01 is strong evidence, 0.01 – 0.05 is moderate evidence, 0.05 – 0.1is weak evidence and 0.1 – 1 is little or no evidence (Muff et al. 2021). We applied Bonferroni corrections to all Chi-square tests.

3.3 Results

The Simpson index was, on average, greater in the restoration plantings than in the forest remnants, which indicates that plantings have smaller species diversity than remannts (figure 1). The plantings are different from each other, as well as the remnants (T test, $p < 0.0001$, figure 1).

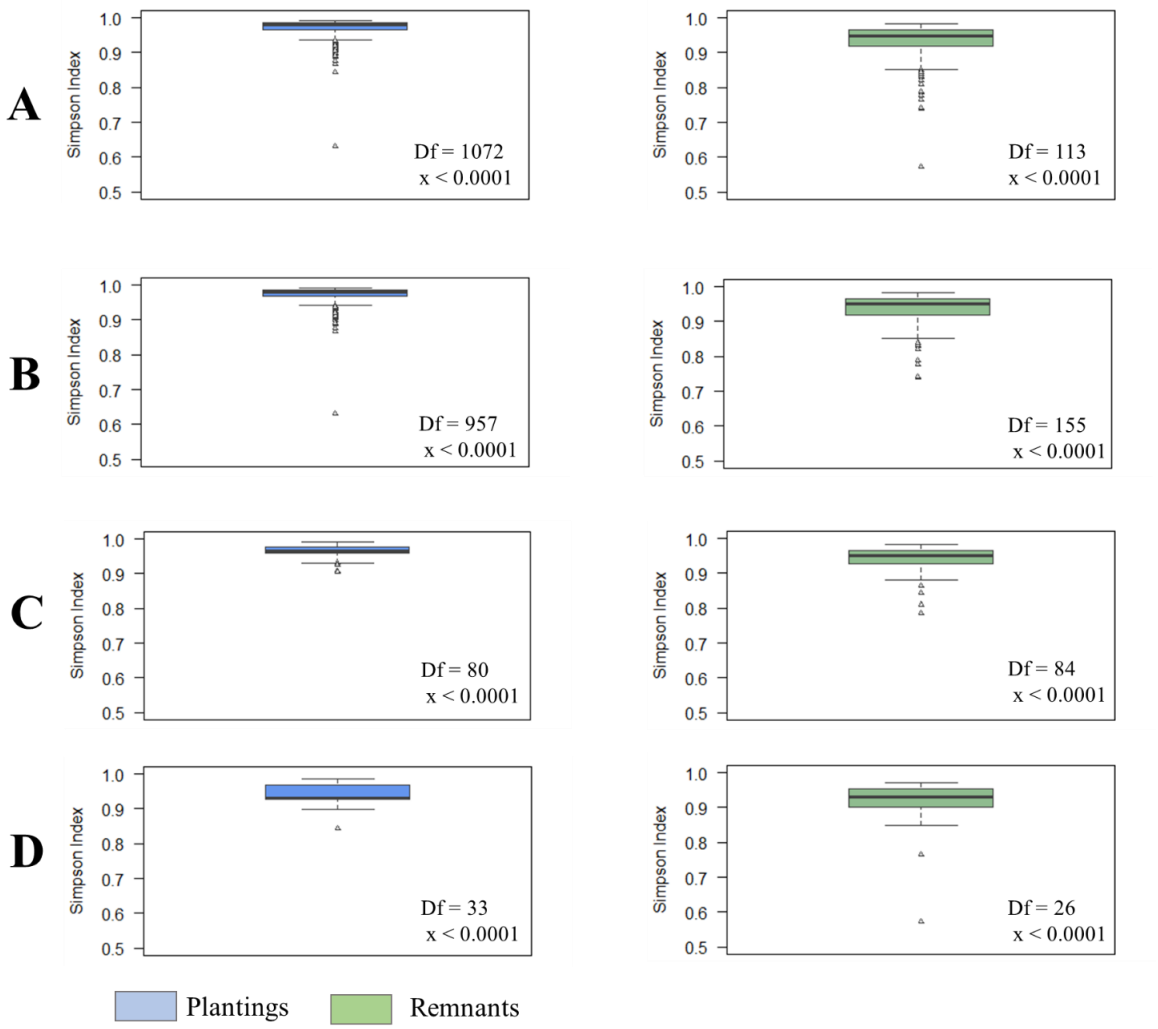

Figure 1: Simpson Index for A. Set of plantings and remnants; B. Seasonal Semideciduous Forest for plantings and remnants; C. Ombrophilous Dense Forest for plantings and remnants and D. Mixed Ombrophilous Forest for plantings and remnants. Values of x referred to T-test pair comparation among the groups.

Bray-Curtis Index of dissimilarity among remnants, for the whole set of plantings and each forest type, is almost 1, while for plantings it is always lower than 0.8, indicating that remnants have higher beta diversity than plantings (Figure 2). Overall, plantings in a given forest type are more floristically similar with plantings in other forest types than they are with the remnants in the same forest type (Table 1). In addition, while the dissimilarity between plantings and remnants has a higher nestedness than turnover for SSF, the inverse occurs for AMF and AF, which indicates that species not found in remnants are being introduced in plantings in the latter. Beta diversity is higher for plantings compared to remnants using Bray-Curtis Index of dissimilarity (Table 2, Table S1). The NMDS separated the remnants in Semideciduous Seasonal, Atlantic Moist Forest and Araucaria Forest, but all the plantings grouped together (Figure 3, Table 3).

The dissimilarity increased with distance for both plantings and remnants, for the Atlantic Forest as a whole and for each type of forest (Figure 4). Except for the AF, the dissimilarity is more explained by distance for remnants than for plantings (Figure 4).

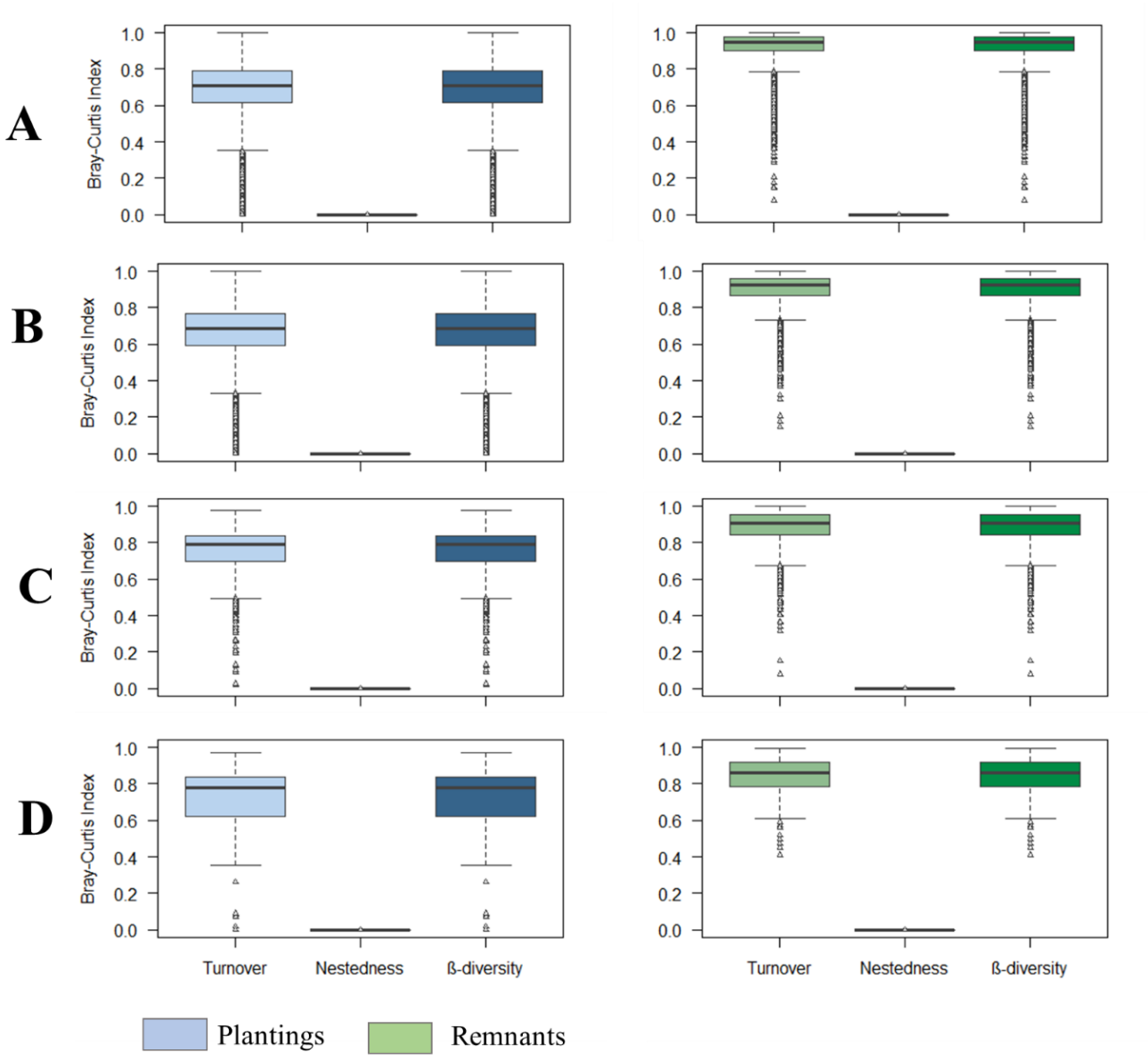

Figure 2: Proportion of total beta diversity explained by nestedness and turnover for A. Set of plantings and remnants; B. Seasonal Semideciduous Forest for plantings and remnants; C. Ombrophilous Dense Forest for plantings and remnants and D. Mixed Ombrophilous Forest. Turnover refers to the replacement of some species by other species from site to site, and nestedness accounts for the differences in composition when no species is replaced from one site to the other.

Table 1: Beta diversity results using Bray-Curtis Index of Dissimilarity to comparisons between plantings and remnants; between plantings and between fragments of different types of forest. SSF- Semideciduous Seasonal Forest; ODF - Ombrophilous Dense Forest; AF- Mixed Ombrophilous Forest (Araucaria Forest).

Classification	Forest	Index	Remnant			Planting	
			SSF	AMF	AF	AF	AMF
Planting	SSF	**Bray-Curtis index**	**0.775**	**0.821**	**0.758**	**0.423**	**0.111**
		Turnover	0.301	0.542	0.755	0.000	0.031
		Nestedness	0.454	0.279	0.003	0.423	0.080
	ODF	**Bray-Curtis index**	**0.765**	**0.819**	**0.740**	**0.390**	
		Turnover	0.260	0.487	0.729	0.024	
		Nestedness	0.505	0.332	0.012	0.364	
	AF	**Bray-Curtis index**	**0.838**	**0.870**	**0.780**		
		Turnover	0.155	0.403	0.674		
		Nestedness	0.683	0.467	0.105		
Remnant	AF	**Bray-Curtis index**	**0.777**	**0.792**			
		Turnover	0.371	0.433			
		Nestedness	0.407	0.359			
	ODF	**Bray-Curtis index**	**0.560**				
		Turnover	0.555				
		Nestedness	0.004				

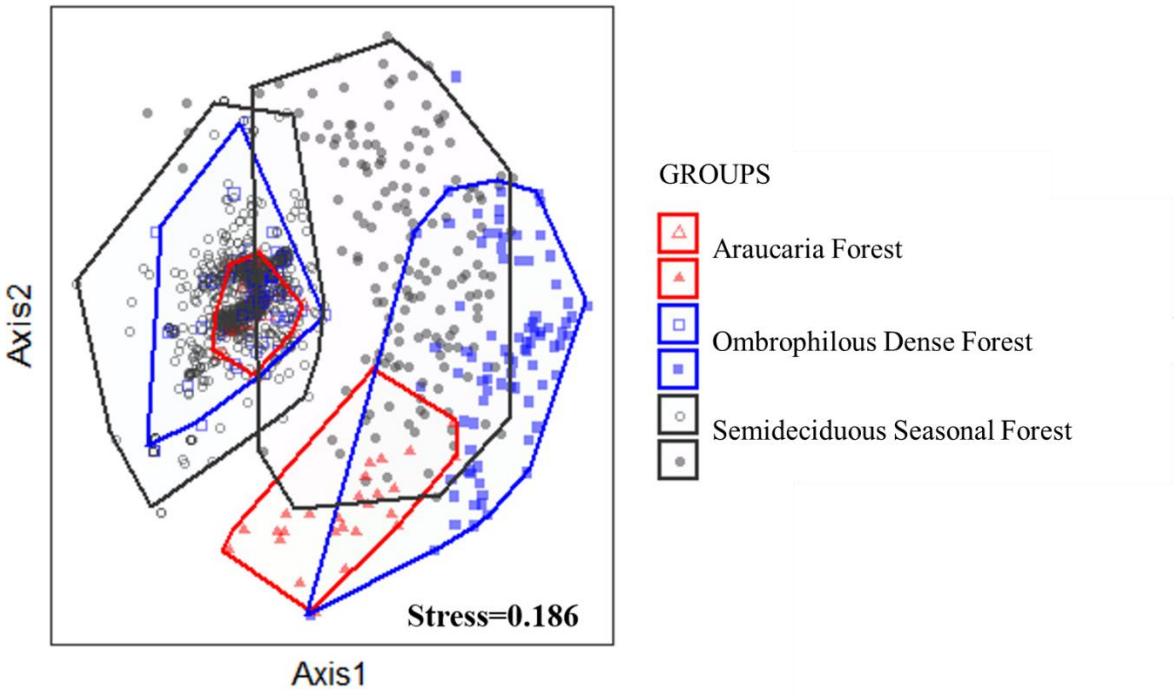

Figure 3: Nonmetric multidimensional scaling ordination (NMDS) of species in remnants (filled symbols) and plantings (open symbols). NMDS is an unconstrained ordination that starts with a random positioning of species in two dimensions and rearranges these positions by maximizing the rank-order correlation between the distance matrices of the original multidimensional dataset and the two dimensions. Results are evaluated using a stress metric, which characterizes the disagreement between the rank-order of distances in the original data relative to the ordination. The smaller the stress, the closer the ordination is to the original distribution of data.

Table 3: Results of the permutational multivariate analysis of variance (PERMANOVA) using Bray-Curtis Index of dissimilarity. PERMANOVA test used 1000 simulations based on species data sets to detect differences in groups of AF (Mixed Ombrophilous Forest - Araucaria Forest), ODF (Ombrophilous Dense Forest) and SSF (Semideciduous Seasonal Forest) plantings and remnants. The p value reported in each simulation corresponds to the PERMANOVA result testing for significant differences in the groups. ***Indicate very strong evidence and *Indicate moderate evidence of difference between groups.

Comparison	**d.f**	**F**	**R^2**	**p**
Type of forest (ODF, AF, SSF)	2	18	0.02	0.001***
Classification (Planting, Remnant)	1	135	0.09	0.001***
Type of forest x Classification	2	10	0.01	0.001***
SSF vs AF planting		1.34	0.001	1
SSF vs ODF planting		1.57	0.002	0.56
AF vs ODF planting		1.68	0.02	0.5
SSF vs ODF remnant		14.14	0.06	0.015*
SSF vs AF remnant		8.53	0.05	0.015*
AMF vs AF remnant		10.02	0.08	0.015*
SSF planting vs SSF remnant		94.86	0.08	0.015*
SSF planting vs ODF remnant		86.91	0.08	0.015*
SSF planting vs AF remnant		31.56	0.03	0.015*
AF planting vs SSF remnant		17.24	0.08	0.015*
AF planting vs ODF remnant		23.49	0.17	0.015*
AF planting vs AF remnant		18.49	0.24	0.015*
ODF planting vs SSF remnant		29.10	0.11	0.015*
ODF planting vs ODF remnant		37.37	0.19	0.015*
ODF planting vs AF remnant		22.55	0.18	0.015*

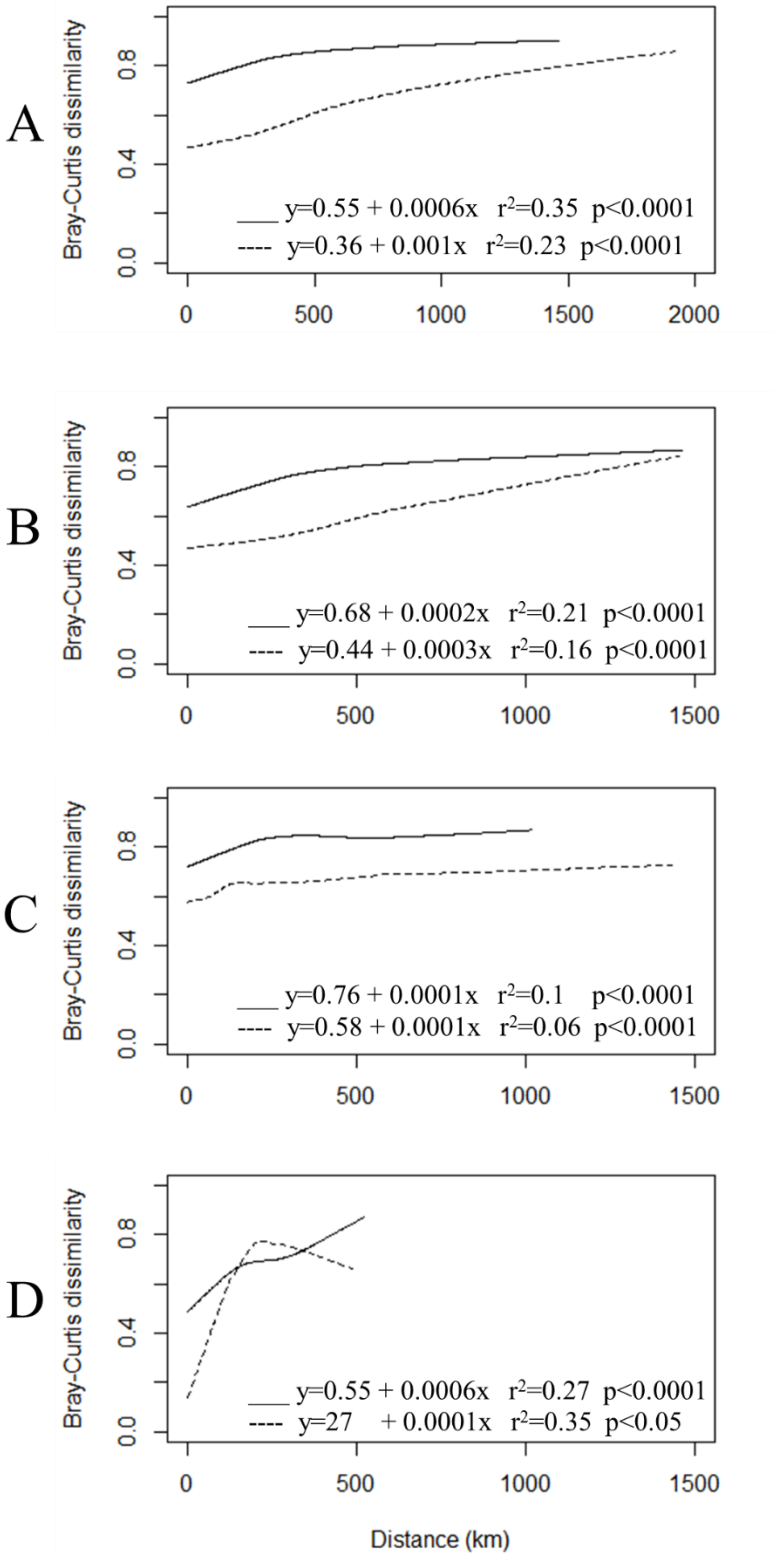

Figure 4: Bray-Curtis dissimilarity across the distance separating plantings (dotted line) and the distance separating the remnants (full line). A - All type of forests, B - Semideciduous Seasonal Forest; C - Ombrophilous Dense Forest; D - Mixed Ombrophilous Forest.

3.4 Discussion

Our results confirm the hypothesis that, in the Brazilian Atlantic Forest, restoration plantings are floristically more similar to one another than they are with the remaining forest remnants in their own forest type. Plantings are dominated by the same species more frequently than remannts. In addition, there is a lower beta diversity among plantings than among remnants, with plantings in different forest type forming a single floristic group (Figure 3). In addition, dissimilarity was more explained by distance for forest remnants than for restoration plantings. In other words, all these results overall indicate that tree species planted for forest restoration are not changing according to vegetation type, and local and distance variation as much as it changes for the remaining native forest patches.

Most of the difference in beta-diversity between plantings and remnants was represented by turnover, representing that the replacement of species plays a greater role in dissimilarity. Considering the difference between plantings, nestedness plays a greater role, indicating that the less diverse groups are subgroups of impoverished richness of the larger groups (Fischer & Lindenmayer 2005). Nestedness is the component that prevails in biotic homogenization processes, being documented in natural forest along the time with similarity of understorey vegetation significantly increasing over time (Baeten et al. 2012) and because of recruitment failure (Standish et al. 2018, Kirk et al. 2021), being less prevalent in regenerated forests close to forest remnants (Martínez 2010). In degraded and fragmented landscapes that no longer have large seed dispersers, most new colonizers of forest restoration plantings are secondary species, with small and abiotically dispersed seeds (Pohlman et al. 2021, Suganuma & Durigan 2021). Therefore, the time needed for the planting to reach the richness of the reference forests is uncertain (Suganuma & Durigan, 2015).

In addition, the process of biotic homogenization is predicted to occur in native forest remnants as an increase in climate change and anthropic actions (Kirk et al. 2021). The Atlantic Forest also is experiencing, with the aggravation of human disturbances, an increase in the biotic homogenization process in its remnants, with small seeded pioneers that proliferate at forest edges and small fragments (de Lima et al. 2020), in a process that can lead many species to become locally extinct (Zwiener et al. 2017). The small-seeded pioneers are also predominant in forest restoration plantings (Holl et al. 2017, Brancalion et al. 2018, Engert et al. 2020). Our results confirm that restoration plantings in the Atlantic Forest are creating forest landscapes that are floristically different from the reference areas. Over time, these could create homogenized forest areas if new species are not able to arrive from the surrounding natural forests. Thereby, the most specialized species may, in the future, be seriously threatened in the

remaining forest fragments and absent from the forest restoration plantings, which could lead to extinction. Our study is the first providing information about floristic homogenization in Atlantic Forest restoration, despite this being a long ongoing process.

Some strategies to increase the representativeness of the regional flora in the plantings can be adopted. Planting species are result of the preference of the nurseries to collect and produce the same species. Thus, it is necessary create incentive to produce more regional species. Martin et al. (2021) found that trees are planted because of their utility, not by biodiversity conservation or carbon mitigation, thus it may be necessary to create incentives for the planting of endangered and underrepresented species in forest restoration plantings. Our results are very clear, and we should take the question seriously in the decade of the restoration. Here we present clear results that serious measures should be taken to avoid that the all the efforts of the decade of restoration does not result in the biotic homogenization of tropical landscapes and in the extirpation of endemic, specialists species.

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4 FINAL CONSIDERATIONS

The results clearly showed that only a limited set of species from the native flora were used in Atlantic Forest restoration initiatives. This is not a problem if the tree planting needs to be rapid and create a forest structure to suppress invasive grasses and favors colonization of the understory by non-planted trees available in the surrounding landscape. However, a large number of the tree species not included in restoration initiatives were rare, endemic, and late-successional trees, and a portion of these non-planted species might be missing in the remaining forest surrounding the restoration sites. One portion will probably not colonize restoration plantings because of restrictions on their dispersal (*e.g.*, absence of dispersers in degraded landscapes), whereas another portion is composed of endangered species that are in need of conservation actions. Thus, discussing and promoting public policies that encourage the inclusion of a greater number of species in the set of trees available for forest restoration initiatives is necessary, especially endemic and/or threatened species, and those currently identified as being planted at low density.

Another point of concern is the widespread use of the same species, sometimes exotic species. In our study, we have produced and planted the same tree species for the restoration of all types of forest in the Atlantic Forest. It is necessary to map, using the remaining forests, the species composition of each forest type so that these species can be collected, processed for the production of seedlings, and planted according to their forest type. If this is not implemented, we will continue to plant the same species in all forest restoration initiatives across the entire Atlantic Forest, which in the long term can lead to forest homogenization due to many tree species not successfully colonizing restoration sites. Some species have been recently reported as non-colonizers of restoration sites, and our study revealed that only a limited number of species from the native flora were being used in restoration initiatives. One way forward is to increase the emphasis on identifying the species and functional groups that will not regenerate in restoration sites, and then focus on seed and seedling production initiatives for restoration purposes.

Other forest restoration techniques, such as tree seeding and assisted natural regeneration, have been encouraged and increasingly used in recent years; however, measures must be taken to ensure that these techniques do not repeat the biotic homogenization that has occurred after native tree planting. Seeds collected must be species diverse and collected in forest fragments of the same type of forest aimed to be restored; otherwise biotic homogenization will persist. In the case of stimulating forest regeneration, we imagine that

schemes will have greater emphasis on the recolonization of species from nearby remnants, and therefore, they should also receive attention, as nearby remnants, if degraded, will contain only a limited number of species and ecological interactions. This is in addition to ecological filters that can prevent recolonization by all species and ecological groups.

Finally, many restorers argue that the diversity and representation of the native flora in the set of planted species are not relevant because planting is just the beginning of the restoration process, which is true in many cases. However, this does not change, in any way, the importance and consequences of the results of our study and the significance of a good representation of native flora in the set of species available for restoration initiatives. If we consider that seedling planting only starts the process of forest succession, we assume that other species will arrive and colonize the area during the process of restoration. However, it is necessary to determine how many remnants permeate the landscape, the distance from the planting, the diversity of these remnants, and the presence or absence of dispersers in the landscape. If all these variables are uncertain or difficult to measure, as is the case in most Atlantic Forest restoration projects, we must ensure that the species needing conservation are integrated into forest restoration initiatives and programs. This work sheds light on the current scenario underlying forest restoration and is another step towards the conservation of species and ecological interactions that coexist with the most varied forms of threat and disturbance.

APPENDIX
SUPPLEMENTARY DATA

Table S1: Database of the Atlantic Forest restoration plantings used in the study. Identifier: Number of each planting; City: city of each planting; State: state of each planting; Nursery identifier: Number of each nursery (1-29); Planting area (ha): area of each planting; Number of species: number of species in each planting; Forest type: forest type of each planting. AF: Mixed Ombrophilous Forest (Araucaria Forest); SSF: Semideciduous Seasonal Forest; ODF: Ombrophilous Dense Forest.
Reference: SOS Mata Atlântica Non-Governmental Organization. "Click Árvore" restoration program. < https://www.sosma.org.br/>

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
51	Taquaritinga	SP	12	5.6	121	SSF	-21.4075	-48.5055
77	Fernandópolis	SP	13	25	93	SSF	-20.2826	-50.2501
90	Guararapes	SP	13	27.77	89	SSF	-21.2537	-50.6442
127	Sandovalina	SP	13	5.88	84	SSF	-22.4561	-51.7634
134	Carmo do Paranaíba	MG	9	7.5	84	SSF	-18.9992	-46.3069
152	Angélica	MS	13	5.88	84	SSF	-22.1588	-53.7729
192	Araçatuba	SP	13	5.88	89	SSF	-21.208	-50.439
220	Lavras	MG	9	12	92	SSF	-21.2426	-44.9992
231	Guararapes	SP	13	8.23	96	SSF	-21.2537	-50.6442
236	Braúna	SP	13	17.64	90	SSF	-21.5015	-50.3175
240	Extrema	MG	9	9.5	181	ODF	-22.8549	-46.319
250	Bento de Abreu	SP	13	8.23	92	SSF	-21.2707	-50.812
251	Tabatinga	SP	4	3.5	61	SSF	-21.7374	-48.6881
259	Carmo do Paranaíba	MG	9	15	147	SSF	-18.9992	-46.3069
304	Martinópolis	SP	13	29.41	90	SSF	-22.1462	-51.171
308	Gabriel Monteiro	SP	13	18.82	93	SSF	-21.5299	-50.5533
317	Cosmorama	SP	27	3	97	SSF	-20.4755	-49.7828

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
318	Votuporanga	SP	27	3	96	SSF	-20.4253	-49.9723
319	Monte Aprazível	SP	27	4.2	97	SSF	-20.7626	-49.7088
320	Altair	SP	27	5.02	98	SSF	-20.5239	-49.0606
321	Magda	SP	27	3	87	SSF	-20.6445	-50.2261
322	São José do Rio Preto	SP	27	3.89	100	SSF	-20.8126	-49.3804
325	Nova Granada	SP	27	4.08	96	SSF	-20.5345	-49.3187
346	Santa Isabel	SP	4	10	45	ODF	-23.3194	-46.2272
349	Cafeara	PR	4	25	71	SSF	-22.7891	-51.7142
360	Fartura	SP	4	2.75	29	SSF	-23.39	-49.5109
371	Assaí	PR	4	15	68	SSF	-23.3736	-50.8455
380	Goioerê	PR	4	2.78	44	SSF	-24.1852	-53.0251
383	Quarto Centenário	PR	4	2.78	44	SSF	-24.279	-53.0759
393	Rancho Alegre d'Oeste	PR	4	11.12	45	SSF	-24.3065	-52.9552
394	Quarto Centenário	PR	4	11.12	45	SSF	-24.279	-53.0759
397	Rancho Alegre d'Oeste	PR	4	2.67	44	SSF	-24.3065	-52.9552
400	Porto Feliz	SP	4	2.78	64	SSF	-23.2137	-47.519
406	Bento de Abreu	SP	12	3.53	111	SSF	-21.2707	-50.812
410	Paulicéia	SP	4	2.5	41	SSF	-21.3144	-51.8316
413	Barbosa	SP	12	7	109	SSF	-21.2657	-49.9518
425	Jaborandi	SP	27	8.08	79	SSF	-20.6921	-48.4144
431	Penápolis	SP	4	28.35	118	SSF	-21.4192	-50.0766
434	Américo Brasiliense	SP	4	17.73	43	SSF	-21.7297	-48.1052
454	Nova Friburgo	RJ	23	27.75	55	ODF	-22.28	-42.5325
460	Rancho Alegre	PR	10	27.5	88	SSF	-23.0709	-50.9143

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
462	Jataizinho	PR	10	3	86	SSF	-23.2578	-50.9778
492	Jaú	SP	4	2.78	44	SSF	-22.2936	-48.5592
502	Oscar Bressane	SP	4	5	92	SSF	-22.3149	-50.2811
503	Itapeva	SP	4	2.78	44	SSF	-23.9849	-48.8804
529	Óleo	SP	4	2.5	41	SSF	-23.2937	-51.1953
544	Naviraí	MS	4	23.89	82	SSF	-23.0622	-54.2018
545	Naviraí	MS	4	14.43	76	SSF	-23.0622	-54.2018
549	Euclides da Cunha Paulista	SP	4	2.78	60	SSF	-22.5545	-52.5928
552	Jaboticabal	SP	4	4.4	51	SSF	-21.252	-48.3252
554	Naviraí	MS	4	27.78	71	SSF	-23.0622	-54.2018
571	Presidente Venceslau	SP	4	2.78	56	SSF	-21.8771	-51.8451
584	Elói Mendes	MG	9	12	83	SSF	-21.6095	-45.566
586	Tupi Paulista	SP	4	3.47	69	SSF	-21.3862	-51.5761
592	Boa Esperança do Sul	SP	19	29.3	121	SSF	-21.993	-48.3917
603	Apucarana	PR	16	5.56	64	SSF	-23.5525	-51.4611
607	Penápolis	SP	4	2.78	73	SSF	-21.4192	-50.0766
613	Osvaldo Cruz	SP	4	27.78	82	SSF	-21.7963	-50.8791
634	Santa Vitória	MG	21	16.38	81	SSF	-18.8466	-50.1293
636	Magda	SP	27	15	99	SSF	-20.6445	-50.2261
638	Rancho Alegre	PR	10	2.8	84	SSF	-23.0709	-50.9143
639	Uraí	PR	10	3.2	67	SSF	-23.2	-50.7939
642	Rolândia	PR	10	2.8	84	SSF	-23.3119	-51.3674
644	Rancho Alegre	PR	10	5	86	SSF	-23.0709	-50.9143
654	Pereira Barreto	SP	13	14	92	SSF	-20.6379	-51.1052

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
655	Santo Antônio do Aracanguá	SP	13	8.69	90	SSF	-20.9355	-50.4954
668	Limeira do Oeste	MG	21	18	83	SSF	-19.5522	-50.5773
669	Limeira do Oeste	MG	21	29.41	94	SSF	-19.5522	-50.5773
670	Limeira do Oeste	MG	21	29.41	94	SSF	-19.5522	-50.5773
676	Borborema	SP	4	11.12	93	SSF	-21.6213	-49.0741
678	Araraquara	SP	4	16	66	SSF	-21.7887	-48.1773
680	Marabá Paulista	SP	4	27.78	80	SSF	-22.107	-51.963
681	Mirante do Paranapanema	SP	13	6.64	93	SSF	-22.2926	-51.9071
682	Castilho	SP	13	8.82	90	SSF	-20.8696	-51.4878
683	Londrina	PR	10	2.8	92	SSF	-23.3113	-51.1595
688	Andradina	SP	13	7.05	91	SSF	-20.8965	-51.3743
689	Andradina	SP	13	5.88	91	SSF	-20.8965	-51.3743
699	Florínia	SP	12	3	108	SSF	-22.9016	-50.7268
700	Presidente Alves	SP	12	3	106	SSF	-22.0999	-49.4381
702	Santópolis do Aguapeí	SP	12	3	105	SSF	-21.638	-50.5009
704	Rubiácea	SP	12	4.2	106	SSF	-21.2996	-50.7299
709	Londrina	PR	10	28	87	SSF	-23.3113	-51.1595
712	Queiroz	SP	12	11.8	111	SSF	-21.7991	-50.2393
715	Candói	PR	20	11.12	15	AF	-25.5712	-52.0511
722	Paraguaçu Paulista	SP	4	2.78	71	SSF	-22.4204	-50.5792
729	Panorama	SP	4	2.5	60	SSF	-21.46	-51.8463
753	Marilândia do Sul	PR	16	27.78	82	AF	-23.7447	-51.3052
780	Mauá da Serra	PR	10	12	82	AF	-23.9046	-51.2261
783	Londrina	PR	10	4.5	79	SSF	-23.3113	-51.1595

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
784	Jataizinho	PR	10	2.8	91	SSF	-23.2578	-50.9778
788	Regente Feijó	SP	4	5.5	86	SSF	-22.2181	-51.3055
791	Dumont	SP	4	5.5	51	SSF	-21.2391	-47.9748
792	Botucatu	SP	12	4.24	111	SSF	-22.888	-48.4411
794	Novo Horizonte	SP	27	6	92	SSF	-21.4675	-49.2235
807	Nepomuceno	MG	9	3	77	SSF	-21.2327	-45.2352
810	Rancharia	SP	13	29.99	89	SSF	-22.2295	-50.8922
811	Paulicéia	SP	4	27.78	68	SSF	-21.3144	-51.8316
823	Serra Azul	SP	12	5	109	SSF	-21.3133	-47.5636
827	Jaboticabal	SP	19	10.09	94	SSF	-21.252	-48.3252
834	Cajobi	SP	4	2.78	69	SSF	-20.8776	-48.8107
837	Rancharia	SP	4	8.34	52	SSF	-22.2295	-50.8922
853	Iepê	SP	4	2.78	77	SSF	-22.6602	-51.0779
854	Mauá	SP	8	28	94	ODF	-23.667	-46.4617
855	Campos do Jordão	SP	8	10	95	ODF	-22.7395	-45.5913
862	Iturama	MG	21	6.17	79	SSF	-19.7273	-50.1935
867	Palestina	SP	27	4.2	77	SSF	-20.3893	-49.432
877	Pompéia	SP	12	3.5	114	SSF	-22.1088	-50.1721
886	Paranapanema	SP	4	13.89	87	SSF	-23.3902	-48.7209
898	Planaltina do Paraná	PR	20	3.44	10	SSF	-23.0229	-52.916
903	Gália	SP	4	4.45	71	SSF	-22.2937	-49.5516
913	Monte Alto	SP	4	3.89	66	SSF	-21.2655	-48.4971
923	Apucarana	PR	16	4.75	62	SSF	-23.5525	-51.4611
925	Arapongas	PR	16	9	68	SSF	-23.4153	-51.4259
927	Valparaíso	SP	19	13	86	SSF	-21.2238	-50.867

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
928	Valparaíso	SP	19	26	110	SSF	-21.2238	-50.867
929	Valparaíso	SP	19	3.14	80	SSF	-21.2238	-50.867
931	Lidianópolis	PR	16	5.56	61	SSF	-24.1074	-51.6526
933	Douradina	PR	20	8	10	SSF	-23.3847	-53.2933
935	Junqueirópolis	SP	13	23.52	90	SSF	-21.511	-51.4352
936	Nova Andradina	MS	13	25.87	94	SSF	-22.2478	-53.3481
937	Santópolis do Aguapeí	SP	13	5.88	94	SSF	-21.638	-50.5009
938	Castilho	SP	13	11.76	90	SSF	-20.8696	-51.4878
941	Ilha Solteira	SP	27	8	77	SSF	-20.4281	-51.3411
942	Ilha Solteira	SP	27	5.16	73	SSF	-20.4281	-51.3411
944	Apucarana	PR	16	3.34	62	SSF	-23.5525	-51.4611
945	Apucarana	PR	16	3.89	62	SSF	-23.5525	-51.4611
946	Lins	SP	4	2.78	74	SSF	-21.6742	-49.7519
948	Apucarana	PR	16	10.6	66	SSF	-23.5525	-51.4611
949	Apucarana	PR	16	5.57	13	SSF	-23.5525	-51.4611
951	Londrina	PR	10	5.1	79	SSF	-23.3113	-51.1595
952	Cianorte	PR	10	3	86	SSF	-23.662	-52.6104
954	Mandaguaçu	PR	10	22.5	80	SSF	-23.3485	-52.0966
955	Lavras	MG	9	10	56	SSF	-21.2426	-44.9992
956	Bento de Abreu	SP	6	3	123	SSF	-21.2707	-50.812
959	Califórnia	PR	16	5.51	63	SSF	-23.6673	-51.3555
960	Douradina	PR	20	8	10	SSF	-23.3847	-53.2933
961	Douradina	PR	20	21	10	SSF	-23.3847	-53.2933
962	Douradina	PR	20	12	10	SSF	-23.3847	-53.2933
964	Douradina	PR	20	9	18	SSF	-23.3847	-53.2933

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
965	Pinhalzinho	SP	1	8.1	93	ODF	-22.7824	-46.5902
967	Três Corações	MG	9	3	79	SSF	-21.6956	-45.2544
968	Santo Antônio do Amparo	MG	9	5	62	SSF	-20.9413	-44.9187
969	Pereira Barreto	SP	27	6.01	76	SSF	-20.6379	-51.1052
970	Itapura	SP	27	6.67	80	SSF	-20.6435	-51.5085
971	Ibiporã	PR	10	28	86	SSF	-23.2659	-51.0522
972	Brasilândia do Sul	PR	10	30	102	SSF	-24.1976	-53.5276
974	Nova Andradina	MS	13	25	95	SSF	-22.2478	-53.3481
975	Estrela do Norte	SP	13	11.17	89	SSF	-22.4886	-51.6607
976	Estrela do Norte	SP	13	12.5	90	SSF	-22.4886	-51.6607
982	Mangueirinha	PR	20	28.8	9	AF	-25.9412	-52.1741
983	Cordeirópolis	SP	5	3	97	SSF	-22.4768	-47.4551
985	Pacaembu	SP	14	18	79	SSF	-21.5662	-51.2633
986	Tupi Paulista	SP	14	18.95	79	SSF	-21.3862	-51.5761
988	São Francisco de Sales	MG	21	2.94	59	SSF	-19.8631	-49.7739
992	Mangueirinha	PR	20	28.8	9	AF	-25.9412	-52.1741
993	Jaci	SP	27	3	81	SSF	-20.8844	-49.5711
994	Gastão Vidigal	SP	21	3	80	SSF	-20.7953	-50.1905
995	Apucarana	PR	16	2.8	63	SSF	-23.5525	-51.4611
996	Mandaguari	PR	16	29	77	SSF	-23.5225	-51.6788
998	Dracena	SP	14	26	79	SSF	-21.4836	-51.5334
1001	Luís Antônio	SP	21	29.41	87	SSF	-21.5525	-47.7034
1005	Icaraíma	PR	20	27.78	18	SSF	-23.3948	-53.6162
1008	Munhoz de Melo	PR	10	11	78	SSF	-23.1487	-51.7737
1009	Alvorada do Sul	PR	16	5.88	75	SSF	-22.7807	-51.2308

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1010	Alvorada do Sul	PR	16	8.83	75	SSF	-22.7807	-51.2308
1012	Apucarana	PR	16	3.12	77	SSF	-23.5525	-51.4611
1014	Apucarana	PR	16	2.95	66	SSF	-23.5525	-51.4611
1015	Alvorada do Sul	PR	16	12.35	73	SSF	-22.7807	-51.2308
1018	Douradina	PR	20	3	10	SSF	-23.3847	-53.2933
1019	Douradina	PR	20	20	10	SSF	-23.3847	-53.2933
1020	Nova Olímpia	PR	20	5	10	SSF	-23.4699	-53.0901
1022	Neves Paulista	SP	27	12.95	74	SSF	-20.843	-49.6358
1023	Bom Sucesso do Sul	PR	20	14	15	AF	-26.0749	-52.8349
1024	Borborema	SP	12	17	111	SSF	-21.6213	-49.0741
1026	Castilho	SP	12	5	107	SSF	-20.8696	-51.4878
1027	Cafelândia	SP	12	3	108	SSF	-21.8054	-49.6031
1028	Rio Bonito do Iguaçu	PR	20	2.78	14	AF	-25.4904	-52.5262
1029	Rio Bonito do Iguaçu	PR	20	3.5	14	AF	-25.4904	-52.5262
1030	Rio Bonito do Iguaçu	PR	20	2.78	14	AF	-25.4904	-52.5262
1031	Rio Bonito do Iguaçu	PR	20	2.78	14	AF	-25.4904	-52.5262
1032	Rio Bonito do Iguaçu	PR	20	2.78	14	AF	-25.4904	-52.5262
1033	Rio Bonito do Iguaçu	PR	20	2.78	14	AF	-25.4904	-52.5262
1034	Rio Bonito do Iguaçu	PR	20	2.78	14	AF	-25.4904	-52.5262
1035	Douradina	PR	20	5.56	10	SSF	-23.3847	-53.2933
1036	Rio Bonito do Iguaçu	PR	20	2.78	14	AF	-25.4904	-52.5262
1037	Rio Bonito do Iguaçu	PR	20	2.78	14	AF	-25.4904	-52.5262

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1038	Rio Bonito do Iguaçu	PR	20	2.78	14	AF	-25.4904	-52.5262
1039	Douradina	PR	20	6.5	18	SSF	-23.3847	-53.2933
1040	Douradina	PR	20	2.78	18	SSF	-23.3847	-53.2933
1041	Douradina	PR	20	2.78	18	SSF	-23.3847	-53.2933
1042	Presidente Epitácio	SP	27	28.52	81	SSF	-21.7651	-52.1111
1043	Douradina	PR	20	2.78	18	SSF	-23.3847	-53.2933
1044	Douradina	PR	20	2.78	18	SSF	-23.3847	-53.2933
1045	Douradina	PR	20	2.78	18	SSF	-23.3847	-53.2933
1046	Douradina	PR	20	2.78	18	SSF	-23.3847	-53.2933
1047	Douradina	PR	20	12	10	SSF	-23.3847	-53.2933
1048	Douradina	PR	20	2.78	18	SSF	-23.3847	-53.2933
1049	Apucarana	PR	16	4	63	SSF	-23.5525	-51.4611
1050	Apucarana	PR	16	2.95	74	SSF	-23.5525	-51.4611
1051	Mandaguari	PR	16	8	75	SSF	-23.5225	-51.6788
1053	Socorro	SP	1	9.4	107	ODF	-22.5903	-46.5249
1054	Conceição do Rio Verde	MG	1	4	81	SSF	-21.8811	-45.0869
1055	Socorro	SP	1	3	84	ODF	-22.5903	-46.5249
1056	Dobrada	SP	12	13.04	110	SSF	-21.5181	-48.3939
1057	Santa Adélia	SP	12	4.4	108	SSF	-21.2433	-48.8062
1058	Monções	SP	12	3	109	SSF	-20.851	-50.0975
1059	Santa Adélia	SP	12	7.3	114	SSF	-21.2433	-48.8062
1060	Tupã	SP	12	7	110	SSF	-21.9349	-50.5135
1061	Irapuã	SP	12	16	111	SSF	-21.2792	-49.4102
1062	Jaú	SP	5	11.35	89	SSF	-22.2936	-48.5592
1063	São João do Ivaí	PR	16	30	77	SSF	-23.9914	-51.8232

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1065	Iguaraçu	PR	16	2.95	81	SSF	-23.1973	-51.8245
1070	Bela Vista do Paraíso	PR	10	7	93	SSF	-22.9949	-51.1908
1071	Londrina	PR	10	3	96	SSF	-23.3113	-51.1595
1072	Maringá	PR	10	3	86	SSF	-23.4253	-51.9382
1073	Altônia	PR	10	30	83	SSF	-23.8722	-53.894
1074	Munhoz de Melo	PR	10	7.6	90	SSF	-23.1487	-51.7737
1075	Londrina	PR	10	4	86	SSF	-23.3113	-51.1595
1076	Londrina	PR	10	3	83	SSF	-23.3113	-51.1595
1077	Santópolis do Aguapeí	SP	13	3.34	85	SSF	-21.638	-50.5009
1078	Pereira Barreto	SP	13	15.8	90	SSF	-20.6379	-51.1052
1079	Clementina	SP	13	18.3	83	SSF	-21.5595	-50.4486
1080	Tupã	SP	13	13.65	91	SSF	-21.9349	-50.5135
1081	Reserva	PR	16	2.95	79	AF	-24.6545	-50.8484
1082	Apucarana	PR	10	5	80	SSF	-23.5525	-51.4611
1083	Guararapes	SP	10	9	84	SSF	-21.2537	-50.6442
1084	São Pedro do Ivaí	PR	10	20	87	SSF	-23.866	-51.8564
1085	Rancho Alegre	PR	10	8.5	76	SSF	-23.0709	-50.9143
1086	Londrina	PR	10	8.5	75	SSF	-23.3113	-51.1595
1087	Londrina	PR	10	9.41	82	SSF	-23.3113	-51.1595
1088	Cambé	PR	10	6.05	91	SSF	-23.2782	-51.278
1089	São Tomé	PR	10	3	86	SSF	-23.535	-52.5901
1090	Uraí	PR	10	22.3	109	SSF	-23.2	-50.7939
1091	Birigui	SP	10	3.4	93	SSF	-21.2909	-50.3414
1092	Araçatuba	SP	10	3	86	SSF	-21.208	-50.439
1093	Coroados	SP	10	3	86	SSF	-21.3555	-50.2854

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1094	Angélica	MS	13	7.76	81	SSF	-22.1588	-53.7729
1095	Braúna	SP	13	17.04	83	SSF	-21.5015	-50.3175
1096	Apucarana	PR	16	2.95	81	SSF	-23.5525	-51.4611
1099	Orindiúva	SP	10	9.6	87	SSF	-20.1819	-49.3508
1100	Apucarana	PR	10	3	86	SSF	-23.5525	-51.4611
1101	Tapira	PR	10	12	85	SSF	-23.3232	-53.0712
1102	Avaré	SP	7	15.3	99	SSF	-23.1045	-48.9259
1103	Arapongas	PR	16	2.95	77	SSF	-23.4153	-51.4259
1104	Socorro	SP	1	6.3	103	ODF	-22.5903	-46.5249
1105	Socorro	SP	1	4.6	91	ODF	-22.5903	-46.5249
1106	Sandovalina	SP	16	3.53	76	SSF	-22.4561	-51.7634
1107	Avanhandava	SP	12	6	111	SSF	-21.4603	-49.9465
1108	Buritama	SP	12	3.9	109	SSF	-21.0664	-50.1448
1109	Buritama	SP	12	3.9	109	SSF	-21.0664	-50.1448
1111	Novo Horizonte	SP	12	3	109	SSF	-21.4675	-49.2235
1112	Magda	SP	12	3.53	106	SSF	-20.6445	-50.2261
1113	Florínia	SP	12	3	108	SSF	-22.9016	-50.7268
1114	Ilha Solteira	SP	12	7.8	109	SSF	-20.4281	-51.3411
1116	Nhandeara	SP	12	3	105	SSF	-20.6943	-50.0406
1117	Florínia	SP	12	7	108	SSF	-22.9016	-50.7268
1120	Florínia	SP	12	8.4	109	SSF	-22.9016	-50.7268
1121	Florínia	SP	12	3.5	109	SSF	-22.9016	-50.7268
1122	Florínia	SP	12	3.3	109	SSF	-22.9016	-50.7268
1123	Pompéia	SP	12	30	109	SSF	-22.1088	-50.1721
1124	Apucarana	PR	16	3.24	82	SSF	-23.5525	-51.4611
1139	Querência do Norte	PR	20	29.42	24	SSF	-23.0838	-53.483

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1141	Guarapuava	PR	20	14.71	25	AF	-25.3951	-51.4622
1148	Londrina	PR	10	3	85	SSF	-23.3113	-51.1595
1149	Uraí	PR	16	2.95	81	SSF	-23.2	-50.7939
1150	Faxinal	PR	16	2.95	81	AF	-24.0011	-51.3223
1151	Paulo de Faria	SP	10	3.75	88	SSF	-20.0296	-49.3999
1152	Palestina	SP	10	3.9	89	SSF	-20.3893	-49.432
1153	Centenário do Sul	PR	10	3	89	SSF	-22.8215	-51.5952
1154	Alto Paraná	PR	10	3	86	SSF	-23.1313	-52.3189
1155	Londrina	PR	10	3	92	SSF	-23.3113	-51.1595
1156	Flórida Paulista	SP	10	4	81	SSF	-21.6141	-51.173
1157	Londrina	PR	16	8.9	88	SSF	-23.3113	-51.1595
1158	Apucarana	PR	16	4.1	81	SSF	-23.5525	-51.4611
1159	Fartura	SP	7	10.15	89	SSF	-23.39	-49.5109
1160	Londrina	PR	16	15	85	SSF	-23.3113	-51.1595
1161	Nantes	SP	16	30	88	SSF	-22.6192	-51.2382
1163	Guapiaçu	SP	27	4.6	76	SSF	-20.7966	-49.2254
1164	Taquarituba	SP	7	4	80	SSF	-23.5337	-49.2453
1165	Valentim Gentil	SP	27	4.7	80	SSF	-20.4226	-50.0862
1166	Monções	SP	27	2.94	77	SSF	-20.851	-50.0975
1167	Tanabi	SP	27	9.7	81	SSF	-20.6252	-49.652
1168	Valentim Gentil	SP	27	6.5	80	SSF	-20.4226	-50.0862
1169	Urupês	SP	27	12.47	98	SSF	-21.2027	-49.2922
1170	Araguari	MG	21	5	79	SSF	-18.6511	-48.1934
1171	Ivaté	PR	10	6	83	SSF	-23.4085	-53.3698
1172	Adamantina	SP	10	10	85	SSF	-21.6867	-51.0763
1173	Londrina	PR	10	12	88	SSF	-23.3113	-51.1595

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1174	Cianorte	PR	10	3	86	SSF	-23.662	-52.6104
1175	Meridiano	SP	21	7.34	82	SSF	-20.3547	-50.1726
1176	Cosmorama	SP	21	16	79	SSF	-20.4755	-49.7828
1177	Londrina	PR	16	10.3	107	SSF	-23.3113	-51.1595
1178	Anhumas	SP	16	3.06	101	SSF	-22.2957	-51.3873
1179	Londrina	PR	16	9	108	SSF	-23.3113	-51.1595
1180	Apucarana	PR	16	2.95	85	SSF	-23.5525	-51.4611
1182	Sertanópolis	PR	10	23.5	95	SSF	-23.06	-51.0374
1185	Kaloré	PR	16	14.71	85	SSF	-23.8243	-51.6684
1186	Avaré	SP	7	17.5	84	SSF	-23.1045	-48.9259
1188	Fernandópolis	SP	21	6.7	79	SSF	-20.2826	-50.2501
1189	Sebastianópolis do Sul	SP	21	27.09	79	SSF	-20.6582	-49.9229
1190	Teodoro Sampaio	SP	5	30	103	SSF	-22.447	-52.3339
1191	Nuporanga	SP	5	15	109	SSF	-20.7309	-47.7523
1192	Tanabi	SP	5	11	94	SSF	-20.6252	-49.652
1193	Bebedouro	SP	5	12.25	102	SSF	-20.9491	-48.4791
1194	Araraquara	SP	5	11.35	84	SSF	-21.7887	-48.1773
1195	Nova Granada	SP	5	4.6	91	SSF	-20.5345	-49.3187
1196	Araraquara	SP	5	3.75	85	SSF	-21.7887	-48.1773
1197	Bebedouro	SP	5	3	107	SSF	-20.9491	-48.4791
1198	Bebedouro	SP	5	4.15	91	SSF	-20.9491	-48.4791
1199	Bragança Paulista	SP	21	26.82	94	SSF	-21.5015	-50.3175
1200	Adamantina	SP	12	3	118	SSF	-21.6867	-51.0763
1201	Adamantina	SP	12	29.4	115	SSF	-21.6867	-51.0763
1202	Floreal	SP	21	8.42	86	SSF	-20.6767	-50.1456

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1203	Adamantina	SP	12	9.5	111	SSF	-21.6867	-51.0763
1204	Adamantina	SP	12	4	109	SSF	-21.6867	-51.0763
1205	Itu	SP	7	4.7	59	SSF	-23.2639	-47.2989
1206	Bebedouro	SP	27	9.41	79	SSF	-20.9491	-48.4791
1207	Votuporanga	SP	27	2.94	83	SSF	-20.4253	-49.9723
1208	Bom Sucesso	MG	9	3	74	SSF	-21.0324	-44.7598
1209	Três Corações	MG	9	3	67	SSF	-21.6956	-45.2544
1210	Borborema	SP	12	3	109	SSF	-21.6213	-49.0741
1211	Ibiporã	PR	10	29.4	84	SSF	-23.2659	-51.0522
1212	Guaíra	SP	27	10.59	81	SSF	-20.3246	-48.3149
1213	Santo Antônio do Amparo	MG	9	5	66	SSF	-20.9413	-44.9187
1214	Votuporanga	SP	21	4.7	79	SSF	-20.4253	-49.9723
1215	Votuporanga	SP	21	5.6	79	SSF	-20.4253	-49.9723
1217	Santa Vitória	MG	21	5	79	SSF	-18.8466	-50.1293
1218	Borá	SP	10	21	96	SSF	-22.2701	-50.5444
1219	Faxinal	PR	10	4.7	109	AF	-24.0011	-51.3223
1220	Eldorado	MS	10	4.5	84	SSF	-23.7839	-54.2832
1221	Teodoro Sampaio	SP	10	30	84	SSF	-22.447	-52.3339
1222	Flórida Paulista	SP	10	3.8	85	SSF	-21.6141	-51.173
1223	Tamarana	PR	10	3	86	AF	-23.7224	-51.0936
1224	Bela Vista do Paraíso	PR	10	3	85	SSF	-22.9949	-51.1908
1225	Itapeva	SP	7	6.6	115	SSF	-23.9849	-48.8804
1226	Barretos	SP	27	2.94	73	SSF	-20.5531	-48.5698
1228	Buritama	SP	13	5.2	92	SSF	-21.0664	-50.1448
1229	Parapuã	SP	13	8.94	91	SSF	-21.7813	-50.7922

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1230	Sud Mennucci	SP	13	10.6	85	SSF	-20.6906	-50.9241
1231	Brotas	SP	7	3	83	SSF	-22.2841	-48.1267
1232	Rolândia	PR	10	3.82	79	SSF	-23.3119	-51.3674
1233	Teodoro Sampaio	SP	10	22	81	SSF	-22.447	-52.3339
1235	Martinópolis	SP	13	29.41	87	SSF	-22.1462	-51.171
1236	Martinópolis	SP	13	19.05	90	SSF	-22.1462	-51.171
1237	Londrina	PR	10	3	82	SSF	-23.3113	-51.1595
1238	Teodoro Sampaio	SP	10	3	82	SSF	-22.447	-52.3339
1239	Orindiúva	SP	21	3	82	SSF	-20.1819	-49.3508
1240	Santa Albertina	SP	21	4.2	79	SSF	-20.0324	-50.7278
1241	Orindiúva	SP	27	3.9	80	SSF	-20.1819	-49.3508
1242	Mira Estrela	SP	21	6.52	82	SSF	-19.9806	-50.1369
1243	Campos Novos Paulista	SP	16	3	84	SSF	-22.602	-49.9987
1245	Adamantina	SP	12	6.1	117	SSF	-21.6867	-51.0763
1246	Adamantina	SP	12	3	108	SSF	-21.6867	-51.0763
1247	Sete Quedas	MS	16	10	94	SSF	-23.9788	-55.0428
1248	Ilha Solteira	SP	12	3.6	119	SSF	-20.4281	-51.3411
1249	Assis	SP	13	9.35	93	SSF	-22.6621	-50.4206
1251	Martinópolis	SP	13	18.94	88	SSF	-22.1462	-51.171
1252	Camapuã	MS	16	3.2	84	SSF	-19.5292	-54.0435
1253	Arvoredo	SC	16	24.1	83	AF	-27.0753	-52.4572
1254	Arvoredo	SC	16	16.68	83	AF	-27.0753	-52.4572
1255	Santa Inês	PR	16	15	102	SSF	-22.6402	-51.9031
1256	Braúna	SP	5	10	99	SSF	-21.5015	-50.3175
1257	Maracaí	SP	5	3.2	88	SSF	-22.6113	-50.6671

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1258	Martinópolis	SP	13	18.73	93	SSF	-22.1462	-51.171
1260	Flórida Paulista	SP	14	4.82	83	SSF	-21.6141	-51.173
1261	Mirandópolis	SP	14	4.3	82	SSF	-21.1328	-51.1029
1262	Santa Cruz do Rio Pardo	SP	16	12	83	SSF	-22.9061	-49.6277
1263	Teodoro Sampaio	SP	10	3	82	SSF	-22.447	-52.3339
1264	Eldorado	MS	10	7.05	89	SSF	-23.7839	-54.2832
1265	Santa Mariana	PR	10	3	81	SSF	-23.1499	-50.52
1266	Tamarana	PR	10	3.23	82	AF	-23.7224	-51.0936
1267	Santana da Ponte Pensa	SP	10	5.3	88	SSF	-20.2544	-50.7976
1268	Teodoro Sampaio	SP	10	3	82	SSF	-22.447	-52.3339
1269	Teodoro Sampaio	SP	10	3	82	SSF	-22.447	-52.3339
1270	Teodoro Sampaio	SP	10	3	82	SSF	-22.447	-52.3339
1271	Teodoro Sampaio	SP	10	3	82	SSF	-22.447	-52.3339
1272	Teodoro Sampaio	SP	10	3	82	SSF	-22.447	-52.3339
1273	Teodoro Sampaio	SP	10	3	82	SSF	-22.447	-52.3339
1274	Rosana	SP	10	22	75	SSF	-22.5789	-53.0552
1275	São João do Caiuá	PR	16	18.78	84	SSF	-22.8545	-52.3371
1276	Pindamonhangaba	SP	16	4	86	ODF	-22.934	-45.4629
1277	Populina	SP	10	19	83	SSF	-19.9428	-50.5373
1278	Paulo de Faria	SP	10	4.5	83	SSF	-20.0296	-49.3999
1280	Barra do Turvo	SP	16	19	83	ODF	-24.7564	-48.5057
1281	Barra do Turvo	SP	16	15.29	84	ODF	-24.7564	-48.5057
1282	Dracena	SP	16	29.7	82	SSF	-21.4836	-51.5334
1283	Ouro Verde	SP	16	20	83	SSF	-21.4893	-51.7026
1284	Prado Ferreira	PR	16	15	84	SSF	-23.0398	-51.4431

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1285	Barra do Turvo	SP	16	17.7	83	ODF	-24.7564	-48.5057
1286	Monte Azul Paulista	SP	27	5.88	80	SSF	-20.9065	-48.6387
1296	Dracena	SP	16	7.7	83	SSF	-21.4836	-51.5334
1297	Dracena	SP	16	3	84	SSF	-21.4836	-51.5334
1298	Arco-Íris	SP	12	11.76	109	SSF	-21.7741	-50.4669
1299	Santo Antônio do Aracanguá	SP	10	5	83	SSF	-20.9355	-50.4954
1300	Dracena	SP	16	7.77	84	SSF	-21.4836	-51.5334
1301	Itaporanga	SP	16	6.5	83	SSF	-23.7066	-49.4896
1302	Ouro Verde	SP	16	4.96	83	SSF	-21.4893	-51.7026
1303	Barretos	SP	27	3	69	SSF	-20.5531	-48.5698
1304	Jales	SP	27	6.21	80	SSF	-20.2672	-50.5492
1305	Jales	SP	27	3	80	SSF	-20.2672	-50.5492
1306	São Sebastião da Grama	SP	26	6	81	SSF	-21.7119	-46.8284
1307	Adamantina	SP	14	3.87	80	SSF	-21.6867	-51.0763
1308	Buritama	SP	12	5.3	109	SSF	-21.0664	-50.1448
1309	Canitar	SP	7	15	136	SSF	-23.0067	-49.7841
1310	Teodoro Sampaio	SP	10	29.4	95	SSF	-22.447	-52.3339
1311	Extrema	MG	5	30	137	ODF	-22.8549	-46.319
1312	Uchoa	SP	27	3	80	SSF	-20.9511	-49.1713
1313	Jaboticabal	SP	27	3	79	SSF	-21.252	-48.3252
1314	Riolândia	SP	27	4.24	79	SSF	-19.9809	-49.6814
1315	Nova Granada	SP	27	4.7	81	SSF	-20.5345	-49.3187
1316	Pereira Barreto	SP	27	11.12	80	SSF	-20.6379	-51.1052
1317	Bento de Abreu	SP	13	9	94	SSF	-21.2707	-50.812

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1319	Pederneiras	SP	17	12	71	SSF	-22.3511	-48.7781
1320	Dobrada	SP	12	8.23	110	SSF	-21.5181	-48.3939
1322	Coronel Macedo	SP	7	3.6	105	SSF	-23.6304	-49.3132
1324	Murutinga do Sul	SP	13	4.5	80	SSF	-20.9914	-51.2782
1325	Lucélia	SP	14	7.65	86	SSF	-21.7211	-51.0188
1326	Paraguaçu Paulista	SP	12	2.94	109	SSF	-22.4204	-50.5792
1327	Paraguaçu Paulista	SP	7	3.83	79	SSF	-22.4204	-50.5792
1328	Andradina	SP	13	8	92	SSF	-20.8965	-51.3743
1329	Valparaíso	SP	13	7.32	87	SSF	-21.2238	-50.867
1330	Avaré	SP	7	5.9	82	SSF	-23.1045	-48.9259
1331	Piedade	SP	1	3.9	104	ODF	-23.7074	-47.4252
1332	Nantes	SP	10	29.4	100	SSF	-22.6192	-51.2382
1335	Itaguajé	PR	10	5.88	87	SSF	-22.6183	-51.9674
1337	Monte Castelo	SP	14	3	79	SSF	-21.3006	-51.5687
1338	Sebastianópolis do Sul	SP	27	4.5	80	SSF	-20.6582	-49.9229
1339	Flórida Paulista	SP	14	10	79	SSF	-21.6141	-51.173
1340	Apucarana	PR	10	3	84	SSF	-23.5525	-51.4611
1341	Godoy Moreira	PR	10	3	82	AF	-24.1925	-51.9233
1342	Sertãozinho	SP	12	3.24	109	SSF	-21.1376	-47.9914
1343	Sud Mennucci	SP	10	6	94	SSF	-20.6906	-50.9241
1344	Ivinhema	MS	10	29.4	82	SSF	-22.3023	-53.8276
1345	Sertaneja	PR	10	17.6	84	SSF	-23.0368	-50.8168
1346	Dois Córregos	SP	17	5.13	84	SSF	-22.3698	-48.3845
1347	Borborema	SP	12	17.65	109	SSF	-21.6213	-49.0741
1348	Catanduva	SP	12	7.65	109	SSF	-21.1331	-48.9713

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1349	Porto Ferreira	SP	12	4.3	109	SSF	-21.8529	-47.4795
1350	Santo Anastácio	SP	10	29.4	98	SSF	-21.9747	-51.6527
1351	Paulo de Faria	SP	10	18	87	SSF	-20.0296	-49.3999
1352	Iguaraçu	PR	10	5.9	93	SSF	-23.1973	-51.8245
1353	Santo Antônio do Aracanguá	SP	12	29.4	118	SSF	-20.9355	-50.4954
1354	Pereira Barreto	SP	12	7.95	109	SSF	-20.6379	-51.1052
1355	Paulicéia	SP	10	18	102	SSF	-21.3144	-51.8316
1356	Itaguajé	PR	10	3	81	SSF	-22.6183	-51.9674
1357	Panorama	SP	10	8.82	103	SSF	-21.46	-51.8463
1358	Altair	SP	10	4.3	81	SSF	-20.5239	-49.0606
1359	Pompéia	SP	10	12.5	81	SSF	-22.1088	-50.1721
1360	Paulicéia	SP	10	18	94	SSF	-21.3144	-51.8316
1361	Monte Aprazível	SP	27	2.94	78	SSF	-20.7626	-49.7088
1362	Borborema	SP	27	13.54	80	SSF	-21.6213	-49.0741
1363	Santa Bárbara d'Oeste	SP	5	13.42	111	SSF	-22.7553	-47.4145
1365	Socorro	SP	1	5.4	79	ODF	-22.5903	-46.5249
1366	Embaúba	SP	27	4.71	85	SSF	-20.982	-48.8375
1367	Turvolândia	MG	9	5.89	76	SSF	-21.8756	-45.7869
1368	Paraguaçu Paulista	SP	10	6.13	82	SSF	-22.4204	-50.5792
1369	Águas da Prata	SP	3	3.6	84	SSF	-21.9464	-46.7192
1370	Caconde	SP	3	6.5	90	SSF	-21.528	-46.6437
1372	Sandovalina	SP	10	4.12	92	SSF	-22.4561	-51.7634
1373	Birigui	SP	10	4.52	90	SSF	-21.2909	-50.3414
1374	Paulicéia	SP	10	8.82	81	SSF	-21.3144	-51.8316
1375	Buri	SP	7	5	80	SSF	-23.7985	-48.5989

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1376	Socorro	SP	1	4.8	99	ODF	-22.5903	-46.5249
1377	São Sebastião	SP	17	6	54	ODF	-23.8028	-45.4071
1378	Avaré	SP	7	8.82	117	SSF	-23.1045	-48.9259
1379	Marabá Paulista	SP	10	10	86	SSF	-22.107	-51.963
1380	Getulina	SP	10	29	84	SSF	-21.7989	-49.9288
1381	Palestina	SP	27	3.71	79	SSF	-20.3893	-49.432
1382	Fernandópolis	SP	27	4.29	79	SSF	-20.2826	-50.2501
1383	Olímpia	SP	27	6.18	79	SSF	-20.7366	-48.9106
1384	Borborema	SP	27	10.7	80	SSF	-21.6213	-49.0741
1385	Olímpia	SP	27	4.71	81	SSF	-20.7366	-48.9106
1386	Espírito Santo do Pinhal	SP	3	3	85	SSF	-22.1909	-46.7477
1388	Novo Horizonte	SP	27	4.65	80	SSF	-21.4675	-49.2235
1389	Lucélia	SP	5	12	76	SSF	-21.7211	-51.0188
1390	São Thomé das Letras	MG	9	3.3	82	SSF	-21.7218	-44.9849
1391	Pedranópolis	SP	21	10.88	79	SSF	-20.2492	-50.1103
1392	Magda	SP	27	5.88	80	SSF	-20.6445	-50.2261
1393	Vidal Ramos	SC	28	11.5	95	AF	-27.3909	-49.3616
1394	Novo Horizonte	SP	27	13.74	80	SSF	-21.4675	-49.2235
1395	Catanduva	SP	27	5.88	79	SSF	-21.1331	-48.9713
1397	Gália	SP	3	4.07	75	SSF	-22.2937	-49.5516
1398	Guatapará	SP	5	8.62	88	SSF	-21.4961	-48.0361
1399	Sandovalina	SP	5	10	81	SSF	-22.4561	-51.7634
1400	Nova Alvorada do Sul	MS	14	30	84	SSF	-21.4587	-54.3761
1401	Panorama	SP	14	8.82	85	SSF	-21.46	-51.8463

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1402	Junqueirópolis	SP	14	14.7	87	SSF	-21.511	-51.4352
1403	Lucélia	SP	14	3	83	SSF	-21.7211	-51.0188
1404	Jacareí	SP	3	7.06	75	ODF	-23.3053	-45.9658
1405	Amparo	SP	3	3	77	ODF	-22.7011	-46.7644
1406	Imbaú	PR	10	3	85	AF	-24.4476	-50.7557
1407	Santa Mariana	PR	10	7.29	97	SSF	-23.1499	-50.52
1408	Moreira Sales	PR	10	12	86	SSF	-24.0509	-53.0102
1409	Severínia	SP	27	15	80	SSF	-20.8108	-48.8054
1410	Pirassununga	SP	3	24.6	80	SSF	-21.9981	-47.4281
1411	Arceburgo	MG	9	3	64	SSF	-21.3644	-46.9397
1412	Cachoeira Paulista	SP	3	5.4	80	SSF	-22.6665	-45.0154
1414	Pirapozinho	SP	10	28.88	100	SSF	-22.2739	-51.4999
1415	Sandovalina	SP	10	17.76	85	SSF	-22.4561	-51.7634
1416	Guapiaçu	SP	27	15.7	82	SSF	-20.7966	-49.2254
1417	Teodoro Sampaio	SP	10	3.18	91	SSF	-22.447	-52.3339
1418	Taquaritinga	SP	3	10.3	88	SSF	-21.4075	-48.5055
1421	Flórida Paulista	SP	10	8.82	91	SSF	-21.6141	-51.173
1422	Bastos	SP	12	13.4	109	SSF	-21.9223	-50.7318
1423	Caratinga	MG	24	9	79	SSF	-19.7901	-42.1405
1424	Londrina	PR	10	15	97	SSF	-23.3113	-51.1595
1425	Taciba	SP	10	29.4	89	SSF	-22.3901	-51.2889
1426	Orindiúva	SP	10	29.4	98	SSF	-20.1819	-49.3508
1427	Panorama	SP	14	29.41	80	SSF	-21.46	-51.8463
1428	Icém	SP	27	8.82	83	SSF	-20.3413	-49.1971
1429	Cardoso	SP	27	2.94	79	SSF	-20.0805	-49.914
1430	Sud Mennucci	SP	12	4.5	109	SSF	-20.6906	-50.9241

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1431	Tanabi	SP	27	3.29	79	SSF	-20.6252	-49.652
1432	Adamantina	SP	14	29.41	86	SSF	-21.6867	-51.0763
1435	Icém	SP	27	5.88	84	SSF	-20.3413	-49.1971
1436	Caratinga	MG	24	28.7	70	SSF	-19.7901	-42.1405
1437	Cianorte	PR	10	4.65	89	SSF	-23.662	-52.6104
1439	São Sebastião da Grama	SP	3	7.41	82	SSF	-21.7119	-46.8284
1440	Piracaia	SP	1	5.4	78	ODF	-23.0525	-46.3594
1441	Turmalina	SP	10	13	90	SSF	-20.0531	-50.4763
1442	Sandovalina	SP	10	5.7	89	SSF	-22.4561	-51.7634
1443	Sandovalina	SP	10	12.64	93	SSF	-22.4561	-51.7634
1445	Taquarituba	SP	7	4.12	91	SSF	-23.5337	-49.2453
1446	Catanduva	SP	27	2.94	82	SSF	-21.1331	-48.9713
1447	Magda	SP	27	11.76	79	SSF	-20.6445	-50.2261
1448	Indiaporã	SP	27	3.06	85	SSF	-19.9803	-50.2906
1449	Mirassol	SP	27	3	85	SSF	-20.8141	-49.5075
1450	Joanópolis	SP	3	4.32	80	ODF	-22.93	-46.2752
1451	Piracaia	SP	1	3	68	ODF	-23.0525	-46.3594
1452	Teodoro Sampaio	SP	14	5	88	SSF	-22.447	-52.3339
1453	Cambira	PR	10	3	91	SSF	-23.6003	-51.5811
1454	Sertanópolis	PR	10	3	86	SSF	-23.06	-51.0374
1455	Gabriel Monteiro	SP	10	24.71	101	SSF	-21.5299	-50.5533
1456	Tamarana	PR	10	3	94	AF	-23.7224	-51.0936
1457	Icém	SP	10	29.4	90	SSF	-20.3413	-49.1971
1458	Taciba	SP	10	28.82	92	SSF	-22.3901	-51.2889
1459	Paranapanema	SP	7	5.88	80	SSF	-23.3902	-48.7209

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1460	Fernandópolis	SP	21	3.23	81	SSF	-20.2826	-50.2501
1461	Cardoso	SP	21	7.05	79	SSF	-20.0805	-49.914
1462	Santa Vitória	MG	21	29.41	82	SSF	-18.8466	-50.1293
1463	Cambé	PR	10	6.52	85	SSF	-23.2782	-51.278
1464	Nossa Senhora das Graças	PR	10	30	98	SSF	-22.9139	-51.7963
1466	Piracaia	SP	1	7.2	93	ODF	-23.0525	-46.3594
1467	Extrema	MG	5	30	78	ODF	-22.8549	-46.319
1470	Presidente Venceslau	SP	5	30	77	SSF	-21.8771	-51.8451
1471	Rancharia	SP	14	8.82	88	SSF	-22.2295	-50.8922
1472	Bilac	SP	10	29	88	SSF	-21.404	-50.4746
1473	Ourinhos	SP	7	14.7	106	SSF	-22.9778	-49.8682
1474	Sandovalina	SP	10	3.52	92	SSF	-22.4561	-51.7634
1475	Flórida Paulista	SP	10	3.53	89	SSF	-21.6141	-51.173
1476	Guararapes	SP	10	4.12	88	SSF	-21.2537	-50.6442
1477	Santo Antônio do Aracanguá	SP	10	8	93	SSF	-20.9355	-50.4954
1478	Junqueirópolis	SP	10	18	96	SSF	-21.511	-51.4352
1479	Paulo de Faria	SP	10	21.76	90	SSF	-20.0296	-49.3999
1480	Santa Rita de Minas	MG	24	5.5	73	SSF	-19.8745	-42.1325
1481	Itatinga	SP	7	11.7	94	SSF	-23.1042	-48.6135
1482	Santo Antônio do Amparo	MG	5	6	78	SSF	-20.9413	-44.9187
1483	Rancharia	SP	14	7.35	92	SSF	-22.2295	-50.8922
1484	Avaré	SP	5	3	79	SSF	-23.1045	-48.9259
1485	São Thomé das Letras	MG	9	8.2	96	SSF	-21.7218	-44.9849
1486	Piracaia	SP	1	6	96	ODF	-23.0525	-46.3594

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1487	Pereira Barreto	SP	12	21	110	SSF	-20.6379	-51.1052
1488	Rancharia	SP	10	3	90	SSF	-22.2295	-50.8922
1489	Itatinga	SP	10	23.52	81	SSF	-23.1042	-48.6135
1491	Piracaia	SP	1	8.4	108	ODF	-23.0525	-46.3594
1492	Piracaia	SP	1	4	81	ODF	-23.0525	-46.3594
1493	Caratinga	MG	24	3.5	79	SSF	-19.7901	-42.1405
1494	Caratinga	MG	24	32.8	69	SSF	-19.7901	-42.1405
1495	Cássia dos Coqueiros	SP	5	5.8	77	SSF	-21.2801	-47.1643
1496	Porto Ferreira	SP	12	16.47	110	SSF	-21.8529	-47.4795
1497	Imbé de Minas	MG	24	3	81	SSF	-19.599	-41.9694
1498	Caratinga	MG	24	20	79	SSF	-19.7901	-42.1405
1499	São João do Manhuaçu	MG	24	3	69	SSF	-20.3939	-42.15
1500	Caratinga	MG	24	3	69	SSF	-19.7901	-42.1405
1501	Sud Mennucci	SP	14	21	79	SSF	-20.6906	-50.9241
1502	Ouro Verde	SP	5	30	77	SSF	-21.4893	-51.7026
1503	Extrema	MG	1	15.62	85	ODF	-22.8549	-46.319
1516	Paranapanema	SP	7	5.89	94	SSF	-23.3902	-48.7209
1517	Cosmorama	SP	21	3	82	SSF	-20.4755	-49.7828
1518	Iporanga	SP	17	5.38	80	ODF	-24.5843	-48.594
1519	Apiaí	SP	17	4.81	80	AF	-24.5077	-48.8462
1520	Itaóca	SP	17	3.13	80	ODF	-24.641	-48.841
1521	Itaóca	SP	17	3	80	ODF	-24.641	-48.841
1522	Cajati	SP	17	3	81	ODF	-24.7272	-48.1078
1523	Cajati	SP	17	3.75	80	ODF	-24.7272	-48.1078
1524	Apiaí	SP	17	7.62	80	AF	-24.5077	-48.8462

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1525	Extrema	MG	1	16.52	108	ODF	-22.8549	-46.319
1526	Cerqueira César	SP	4	5	24	SSF	-23.0353	-49.1651
1527	Pirapozinho	SP	10	7	86	SSF	-22.2739	-51.4999
1528	Nantes	SP	10	23	87	SSF	-22.6192	-51.2382
1529	Riolândia	SP	10	3	86	SSF	-19.9809	-49.6814
1530	Mirante do Paranapanema	SP	10	3	81	SSF	-22.2926	-51.9071
1531	Valparaíso	SP	10	3	85	SSF	-21.2238	-50.867
1532	São José do Rio Pardo	SP	10	29.41	83	SSF	-21.5953	-46.8873
1533	Orindiúva	SP	10	20	86	SSF	-20.1819	-49.3508
1534	Monte Aprazível	SP	12	3	114	SSF	-20.7626	-49.7088
1535	Borborema	SP	12	17.6	114	SSF	-21.6213	-49.0741
1536	Araçatuba	SP	12	3	114	SSF	-21.208	-50.439
1538	Promissão	SP	12	7	119	SSF	-21.5405	-49.8575
1539	Murutinga do Sul	SP	12	5.8	114	SSF	-20.9914	-51.2782
1540	Tupã	SP	12	7.05	114	SSF	-21.9349	-50.5135
1541	Monte Alegre do Sul	SP	1	5.3	76	ODF	-22.6819	-46.6799
1542	Monte Alegre do Sul	SP	1	2.7	82	ODF	-22.6819	-46.6799
1543	Monte Alegre do Sul	SP	1	8.5	76	ODF	-22.6819	-46.6799
1544	Rubinéia	SP	10	30	82	SSF	-20.1718	-50.9996
1545	Sarutaiá	SP	7	3.53	80	SSF	-23.26	-49.4839
1546	Mirandópolis	SP	10	3	83	SSF	-21.1328	-51.1029
1547	Paraguaçu Paulista	SP	14	3	78	SSF	-22.4204	-50.5792
1548	Penápolis	SP	12	17.43	123	SSF	-21.4192	-50.0766
1549	Santa Clara d'Oeste	SP	10	3	87	SSF	-20.0939	-50.9264

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1550	Piacatu	SP	10	3	86	SSF	-21.5902	-50.5972
1551	Urânia	SP	10	7.5	85	SSF	-20.2445	-50.6451
1552	Guaraci	SP	10	10	84	SSF	-20.4977	-48.9452
1553	Bernardino de Campos	SP	7	3.53	99	SSF	-23.014	-49.4761
1554	Sandovalina	SP	10	28	93	SSF	-22.4561	-51.7634
1555	Itu	SP	5	3	77	SSF	-23.2639	-47.2989
1556	Piracaia	SP	1	4.7	73	ODF	-23.0525	-46.3594
1557	Meridiano	SP	21	3	85	SSF	-20.3547	-50.1726
1558	Limeira do Oeste	MG	21	17.83	82	SSF	-19.5522	-50.5773
1559	Fernandópolis	SP	21	13.2	83	SSF	-20.2826	-50.2501
1560	Macedônia	SP	21	3	83	SSF	-20.1454	-50.1939
1561	Pedranópolis	SP	21	3.7	109	SSF	-20.2492	-50.1103
1562	Limeira do Oeste	MG	21	5.91	81	SSF	-19.5522	-50.5773
1563	Capão Bonito	SP	5	3	77	ODF	-24.0049	-48.349
1564	Macedônia	SP	10	3	84	SSF	-20.1454	-50.1939
1565	Bilac	SP	10	3	78	SSF	-21.404	-50.4746
1566	Guzolândia	SP	10	3	83	SSF	-20.6492	-50.6623
1567	Presidente Epitácio	SP	10	7	86	SSF	-21.7651	-52.1111
1568	Itatinga	SP	7	8.82	83	SSF	-23.1042	-48.6135
1569	Riolândia	SP	10	13.47	82	SSF	-19.9809	-49.6814
1570	Extrema	MG	5	32.68	77	ODF	-22.8549	-46.319
1571	Orindiúva	SP	10	10	85	SSF	-20.1819	-49.3508
1572	Barbosa	SP	12	23.5	151	SSF	-21.2657	-49.9518
1573	Extrema	MG	1	20	112	ODF	-22.8549	-46.319
1574	Serra Negra	SP	1	5	91	ODF	-22.6122	-46.7006

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1575	Socorro	SP	1	3.75	87	ODF	-22.5903	-46.5249
1576	Iturama	MG	10	15.88	87	SSF	-19.7273	-50.1935
1577	Paraguaçu Paulista	SP	14	15.29	80	SSF	-22.4204	-50.5792
1578	Manduri	SP	10	3	83	SSF	-23.0059	-49.3172
1579	Gália	SP	12	3	117	SSF	-22.2937	-49.5516
1580	Suzanápolis	SP	10	9	86	SSF	-20.5011	-51.0247
1581	Urupês	SP	12	5.3	117	SSF	-21.2027	-49.2922
1582	Bebedouro	SP	5	3	76	SSF	-20.9491	-48.4791
1583	Ivinhema	MS	10	30	96	SSF	-22.3023	-53.8276
1584	Santo Antônio do Amparo	MG	5	3	77	SSF	-20.9413	-44.9187
1585	Sales	SP	12	3	117	SSF	-21.3418	-49.4999
1586	Urânia	SP	10	6	88	SSF	-20.2445	-50.6451
1587	Iguaraçu	PR	10	3	85	SSF	-23.1973	-51.8245
1588	Pacaembu	SP	10	7.2	88	SSF	-21.5662	-51.2633
1589	Santa Clara d'Oeste	SP	10	3.6	88	SSF	-20.0939	-50.9264
1590	Jales	SP	10	3	86	SSF	-20.2672	-50.5492
1591	Anhumas	SP	10	3	94	SSF	-22.2957	-51.3873
1592	Sandovalina	SP	10	9.9	92	SSF	-22.4561	-51.7634
1593	Sandovalina	SP	10	16.62	86	SSF	-22.4561	-51.7634
1594	Ipanema	MG	24	6	75	SSF	-19.8	-41.7139
1595	Santa Bárbara do Leste	MG	24	3	81	SSF	-19.9783	-42.1406
1596	Itatinga	SP	7	11.76	99	SSF	-23.1042	-48.6135
1597	Nova Andradina	MS	14	30	95	SSF	-22.2478	-53.3481
1598	Cafelândia	SP	10	4.2	86	SSF	-21.8054	-49.6031
1599	Fernandópolis	SP	10	6	92	SSF	-20.2826	-50.2501

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1600	Taquarituba	SP	10	3	87	SSF	-23.5337	-49.2453
1601	Sandovalina	SP	10	3	81	SSF	-22.4561	-51.7634
1602	Taquarituba	SP	10	3	82	SSF	-23.5337	-49.2453
1603	Taquarituba	SP	10	3	85	SSF	-23.5337	-49.2453
1604	Taquarituba	SP	10	3	83	SSF	-23.5337	-49.2453
1605	Taquarituba	SP	10	3	90	SSF	-23.5337	-49.2453
1606	Sud Mennucci	SP	12	4.5	117	SSF	-20.6906	-50.9241
1607	Taquaritinga	SP	10	4.2	88	SSF	-21.4075	-48.5055
1608	Itatinga	SP	7	9	78	SSF	-23.1042	-48.6135
1609	Santa Vitória	MG	21	17.65	78	SSF	-18.8466	-50.1293
1610	Aparecida do Taboado	MS	10	5.8	90	SSF	-20.084	-51.1014
1611	Iguaraçu	PR	10	3	89	SSF	-23.1973	-51.8245
1612	Fernandópolis	SP	10	4.5	86	SSF	-20.2826	-50.2501
1613	Gália	SP	12	3	118	SSF	-22.2937	-49.5516
1614	Joanópolis	SP	1	27.49	82	ODF	-22.93	-46.2752
1615	Lorena	SP	10	30	86	SSF	-22.7368	-45.1071
1616	Imbaú	PR	10	5	90	AF	-24.4476	-50.7557
1617	Rancharia	SP	10	3	93	SSF	-22.2295	-50.8922
1618	Extrema	MG	1	20	86	ODF	-22.8549	-46.319
1620	Ilha Solteira	SP	12	3	118	SSF	-20.4281	-51.3411
1621	Martinópolis	SP	10	6	85	SSF	-22.1462	-51.171
1622	Iepê	SP	10	29.4	94	SSF	-22.6602	-51.0779
1623	Osvaldo Cruz	SP	11	3	85	SSF	-21.7963	-50.8791
1624	Presidente Epitácio	SP	10	12.59	89	SSF	-21.7651	-52.1111
1625	Taquaritinga	SP	12	30	119	SSF	-21.4075	-48.5055

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1626	Guararapes	SP	11	6.3	85	SSF	-21.2537	-50.6442
1627	Extrema	MG	1	20	116	ODF	-22.8549	-46.319
1628	Bebedouro	SP	5	3	70	SSF	-20.9491	-48.4791
1629	Extrema	MG	5	24.2	77	ODF	-22.8549	-46.319
1630	Tapira	PR	10	5.1	97	SSF	-23.3232	-53.0712
1631	Londrina	PR	10	3	92	SSF	-23.3113	-51.1595
1632	Tanabi	SP	12	17.6	119	SSF	-20.6252	-49.652
1633	Pirassununga	SP	5	25	79	SSF	-21.9981	-47.4281
1634	Cajobi	SP	11	3	79	SSF	-20.8776	-48.8107
1635	Macedônia	SP	11	3	81	SSF	-20.1454	-50.1939
1636	Taiúva	SP	11	4.5	82	SSF	-21.1238	-48.4513
1637	Mirante do Paranapanema	SP	10	7.2	84	SSF	-22.2926	-51.9071
1638	Euclides da Cunha Paulista	SP	11	3	90	SSF	-22.5545	-52.5928
1639	Urânia	SP	11	3	89	SSF	-20.2445	-50.6451
1641	Promissão	SP	12	13.8	118	SSF	-21.5405	-49.8575
1642	Santo Antônio do Amparo	MG	1	3	84	SSF	-20.9413	-44.9187
1643	Anhembi	SP	1	4.06	84	SSF	-22.7891	-48.1317
1644	Getulina	SP	11	3	81	SSF	-21.7989	-49.9288
1645	Urupês	SP	11	3	85	SSF	-21.2027	-49.2922
1646	Riolândia	SP	10	7	88	SSF	-19.9809	-49.6814
1647	Londrina	PR	10	3	90	SSF	-23.3113	-51.1595
1648	Suzanápolis	SP	10	7.8	83	SSF	-20.5011	-51.0247
1649	Taquarituba	SP	11	3	81	SSF	-23.5337	-49.2453
1650	Araçatuba	SP	11	6	83	SSF	-21.208	-50.439

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1651	Taquarituba	SP	11	3	82	SSF	-23.5337	-49.2453
1652	Taquarituba	SP	7	12	86	SSF	-23.5337	-49.2453
1653	Canitar	SP	7	15	90	SSF	-23.0067	-49.7841
1654	Valinhos	SP	1	2.99	83	ODF	-22.9706	-46.9958
1655	Ilha Solteira	SP	11	3	80	SSF	-20.4281	-51.3411
1656	Taquarituba	SP	11	3	81	SSF	-23.5337	-49.2453
1657	Tabapuã	SP	12	3	117	SSF	-20.9648	-49.0332
1658	Itu	SP	15	4.2	37	SSF	-23.2639	-47.2989
1659	Adamantina	SP	14	5.09	81	SSF	-21.6867	-51.0763
1660	Adamantina	SP	14	2.65	73	SSF	-21.6867	-51.0763
1661	Santa Bárbara d'Oeste	SP	15	16.38	67	SSF	-22.7553	-47.4145
1662	Santa Bárbara d'Oeste	SP	15	23.3	79	SSF	-22.7553	-47.4145
1663	Santa Bárbara d'Oeste	SP	15	13.45	72	SSF	-22.7553	-47.4145
1664	Piquerobi	SP	11	3	83	SSF	-21.8857	-51.7296
1665	Santa Vitória	MG	21	18	79	SSF	-18.8466	-50.1293
1667	Suzanápolis	SP	11	23.99	73	SSF	-20.5011	-51.0247
1668	Itapetininga	SP	12	5.88	117	SSF	-23.5886	-48.0483
1669	Ocauçu	SP	12	3.95	117	SSF	-22.4396	-49.9227
1670	Oscar Bressane	SP	10	15	94	SSF	-22.3149	-50.2811
1671	Marabá Paulista	SP	2	12	53	SSF	-22.107	-51.963
1672	Extrema	MG	1	20	85	ODF	-22.8549	-46.319
1673	Taquarituba	SP	11	7.79	68	SSF	-23.5337	-49.2453
1674	Marabá Paulista	SP	11	3	56	SSF	-22.107	-51.963
1675	Extrema	MG	5	20	86	ODF	-22.8549	-46.319

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1677	Santo Antônio do Aracanguá	SP	12	17.64	118	SSF	-20.9355	-50.4954
1678	Sandovalina	SP	10	12	83	SSF	-22.4561	-51.7634
1679	Lutécia	SP	10	25.8	88	SSF	-22.3384	-50.394
1680	Londrina	PR	10	19.8	90	SSF	-23.3113	-51.1595
1681	Santa Cruz do Rio Pardo	SP	10	30	89	SSF	-22.9061	-49.6277
1682	Mirante do Paranapanema	SP	10	9.6	80	SSF	-22.2926	-51.9071
1683	Marabá Paulista	SP	10	30	94	SSF	-22.107	-51.963
1684	Floreal	SP	11	5.59	66	SSF	-20.6767	-50.1456
1685	Taquarituba	SP	11	3	90	SSF	-23.5337	-49.2453
1686	Oscar Bressane	SP	11	3.6	82	SSF	-22.3149	-50.2811
1687	Campinas	SP	15	3	85	SSF	-22.9056	-47.0608
1688	Rancharia	SP	14	30	77	SSF	-22.2295	-50.8922
1689	Araçatuba	SP	11	7	73	SSF	-21.208	-50.439
1690	Lucélia	SP	14	8.99	78	SSF	-21.7211	-51.0188
1691	Porto Feliz	SP	15	4.24	68	SSF	-23.2137	-47.519
1692	Tanabi	SP	12	5.88	117	SSF	-20.6252	-49.652
1693	Extrema	MG	15	20	63	ODF	-22.8549	-46.319
1694	Campinas	SP	15	3	84	SSF	-22.9056	-47.0608
1695	Itu	SP	5	30	119	SSF	-23.2639	-47.2989
1696	Riolândia	SP	11	6	84	SSF	-19.9809	-49.6814
1697	Urupês	SP	11	3	81	SSF	-21.2027	-49.2922
1698	Gabriel Monteiro	SP	11	3	80	SSF	-21.5299	-50.5533
1699	Tarabai	SP	10	3	82	SSF	-22.3039	-51.5629
1700	Serra Negra	SP	1	3.3	90	ODF	-22.6122	-46.7006

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1701	Serra Negra	SP	1	2	110	ODF	-22.6122	-46.7006
1702	Valinhos	SP	1	2.99	104	ODF	-22.9706	-46.9958
1703	Tietê	SP	15	3	53	SSF	-23.103	-47.7148
1704	Porto Feliz	SP	15	12	72	SSF	-23.2137	-47.519
1705	Itu	SP	15	6.5	79	SSF	-23.2639	-47.2989
1706	Teodoro Sampaio	SP	10	13.2	85	SSF	-22.447	-52.3339
1707	Extrema	MG	15	20	62	ODF	-22.8549	-46.319
1708	Zacarias	SP	12	12	120	SSF	-21.0519	-50.0508
1710	Ilha Solteira	SP	12	3	120	SSF	-20.4281	-51.3411
1712	Taquaritinga	SP	12	5.88	119	SSF	-21.4075	-48.5055
1713	Quintana	SP	14	30	82	SSF	-22.0706	-50.3087
1714	Novo Horizonte	SP	12	5.3	119	SSF	-21.4675	-49.2235
1715	Socorro	SP	1	10.86	84	ODF	-22.5903	-46.5249
1716	Rancharia	SP	2	17	59	SSF	-22.2295	-50.8922
1717	Cândido Mota	SP	2	5.5	58	SSF	-22.7435	-50.3892
1718	Itaberá	SP	10	3	88	AF	-23.8621	-49.1399
1719	Iguaraçu	PR	10	6	88	SSF	-23.1973	-51.8245
1720	Pedrinhas Paulista	SP	10	6	81	SSF	-22.8157	-50.7924
1721	Sandovalina	SP	10	12	93	SSF	-22.4561	-51.7634
1722	Bragança Paulista	SP	15	16	66	SSF	-21.5015	-50.3175
1723	Rancharia	SP	18	6	87	SSF	-22.2295	-50.8922
1724	Sandovalina	SP	18	30	87	SSF	-22.4561	-51.7634
1725	Marabá Paulista	SP	18	30	87	SSF	-22.107	-51.963
1726	Marabá Paulista	SP	18	30	88	SSF	-22.107	-51.963
1727	Presidente Venceslau	SP	18	12	86	SSF	-21.8771	-51.8451

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1728	Presidente Epitácio	SP	18	30	91	SSF	-21.7651	-52.1111
1729	Rancharia	SP	18	30	88	SSF	-22.2295	-50.8922
1730	Teodoro Sampaio	SP	18	18	87	SSF	-22.447	-52.3339
1731	Tarabai	SP	18	30	87	SSF	-22.3039	-51.5629
1732	Teodoro Sampaio	SP	18	18	87	SSF	-22.447	-52.3339
1733	Paraguaçu Paulista	SP	10	3.9	81	SSF	-22.4204	-50.5792
1734	Pompéia	SP	10	12	84	SSF	-22.1088	-50.1721
1735	Teodoro Sampaio	SP	18	30	87	SSF	-22.447	-52.3339
1736	Anhumas	SP	18	30	88	SSF	-22.2957	-51.3873
1737	Pirapozinho	SP	18	30	87	SSF	-22.2739	-51.4999
1738	Lobato	PR	18	12	86	SSF	-23.0077	-51.9524
1739	Marabá Paulista	SP	18	30	88	SSF	-22.107	-51.963
1740	Martinópolis	SP	18	15	87	SSF	-22.1462	-51.171
1741	Marabá Paulista	SP	18	30	87	SSF	-22.107	-51.963
1742	Marabá Paulista	SP	18	30	87	SSF	-22.107	-51.963
1743	Marabá Paulista	SP	18	30	87	SSF	-22.107	-51.963
1744	Guareí	SP	12	3.5	119	SSF	-23.3718	-48.1847
1745	Tabapuã	SP	12	26.47	150	SSF	-20.9648	-49.0332
1746	Osvaldo Cruz	SP	14	3	77	SSF	-21.7963	-50.8791
1747	Lucélia	SP	14	3.59	79	SSF	-21.7211	-51.0188
1749	Extrema	MG	1	20	105	ODF	-22.8549	-46.319
1750	Piedade	SP	15	3	25	ODF	-23.7074	-47.4252
1751	Santa Bárbara d'Oeste	SP	15	15.01	83	SSF	-22.7553	-47.4145
1752	Socorro	SP	1	10.1	55	ODF	-22.5903	-46.5249
1754	Pompéia	SP	10	9	83	SSF	-22.1088	-50.1721

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1755	Guararapes	SP	11	4.79	96	SSF	-21.2537	-50.6442
1756	Suzanápolis	SP	11	3.89	93	SSF	-20.5011	-51.0247
1757	Getulina	SP	12	10	119	SSF	-21.7989	-49.9288
1759	Ilha Solteira	SP	12	3	119	SSF	-20.4281	-51.3411
1760	Pereira Barreto	SP	14	9.02	82	SSF	-20.6379	-51.1052
1762	Rosana	SP	10	7.2	88	SSF	-22.5789	-53.0552
1763	Canitar	SP	12	17.6	119	SSF	-23.0067	-49.7841
1764	Naviraí	MS	10	30	88	SSF	-23.0622	-54.2018
1765	Campo Grande	MS	10	30	84	SSF	-20.464	-54.6163
1766	Santo Antônio do Amparo	MG	5	5	76	SSF	-20.9413	-44.9187
1767	Guzolândia	SP	11	3	86	SSF	-20.6492	-50.6623
1768	Santa Bárbara d'Oeste	SP	15	15.69	59	SSF	-22.7553	-47.4145
1769	Santo Antônio do Aracanguá	SP	12	17.64	119	SSF	-20.9355	-50.4954
1770	Santa Bárbara d'Oeste	SP	5	30	117	SSF	-22.7553	-47.4145
1771	Marília	SP	12	7.65	119	SSF	-22.2171	-49.9501
1772	Teodoro Sampaio	SP	10	3	80	SSF	-22.447	-52.3339
1773	Estrela do Norte	SP	10	9.6	89	SSF	-22.4886	-51.6607
1774	Campinas	SP	15	3	59	SSF	-22.9056	-47.0608
1775	Santa Bárbara d'Oeste	SP	15	15.84	74	SSF	-22.7553	-47.4145
1776	Junqueirópolis	SP	14	15	82	SSF	-21.511	-51.4352
1777	Palmital	SP	2	20.51	57	SSF	-22.7864	-50.2199
1778	Nova Granada	SP	12	5.4	119	SSF	-20.5345	-49.3187
1780	Palmital	SP	2	3.06	55	SSF	-22.7864	-50.2199
1781	Extrema	MG	1	20	119	ODF	-22.8549	-46.319

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1782	Rancharia	SP	10	7.2	87	SSF	-22.2295	-50.8922
1783	Extrema	MG	15	12	65	ODF	-22.8549	-46.319
1784	Santa Cruz do Rio Pardo	SP	10	18	88	SSF	-22.9061	-49.6277
1786	Presidente Venceslau	SP	18	15	87	SSF	-21.8771	-51.8451
1787	Martinópolis	SP	18	30	87	SSF	-22.1462	-51.171
1788	Presidente Venceslau	SP	18	15	88	SSF	-21.8771	-51.8451
1789	Martinópolis	SP	18	30	87	SSF	-22.1462	-51.171
1790	Sandovalina	SP	18	15	86	SSF	-22.4561	-51.7634
1792	Rancharia	SP	18	30	87	SSF	-22.2295	-50.8922
1793	Presidente Venceslau	SP	18	30	88	SSF	-21.8771	-51.8451
1796	Martinópolis	SP	18	30	87	SSF	-22.1462	-51.171
1797	Martinópolis	SP	18	30	87	SSF	-22.1462	-51.171
1798	Taciba	SP	10	5.1	90	SSF	-22.3901	-51.2889
1799	Mirante do Paranapanema	SP	10	10	88	SSF	-22.2926	-51.9071
1800	Pereira Barreto	SP	14	4.01	80	SSF	-20.6379	-51.1052
1802	Bastos	SP	12	3.05	118	SSF	-21.9223	-50.7318
1803	Campinas	SP	1	3	83	SSF	-22.9056	-47.0608
1805	Getulina	SP	12	8.82	119	SSF	-21.7989	-49.9288
1807	Bastos	SP	12	4.6	119	SSF	-21.9223	-50.7318
1808	Bilac	SP	12	3	119	SSF	-21.404	-50.4746
1809	Teodoro Sampaio	SP	14	15	76	SSF	-22.447	-52.3339
1810	Andradina	SP	14	24	81	SSF	-20.8965	-51.3743
1811	Guaranésia	MG	1	18.04	88	SSF	-21.3025	-46.7957
1812	Guaranésia	MG	1	5.87	83	SSF	-21.3025	-46.7957

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1813	Sandovalina	SP	10	9.6	84	SSF	-22.4561	-51.7634
1814	Guararapes	SP	12	4.2	119	SSF	-21.2537	-50.6442
1815	Palmital	SP	2	3	68	SSF	-22.7864	-50.2199
1816	Itirapina	SP	29	27.68	75	SSF	-22.2537	-47.8213
1818	Santo Anastácio	SP	10	3	80	SSF	-21.9747	-51.6527
1819	Getulina	SP	10	17.9	83	SSF	-21.7989	-49.9288
1820	Pompéia	SP	10	12	87	SSF	-22.1088	-50.1721
1821	Mirante do Paranapanema	SP	10	3.6	82	SSF	-22.2926	-51.9071
1822	Guararapes	SP	11	3	86	SSF	-21.2537	-50.6442
1823	Riolândia	SP	11	7.19	84	SSF	-19.9809	-49.6814
1824	Mariápolis	SP	11	6	84	SSF	-21.7967	-51.1832
1825	Piacatu	SP	11	3.67	85	SSF	-21.5902	-50.5972
1826	Pereira Barreto	SP	14	7.86	78	SSF	-20.6379	-51.1052
1827	Marabá Paulista	SP	14	18.74	82	SSF	-22.107	-51.963
1828	Marabá Paulista	SP	14	13.09	85	SSF	-22.107	-51.963
1829	Rinópolis	SP	14	3.6	77	SSF	-21.7284	-50.7227
1831	Junqueirópolis	SP	14	28.49	85	SSF	-21.511	-51.4352
1833	Tupã	SP	14	5.99	79	SSF	-21.9349	-50.5135
1834	Buritama	SP	12	3.29	120	SSF	-21.0664	-50.1448
1836	Getulina	SP	12	9.47	120	SSF	-21.7989	-49.9288
1837	Getulina	SP	12	3.6	119	SSF	-21.7989	-49.9288
1838	Getulina	SP	12	3.17	119	SSF	-21.7989	-49.9288
1839	Santo Anastácio	SP	10	3.6	87	SSF	-21.9747	-51.6527
1840	Presidente Epitácio	SP	10	30	83	SSF	-21.7651	-52.1111
1841	Presidente Epitácio	SP	14	18	82	SSF	-21.7651	-52.1111

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1842	Santa Bárbara d'Oeste	SP	5	15	135	SSF	-22.7553	-47.4145
1843	Tapira	PR	10	3	83	SSF	-23.3232	-53.0712
1844	Sandovalina	SP	10	3	86	SSF	-22.4561	-51.7634
1845	Mirante do Paranapanema	SP	10	12	85	SSF	-22.2926	-51.9071
1846	Mirante do Paranapanema	SP	10	12	90	SSF	-22.2926	-51.9071
1847	Iguaraçu	PR	10	9	100	SSF	-23.1973	-51.8245
1848	Extrema	MG	1	20	77	ODF	-22.8549	-46.319
1849	Presidente Epitácio	SP	14	30	83	SSF	-21.7651	-52.1111
1850	Extrema	MG	15	11.6	52	ODF	-22.8549	-46.319
1851	Amambai	MS	10	30	90	SSF	-23.1083	-55.2285
1852	Lutécia	SP	2	12	39	SSF	-22.3384	-50.394
1853	Anhumas	SP	2	30	58	SSF	-22.2957	-51.3873
1854	Vista Alegre do Alto	SP	12	4.2	119	SSF	-21.1713	-48.6299
1855	Santo Antônio do Amparo	MG	1	5	43	SSF	-20.9413	-44.9187
1856	Presidente Epitácio	SP	14	18.72	82	SSF	-21.7651	-52.1111
1857	Teodoro Sampaio	SP	14	15	81	SSF	-22.447	-52.3339
1858	Piracicaba	SP	5	30	12	SSF	-22.7253	-47.6492
1859	Itapeva	SP	1	10	48	SSF	-23.9849	-48.8804
1860	Paraisópolis	MG	1	10	55	ODF	-22.5542	-45.78
1861	Camanducaia	MG	1	10	60	SSF	-22.7553	-46.1444
1862	Extrema	MG	15	6	50	ODF	-22.8549	-46.319
1863	Extrema	MG	15	20	53	ODF	-22.8549	-46.319
1864	Itapira	SP	1	7.26	49	SSF	-22.4361	-46.8217
1865	Marabá Paulista	SP	14	17.98	84	SSF	-22.107	-51.963

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
1866	Sandovalina	SP	18	30	87	SSF	-22.4561	-51.7634
1867	Presidente Epitácio	SP	18	30	88	SSF	-21.7651	-52.1111
1868	Presidente Epitácio	SP	18	30	87	SSF	-21.7651	-52.1111
1869	Presidente Venceslau	SP	18	30	88	SSF	-21.8771	-51.8451
1871	Presidente Venceslau	SP	14	7	82	SSF	-21.8771	-51.8451
1872	Presidente Venceslau	SP	14	7	79	SSF	-21.8771	-51.8451
1873	Iguaraçu	PR	10	7.8	82	SSF	-23.1973	-51.8245
1874	Extrema	MG	15	6	49	ODF	-22.8549	-46.319
1875	Santo Antônio do Amparo	MG	1	3	39	SSF	-20.9413	-44.9187
1876	Extrema	MG	15	6	51	ODF	-22.8549	-46.319
1877	Extrema	MG	15	6	51	ODF	-22.8549	-46.319
1878	Bananal	SP	15	3	32	ODF	-22.6828	-44.3221
1879	Extrema	MG	15	3	54	ODF	-22.8549	-46.319
1880	Extrema	MG	15	8	59	ODF	-22.8549	-46.319
1881	Extrema	MG	15	8	61	ODF	-22.8549	-46.319
1882	Extrema	MG	15	3.5	45	ODF	-22.8549	-46.319
2010/001/0001	Getulina	SP	10	5.88	85	SSF	-21.7989	-49.9288
2010/001/0002	Anhumas	SP	10	4.7	80	SSF	-22.2957	-51.3873
2010/001/0003	Santo Anastácio	SP	10	3	85	SSF	-21.9747	-51.6527
2010/001/0004	Iguaraçu	PR	10	3	87	SSF	-23.1973	-51.8245
2010/001/0005	Santa Mariana	PR	10	3.6	87	SSF	-23.1499	-50.52
2010/001/0006	Orindiúva	SP	10	29.4	85	SSF	-20.1819	-49.3508
2010/001/0007	Quatá	SP	10	4.12	85	SSF	-22.2471	-50.7004
2010/001/0008	Marabá Paulista	SP	10	8	89	SSF	-22.107	-51.963

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
2010/001/0009	Tamarana	PR	10	2.78	82	AF	-23.7224	-51.0936
2010/001/0010	Mirante do Paranapanema	SP	10	10	90	SSF	-22.2926	-51.9071
2010/001/0011	Ivaiporã	PR	10	14.5	87	AF	-24.2434	-51.6719
2010/001/0012	Regente Feijó	SP	10	3.53	90	SSF	-22.2181	-51.3055
2010/001/0013	Riolândia	SP	10	11.53	84	SSF	-19.9809	-49.6814
2010/001/0014	Monte Castelo	SP	14	1.5	89	SSF	-21.3006	-51.5687
2010/001/0016	Monte Castelo	SP	14	3.6	80	SSF	-21.3006	-51.5687
2010/001/0017	Tupi Paulista	SP	14	7.94	80	SSF	-21.3862	-51.5761
2010/001/0018	Tupi Paulista	SP	14	2.22	79	SSF	-21.3862	-51.5761
2010/001/0019	Adamantina	SP	14	3.2	80	SSF	-21.6867	-51.0763
2010/001/0020	Tupi Paulista	SP	14	7.99	80	SSF	-21.3862	-51.5761
2010/001/0021	Tupi Paulista	SP	14	1.6	78	SSF	-21.3862	-51.5761
2010/001/0023	Caconde	SP	3	4	73	SSF	-21.528	-46.6437
2010/001/0024	Tupi Paulista	SP	14	2.03	80	SSF	-21.3862	-51.5761
2010/001/0025	Tupi Paulista	SP	14	2.85	94	SSF	-21.3862	-51.5761
2010/001/0026	Nossa Senhora das Graças	PR	10	5	83	SSF	-22.9139	-51.7963
2010/001/0027	Maringá	PR	10	4.12	82	SSF	-23.4253	-51.9382
2010/001/0029	Londrina	PR	10	5.88	84	SSF	-23.3113	-51.1595
2010/001/0030	Mirante do Paranapanema	SP	10	6	85	SSF	-22.2926	-51.9071
2010/001/0031	Rubiácea	SP	10	3	90	SSF	-21.2996	-50.7299
2010/001/0032	Amparo	SP	3	7	76	ODF	-22.7011	-46.7644
2010/001/0033	Bragança Paulista	SP	3	3.19	77	SSF	-21.5015	-50.3175
2010/002/0001	Tarabai	SP	10	9.38	91	SSF	-22.3039	-51.5629
2010/002/0002	Guararapes	SP	10	29.4	97	SSF	-21.2537	-50.6442

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
2010/002/0003	Piacatu	SP	10	4.82	93	SSF	-21.5902	-50.5972
2010/002/0004	Guararapes	SP	10	11	91	SSF	-21.2537	-50.6442
2010/002/0005	Mirandópolis	SP	10	3	87	SSF	-21.1328	-51.1029
2010/002/0007	Guararapes	SP	10	3.26	88	SSF	-21.2537	-50.6442
2010/002/0008	Adamantina	SP	14	15.99	91	SSF	-21.6867	-51.0763
2010/002/0009	Monte Castelo	SP	14	20	80	SSF	-21.3006	-51.5687
2010/002/0010	Indiana	SP	14	6	96	SSF	-22.1749	-51.2535
2010/002/0011	Conceição do Rio Verde	MG	1	4.74	83	SSF	-21.8811	-45.0869
2010/002/0012	Iguaraçu	PR	10	10.11	82	SSF	-23.1973	-51.8245
2010/002/0013	Guararapes	SP	10	3	88	SSF	-21.2537	-50.6442
2010/002/0014	Ibiporã	PR	10	3.15	95	SSF	-23.2659	-51.0522
2010/002/0015	Três Lagoas	MS	10	3.26	84	SSF	-20.7867	-51.7061
2011/001/0001	Aparecida do Taboado	MS	10	4	90	SSF	-20.084	-51.1014
2011/001/0002	Mirante do Paranapanema	SP	10	11	91	SSF	-22.2926	-51.9071
2011/001/0003	Sandovalina	SP	10	6.3	90	SSF	-22.4561	-51.7634
2011/001/0004	Pirapozinho	SP	10	6	93	SSF	-22.2739	-51.4999
2011/001/0005	Guareí	SP	10	3.99	98	SSF	-23.3718	-48.1847
2011/001/0006	Andradina	SP	10	12	88	SSF	-20.8965	-51.3743
2011/001/0007	Pereira Barreto	SP	10	4.92	88	SSF	-20.6379	-51.1052
2011/001/0008	Pereira Barreto	SP	10	4.08	89	SSF	-20.6379	-51.1052
2011/001/0009	Andradina	SP	10	5.7	88	SSF	-20.8965	-51.3743
2011/001/0010	Andradina	SP	10	8.08	89	SSF	-20.8965	-51.3743
2011/001/0011	Mariápolis	SP	10	4.5	89	SSF	-21.7967	-51.1832
2011/001/0012	Rancharia	SP	10	3	88	SSF	-22.2295	-50.8922

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
2011/001/0013	Sandovalina	SP	10	6	88	SSF	-22.4561	-51.7634
2011/001/0015	Ibiporã	PR	10	11	89	SSF	-23.2659	-51.0522
2011/001/0016	Mirandópolis	SP	10	3	86	SSF	-21.1328	-51.1029
2011/001/0017	Canavieiras	BA	25	3.78	73	ODF	-15.679	-38.945
2011/001/0018	Canavieiras	BA	25	12.7	97	ODF	-15.679	-38.945
2011/001/0020	Varre-Sai	RJ	22	3	40	SSF	-20.9309	-41.8686
2011/001/0021	Varre-Sai	RJ	22	2	40	SSF	-20.9309	-41.8686
2011/001/0022	Varre-Sai	RJ	22	1.6	40	SSF	-20.9309	-41.8686
2011/001/0023	Varre-Sai	RJ	22	1.6	40	SSF	-20.9309	-41.8686
2011/001/0024	Varre-Sai	RJ	22	3	41	SSF	-20.9309	-41.8686
2011/001/0025	Varre-Sai	RJ	22	3	40	SSF	-20.9309	-41.8686
2011/001/0026	Varre-Sai	RJ	22	2	40	SSF	-20.9309	-41.8686
2011/001/0027	Varre-Sai	RJ	22	2	40	SSF	-20.9309	-41.8686
2011/001/0028	Varre-Sai	RJ	22	3.5	40	SSF	-20.9309	-41.8686
2011/001/0029	Volta Redonda	RJ	22	1.5	40	SSF	-22.5226	-44.104
2011/001/0030	Varre-Sai	RJ	22	2.5	40	SSF	-20.9309	-41.8686
2011/001/0031	Vassouras	RJ	22	3	42	SSF	-22.404	-43.6634
2011/001/0034	Santa Mercedes	SP	14	3	79	SSF	-21.3513	-51.7534
2011/001/0035	Bataguassu	MS	14	10.5	74	SSF	-21.7159	-52.4221
2011/001/0036	Ouro Verde	SP	14	3	82	SSF	-21.4893	-51.7026
2011/001/0038	Paraíba do Sul	RJ	22	8	42	ODF	-22.1636	-43.2917
2011/002/0002	Mirante do Paranapanema	SP	18	9	88	SSF	-22.2926	-51.9071
2011/002/0003	Caiuá	SP	18	30	86	SSF	-21.8319	-51.9887
2011/002/0004	Piquerobi	SP	18	30	86	SSF	-21.8857	-51.7296
2011/002/0005	Piquerobi	SP	18	30	85	SSF	-21.8857	-51.7296

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
2011/002/0008	Teodoro Sampaio	SP	18	21	85	SSF	-22.447	-52.3339
2011/002/0009	Mirante do Paranapanema	SP	10	11	90	SSF	-22.2926	-51.9071
2011/002/0010	Pirapozinho	SP	10	24.96	93	SSF	-22.2739	-51.4999
2011/002/0011	Teodoro Sampaio	SP	10	30	85	SSF	-22.447	-52.3339
2011/002/0012	Estrela do Norte	SP	10	9.89	83	SSF	-22.4886	-51.6607
2011/002/0013	Teodoro Sampaio	SP	10	30	86	SSF	-22.447	-52.3339
2011/002/0015	Presidente Epitácio	SP	18	30	85	SSF	-21.7651	-52.1111
2011/002/0016	Presidente Epitácio	SP	18	30	86	SSF	-21.7651	-52.1111
2011/002/0017	Presidente Epitácio	SP	18	30	85	SSF	-21.7651	-52.1111
2011/002/0018	Teodoro Sampaio	SP	18	5	85	SSF	-22.447	-52.3339
2011/002/0020	Marabá Paulista	SP	18	16	86	SSF	-22.107	-51.963
2011/002/0021	Marabá Paulista	SP	18	29	86	SSF	-22.107	-51.963
2011/002/0022	Marabá Paulista	SP	18	30	86	SSF	-22.107	-51.963
2011/002/0023	Sandovalina	SP	18	30	83	SSF	-22.4561	-51.7634
2012/001/0001	Suzanápolis	SP	10	30	85	SSF	-20.5011	-51.0247
2012/001/0002	Garça	SP	10	15	82	SSF	-22.2126	-49.6548
2012/001/0003	Iacri	SP	10	7.2	82	SSF	-21.8583	-50.6893
2012/001/0004	Getulina	SP	10	6	100	SSF	-21.7989	-49.9288
2012/001/0006	Londrina	PR	10	3	85	SSF	-23.3113	-51.1595
2012/001/0007	Marabá Paulista	SP	10	30	84	SSF	-22.107	-51.963
2012/001/0008	Mirante do Paranapanema	SP	18	3	85	SSF	-22.2926	-51.9071
2012/001/0011	Marília	SP	18	8	85	SSF	-22.2171	-49.9501
2012/001/0012	Nova Independência	SP	14	12	81	SSF	-21.1067	-51.4911
2012/001/0013	Quintana	SP	14	30	89	SSF	-22.0706	-50.3087

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
2012/001/0014	Presidente Epitácio	SP	10	23.69	87	SSF	-21.7651	-52.1111
2012/001/0015	Teodoro Sampaio	SP	18	5	85	SSF	-22.447	-52.3339
2012/001/0016	Martinópolis	SP	18	30	85	SSF	-22.1462	-51.171
2012/001/0017	Martinópolis	SP	18	30	85	SSF	-22.1462	-51.171
2012/001/0019	Martinópolis	SP	18	30	85	SSF	-22.1462	-51.171
2012/001/0020	Monte Azul Paulista	SP	10	6.3	87	SSF	-20.9065	-48.6387
2012/001/0021	Mirante do Paranapanema	SP	18	4	87	SSF	-22.2926	-51.9071
2012/001/0022	Panorama	SP	18	30	87	SSF	-21.46	-51.8463
2012/001/0023	Teodoro Sampaio	SP	18	30	87	SSF	-22.447	-52.3339
2012/001/0024	Marabá Paulista	SP	18	30	86	SSF	-22.107	-51.963
2013/001/0001	Flórida Paulista	SP	11	10.5	87	SSF	-21.6141	-51.173
2013/001/0002	Rinópolis	SP	11	3	70	SSF	-21.7284	-50.7227
2013/001/0004	Piacatu	SP	11	3	83	SSF	-21.5902	-50.5972
2013/001/0005	Nova Canaã Paulista	SP	11	4.5	84	SSF	-20.3873	-50.9482
2013/001/0006	Taquarituba	SP	11	9	84	SSF	-23.5337	-49.2453
2013/001/0007	Capela do Alto	SP	11	6	85	SSF	-23.4705	-47.7352
2013/001/0008	Rubiácea	SP	11	4.8	78	SSF	-21.2996	-50.7299
2013/001/0009	Taquarituba	SP	11	3.3	82	SSF	-23.5337	-49.2453
2013/001/0010	Londrina	PR	10	3	81	SSF	-23.3113	-51.1595
2013/001/0011	Rolândia	PR	10	3	81	SSF	-23.3119	-51.3674
2013/001/0012	Mirante do Paranapanema	SP	10	6.2	94	SSF	-22.2926	-51.9071
2013/001/0013	Iguaraçu	PR	10	3	81	SSF	-23.1973	-51.8245
2013/001/0015	Taquarituba	SP	11	9	84	SSF	-23.5337	-49.2453
2013/001/0016	Quintana	SP	14	30	79	SSF	-22.0706	-50.3087

Name Code	City	State	Nursery identifier	Planting area (ha)	Number of species	Forest type	City latitude	City longitude
2013/001/0017	Valparaíso	SP	14	30	86	SSF	-21.2238	-50.867
2013/001/0018	Nova Independência	SP	14	12	76	SSF	-21.1067	-51.4911
2013/001/0019	Ouro Verde	SP	14	5	79	SSF	-21.4893	-51.7026
2013/001/0020	Bananal	SP	22	7	37	ODF	-22.6828	-44.3221
2013/001/0021	Sandovalina	SP	10	13	83	SSF	-22.4561	-51.7634
2013/001/0022	Flórida Paulista	SP	11	17	91	SSF	-21.6141	-51.173
2013/001/0023	Rinópolis	SP	11	3	87	SSF	-21.7284	-50.7227
2013/001/0024	Anhumas	SP	10	5	87	SSF	-22.2957	-51.3873
2014/001/0001	Guarani de Oeste	SP	11	3	67	SSF	-21.6759	-50.8775
2014/001/0002	Sud Mennucci	SP	11	7.2	75	SSF	-20.6906	-50.9241
2014/001/0003	Guzolândia	SP	11	3	80	SSF	-20.6492	-50.6623
2014/001/0004	Teodoro Sampaio	SP	18	6	83	SSF	-22.447	-52.3339
2014/001/0005	Mirante do Paranapanema	SP	18	8.98	89	SSF	-22.2926	-51.9071
2014/001/0006	Martinópolis	SP	18	18	87	SSF	-22.1462	-51.171
2014/001/0007	Sandovalina	SP	18	15	82	SSF	-22.4561	-51.7634
2014/001/0008	Marabá Paulista	SP	18	7	86	SSF	-22.107	-51.963
2014/001/0009	Centenário do Sul	PR	10	30	95	SSF	-22.8215	-51.5952
2014/001/0010	Guararapes	SP	10	30	80	SSF	-21.2537	-50.6442
2014/001/0011	Estrela do Norte	SP	10	10	81	SSF	-22.4886	-51.6607
2014/001/0012	Iguaraçu	PR	10	9	89	SSF	-23.1973	-51.8245
2014/001/0013	Guareí	SP	12	4	119	SSF	-23.3718	-48.1847
2014/001/0014	Ilha Solteira	SP	12	4	117	SSF	-20.4281	-51.3411
2014/001/0015	Sud Mennucci	SP	12	4.7	119	SSF	-20.6906	-50.9241
2014/001/0016	Getulina	SP	12	9	118	SSF	-21.7989	-49.9288

Table S2: Database of the tree surveys used in he study. Identifier: Number of each planting; State: state of each planting; Effort (ha): area of phytosociological survey; Number of species: number of species in each remnant; Forest type: forest type of each remnnats. AF: Mixed Ombrophilous Forest (Araucaria Forest); SSF: Semideciduous Seasonal Forest; ODF: Ombrophilous Dense Forest.
Reference: Renato A. Ferreira de Lima*. Neotropical Tree Communities database (TreeCo) <http://labtrop.ib.usp.br/doku.php?id=projetos:treeco:start>
*raflima@usp.br.

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
MGarag1	MG	1	839	74	SSF	-18.4972	-48.3842	Vale, V. S., Schiavini, I., Lopes, S. D. F., Dias Neto, O. C., Oliveira, A. P. D., & Gusson, A. E. (2009). Composição florística e estrutura do componente arbóreo em um remanescente primário de floresta estacional semidecidual em Araguari, Minas Gerais, Brasil. Hoehnea, 36, 417-429.
MGarag5	MG	0.8	1178	82	SSF	-18.6509	-48.1827	Souza, J. P. D., Araújo, G. M., Schiavini, I., & Duarte, P. C. (2006). Comparison between canopy trees and arboreal lower strata of urban semideciduous seasonal forest in Araguari-MG. Brazilian Archives of Biology and Technology, 49, 775-783.
MGbamb	MG	0.65	668	111	SSF	-20.2835	-45.959	Gomide, L.R. 2004. Um modelo fitogeográfico para a bacia do rio São Francisco. Dissertação (Mestrado). Universidade Federal de Lavras, Lavras, MG. 268p.
MGbelo1	MG	0.36	502	84	SSF	-20.0196	-44.0034	Ribeiro, S.T.M. 1999. Florística e estrutura fitossociológica de um trecho de floresta de galeria do Parque Estadual do Rola-Moça na região metropolitana de Belo Horizonte -

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								MG. Dissertação (Mestrado). Universidade Federal de Viçosa, Viçosa, 91 p.
MGbom4	MG	0.375	804	117	SSF	-21.1142	-44.7493	Carvalho, W.A.C. 2002. Variações da composição e estrutura do compartimento arbóreo da vegetação de oito fragmentos de floresta semidecídua do vale do Alto Rio Grande, MG. Dissertação (Mestrado). Universidade Federal de Lavras, Lavras. 168p.
MGbranc	MG	0.58	1017	112	SSF	-20.4737	-43.6706	da Silva Ramos, E., da Silva, S. R. D. F., Rodrigues, J. M., & Neri, A. V. (2012). Diversidade e estrutura de um remanescente de floresta ripária montana em ouro branco, minas gerais, brasil. Global science and technology, 5(2).
MGcama	MG	1	1818	102	ODF	-22.7812	-45.9585	Carvalho, W.A.C. 2010. Diversidade do estrato arbóreo-arbustivo de sete comunidades de floresta ombrófila altomontanas da APA Fernão Dias, MG, Brasil. Tese (Doutorado). Universidade Federal de Minas Gerais, Belo Horizonte. 72p.
MGcama1	MG	0.35	995	63	ODF	-22.8886	-46.0389	Meireles, L. D., Shepherd, G. J., & Kinoshita, L. S. (2008). Variações na composição florística e na estrutura fitossociológica de uma floresta ombrófila densa alto-montana na Serra da Mantiqueira, Monte Verde, MG. Brazilian Journal of Botany, 31(4), 559-574.
MGcama2	MG	0.75	1378	48	ODF	-22.7108	-45.9317	França, G.S. & Stehmann, J.R. 2004. Composição florística e estrutura de componente arbóreo de uma floresta altimontana no município de Camanducaia, Minas Gerais, Brasil. Revista Brasileira de Botânica 27 (1): 19-30.

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
MGcama4	MG	0.75	1491	53	ODF	-22.7111	-45.9308	Fontes, M.A.L. 2008. Dinâmica de comunidades arbóreas de florestas alti-montanhas de Minas Gerais. Tese (Doutorado). Universidade Federal de Minas Gerais, Belo Horizonte. 85p.
MGcara1	MG	3	1515	156	SSF	-19.7194	-41.8251	Boubli, J. P., Couto-Santos, F. R., & Strier, K. B. (2011). Structure and floristic composition of one of the last forest fragments containing the critically endangered northern muriqui (Brachyteles hypoxanthus, Primates). Ecotropica, 17(2), 53-69.
MGcarm	MG	1	798	97	SSF	-18.7506	-47.5097	Prado Júnior, J. A. D., Lopes, S. D. F., Schiavini, I., Vale, V. S. D., Oliveira, A. P. D., Gusson, A. E., ... & Stein, M. (2012). Fitossociologia, caracterização sucessional e síndromes de dispersão da comunidade arbórea de remanescente urbano de Floresta Estacional Semidecidual em Monte Carmelo, Minas Gerais. Rodriguésia, 63, 489-499.
MGcarr	MG	1.2	2565	128	SSF	-21.6102	-44.6114	Oliveira Filho, A. T., Carvalho, D. A., Fontes, M. A. L., Van Den Berg, E., Curi, N., & Carvalho, W. A. (2004). Variações estruturais do compartimento arbóreo de uma floresta semidecídua alto-montana na chapada das Perdizes, Carrancas, MG. Brazilian Journal of Botany, 27, 291-309.
MGcoqu1	MG	0.8	879	143	SSF	-21.1244	-45.3392	Moreira, A. M., de Oliveira Menino, G. C., Dos Santos, R. M., Pifano, D. S., Borém, R. A. T., De Almeida, C. A. M., & Domingos, D. Q. (2013). Composição florística e estrutura da comunidade arbórea de um fragmento de Floresta Estacional

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								Semidecidual em Coqueiral, MG, Brasil. Revista Brasileira de Biociências, 11(1).
MGextr	MG	0.3	476	121	ODF	-22.9005	-46.3435	Yamamoto, L. F. 2009. Florística e fitossociologia de espécies arbóreas ao longo de um gradiente altitudinal no extremo sul da Mantiqueira (Serra do Lopo) - MG/SP. Tese (Doutorado). Universidade de Campinas, Campinas. 169p.
MGfaria	MG	1.32	1993	144	SSF	-20.7667	-42.0333	Rocha, M.J.R., Martins, C.A.S., Silva, A.G., Nappo, M.E. Florística e estrutura diamétrica no fragmento florestal da fazenda Santa Rita, Faria Lemos, MG. XIII Encontro Latino Americano de Iniciação Científica e IX Encontro Latino Americano de Pós-Graduação – Universidade do Vale do Paraíba
MGgonc1	MG	1	1991	65	ODF	-22.7164	-45.8949	Carvalho, W.A.C. 2010. Diversidade do estrato arbóreo-arbustivo de sete comunidades de floresta ombrófila altomontanas da APA Fernão Dias, MG, Brasil. Tese (Doutorado). Universidade Federal de Minas Gerais, Belo Horizonte. 72p.
MGgonc3	MG	1	2202	74	ODF	-22.6863	-45.9043	Carvalho, W.A.C. 2010. Diversidade do estrato arbóreo-arbustivo de sete comunidades de floresta ombrófila altomontanas da APA Fernão Dias, MG, Brasil. Tese (Doutorado). Universidade Federal de Minas Gerais, Belo Horizonte. 72p.
MGgonc4	MG	1	2033	86	ODF	-22.6942	-45.8925	Carvalho, W.A.C. 2010. Diversidade do estrato arbóreo-arbustivo de sete comunidades de floresta ombrófila altomontanas da APA Fernão Dias, MG, Brasil. Tese (Doutorado). Universidade

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								Federal de Minas Gerais, Belo Horizonte. 72p.
MGgonc5	MG	0.52	1302	73	ODF	-22.6942	-45.8925	Carvalho, W.A.C. 2010. Diversidade do estrato arbóreo-arbustivo de sete comunidades de floresta ombrófila altomontanas da APA Fernão Dias, MG, Brasil. Tese (Doutorado). Universidade Federal de Minas Gerais, Belo Horizonte. 72p.
MGgonc6	MG	0.52	1394	77	ODF	-22.6975	-45.929	Carvalho, W.A.C. 2010. Diversidade do estrato arbóreo-arbustivo de sete comunidades de floresta ombrófila altomontanas da APA Fernão Dias, MG, Brasil. Tese (Doutorado). Universidade Federal de Minas Gerais, Belo Horizonte. 72p.
MGibitu1	MG	0.375	545	94	SSF	-21.1667	-44.8403	Carvalho, W.A.C. 2002. Variações da composição e estrutura do compartimento arbóreo da vegetação de oito fragmentos de floresta semidecídua do vale do Alto Rio Grande, MG. Dissertação (Mestrado). Universidade Federal de Lavras, Lavras. 168p.
MGibitu2	MG	0.375	604	106	SSF	-21.2161	-44.8022	Carvalho, W.A.C. 2002. Variações da composição e estrutura do compartimento arbóreo da vegetação de oito fragmentos de floresta semidecídua do vale do Alto Rio Grande, MG. Dissertação (Mestrado). Universidade Federal de Lavras, Lavras. 168p.
MGigua3	MG	1.05	1337	39	SSF	-20.1425	-45.6528	Gomide, L.R. 2004. Um modelo fitogeográfico para a bacia do rio São Francisco. Dissertação (Mestrado). Universidade Federal de Lavras, Lavras, MG. 268p.

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
MGinco	MG	1.16	1560	110	SSF	-22.3132	-46.2513	Higashikawa, E.M. 2009. Fitossociologia de um fragmento florestal com monodominância de Euterpe edulis Mart. Dissertação (Mestrado). Universidade Federal de Lavras, Lavras. 36p.
MGipia1	MG	1	837	45	SSF	-18.7242	-49.9379	Gusson, A. E., Lopes, S. D. F., Dias, O. C., Vale, V. S. D., Oliveira, A. P. D., Schiavini, I. (2009). Características químicas do solo e estrutura de um fragmento de floresta estacional semidecidual em Ipiaçu, Minas Gerais, Brasil. Rodriguésia, 60, 403-414.
MGitamo1	MG	0.6	1203	100	ODF	-22.3591	-44.8082	Pompeu, P.V. 2011. Composição e estrutura de uma floresta ombrófila densa ao longo de um gradiente altitudinal na serra da Mantiqueira, Minas Gerais. Dissertação (Mestrado). Universidade Federal de Lavras, Lavras. 105p.
MGitamo2	MG	0.6	1169	66	ODF	-22.3553	-44.7986	Santana, G.C. 2010. Estrutura de uma floresta ombrófila densa montana com monodominância de dossel por Eremanthus erythropappus (DC.) Macleish (candeia) na serra da Mantiqueira, em Itamonte, Minas Gerais. Dissertação (Mestrado). Universidade Federal de Lavras, Lavras. 58p.
MGitamo3	MG	0.6	1250	87	ODF	-22.3742	-44.8095	Pompeu, P. V., Fontes, M. A. L., dos Santos, R. M., Garcia, P. O., Batista, T. A., Carvalho, W. A. C., & de Oliveira, A. T. 2014. Floristic composition and structure of an upper montane cloud forest in the Serra da Mantiqueira Mountain Range of Brazil. Acta Botanica Brasilica, 28(3): 456-464.
MGitamo4	MG	0.6	647	67	ODF	-22.3758	-44.8179	Pompeu, P.V. 2011. Composição e estrutura de uma floresta ombrófila densa ao longo de um gradiente altitudinal na serra da Mantiqueira, Minas Gerais. Dissertação

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								(Mestrado). Universidade Federal de Lavras, Lavras. 105p.
MGitamo5	MG	0.6	1845	112	ODF	-22.3668	-44.804	Pompeu, P.V. 2011. Composição e estrutura de uma floresta ombrófila densa ao longo de um gradiente altitudinal na serra da Mantiqueira, Minas Gerais. Dissertação (Mestrado). Universidade Federal de Lavras, Lavras. 105p.
MGitum4	MG	0.375	624	90	SSF	-21.2253	-44.7919	Carvalho, W.A.C. 2002. Variações da composição e estrutura do compartimento arbóreo da vegetação de oito fragmentos de floresta semidecídua do vale do Alto Rio Grande, MG. Dissertação (Mestrado). Universidade Federal de Lavras, Lavras. 168p.
MGjuiz1	MG	0.84	1848	171	SSF	-21.7599	-43.3989	Garcia, P.O. 2007. Estrutura e composição do estrato arbóreo em diferentes trechos da Reserva Biológica Municipal Santa Cândida, Juiz de Fora-MG. Dissertação (Mestrado). Universidade Federal de Juiz de Fora, Juiz de Fora, MG. 91p.
MGlago1	MG	1.5	2104	165	SSF	-20.0027	-45.625	Gomide, L.R. 2004. Um modelo fitogeográfico para a bacia do rio São Francisco. Dissertação (Mestrado). Universidade Federal de Lavras, Lavras, MG. 268p.
MGlavr3	MG	2.4	4137	355	SSF	-21.3333	-44.9833	Dalanesi, P. E., Oliveira-Filho, A. T. D., & Fontes, M. A. L. (2004). Flora e estrutura do componente arbóreo da floresta do Parque Ecológico Quedas do Rio Bonito, Lavras, MG, e correlações entre a distribuição das espécies e variáveis ambientais. Acta botanica brasilica, 18, 737-757.
MGlavr4	MG	5.04	6507	134	SSF	-21.2288	-44.967	Neotropical Tree Communities database (TreeCo)

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
MGlavr5	MG	1.08	2797	155	SSF	-21.2956	-44.9945	Castro, G.C. 2004. Análise da estrutura, diversidade florística e variações espaciais do componente arbóreo de corredores de vegetação na região do Alto Rio Grande, MG. 83p.Dissertação (Mestrado). Universidade Federal de Lavras, Lavras, MG.
MGlima2	MG	1	1816	166	ODF	-21.8058	-43.9313	Almeida, V.C. 1996. Composição florística e estrutura do estrato arbóreo de uma floresta situada na Zona da Mata Mineira, município de Lima Duarte, MG. Dissertação (Mestrado). Universidade Federal do Rio de Janeiro, Rio de Janeiro. 89p.
MGlima3	MG	0.4	790	134	SSF	-21.8047	-43.9316	Fonseca, T.R. 2016. Diversidade e estrutura de fragmentos florestais urbanos: abordagem prática do conceito de "Ecossistemas Emergentes" (Novel Ecosystems) para a Floresta Atlântica. Dissertação (Mestrado). Universidade Federal de Juiz de Fora, Juiz de Fora. 77p.
MGmari	MG	1	1600	95	SSF	-20.2752	-43.4367	Gonçalves, I. D. S., Dias, H. C. T., Martins, S. V., & Souza, A. L. D. (2011). Fatores edáficos e as variações florísticas de um trecho de mata ciliar do Rio Gualaxo do Norte, Mariana, MG. Revista Árvore, 35, 1235-1243.
MGouro4	MG	0.42	989	51	SSF	-20.4269	-43.505	Pedreira, G. & Sousa, H.C. 2011. Comunidade arbórea de uma mancha florestal permanentemente alagada e de sua vegetação adjacente em Ouro Preto-MG, Brasil. Ciência Floresta 21 (4): 663-675.
MGperd3	MG	0.51	800	123	SSF	-19.7669	-42.6204	Lopes, W. D. P., Silva, A. F. D., Souza, A. L. D., & Meira Neto, J. A. A. (2002). Estrutura fitossocióloga de um trecho de vegetação arbórea no Parque Estadual do

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								Rio Doce-Minas Gerais, Brasil. Acta Botanica Brasilica, 16, 443-456.
MGperdo1	MG	0.375	629	112	SSF	-21.0903	-44.945	Carvalho, W.A.C. 2002. Variações da composição e estrutura do compartimento arbóreo da vegetação de oito fragmentos de floresta semidecídua do vale do Alto Rio Grande, MG. Dissertação (Mestrado). Universidade Federal de Lavras, Lavras. 168p.
MGpied1	MG	1.2	1778	167	SSF	-21.4887	-44.1013	Carvalho, W.A.C. 2002. Variações da composição e estrutura do compartimento arbóreo da vegetação de oito fragmentos de floresta semidecídua do vale do Alto Rio Grande, MG. Dissertação (Mestrado). Universidade Federal de Lavras, Lavras. 168p.
MGpocos	MG	1.1	1961	173	ODF	-21.7769	-46.572	Costa, M. D. P., Pereira, J. A. A., Fontes, M. A. L., Melo, P. H. A. D., Pífano, D. S., Pellicciottii, A. S., ... & Silva, R. A. (2011). Estrutura e diversidade da comunidade arbórea de uma floresta superomontana, no planalto de Poços de Caldas (MG). Ciência Florestal, 21, 711-725.
MGpocos2	MG	0.427	800	99	SSF	-21.7961	-46.4756	Neotropical Tree Communities database (TreeCo)
MGpocos3	MG	1.12	1345	92	SSF	-21.7742	-46.5175	Neotropical Tree Communities database (TreeCo)
MGtira1	MG	0.9	2148	130	SSF	-21.0986	-44.175	Gonzaga, A. P. D., A. T. Oliveira-Filho, E. L. M. Machado, P. Hargreaves and J. N. M. Machado. 2008. Diagnóstico florístico-estrutural do componente arbóreo da floresta da Serra de São José, em Tiradentes, Minas Gerais, baseado na comparação com 23 remanescentes florestais da região. Acta Botanica Brasilica 22(2): 501–516.

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
MGubera	MG	1	805	88	SSF	-19.6744	-48.0344	Neotropical Tree Communities database (TreeCo)
MGubera1	MG	0.6	670	98	SSF	-19.7739	-47.9647	Pegorari, P.O. 2007. Fitossociologia de três fragmentos florestais urbanos de Úberaba, Minas Gerais. Dissertação (Mestrado). Universidade Federal Urbelândia, Uberlândia. 52p.
MGuberl29	MG	0.21	348	61	SSF	-19.168	-48.3939	Muniz, C.F. 2004. Dinâmica do estrato arbóreo em um gradiente florestal da Estação Ecológica do Panga, Uberlândia, MG (1997-2002). Dissertação (Mestrado). Universidade Federal de Uberlândia, Uberlândia. 88p.
MGuberl3	MG	1	976	85	SSF	-18.9524	-48.2048	Neotropical Tree Communities database (TreeCo)
MGuberl30	MG	1.5	2334	111	SSF	-19.1687	-48.3944	Muniz, C.F. 2004. Dinâmica do estrato arbóreo em um gradiente florestal da Estação Ecológica do Panga, Uberlândia, MG (1997-2002). Dissertação (Mestrado). Universidade Federal de Uberlândia, Uberlândia. 88p.
MGuberl4	MG	1	1063	88	SSF	-18.86	-48.2314	do Prado Júnior, J. A., de Faria Lopes, S., do Vale, V. S., de Oliveira, A. P., Gusson, A. E., Neto, O. C. D., & Schiavini, I. 2011. Estrutura e caracterização sucessional da comunidade Caminhos de Geografia, v. 12, n. 39
MGuberl5	MG	1	958	68	SSF	-18.9098	-48.2283	Lopes, S.F., Vale, V.S., Júnior, J.A.P., de Oliveira, A.P. & Schiavini, I. 2012. Estrutura e grupos ecológicos de um remanescente florestal urbano com histórico de perturbação recente em Uberlândia, MG.Biotemas, 25(4): 91-102.
MGuberl6	MG	1.04	994	72	SSF	-18.9102	-48.2285	Rosa, A.G. & Schiavini, I. 2006. Estrutura da comunidade arbórea em um remanescente florestal urbano (Parque do

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								Sabiá, Uberlândia, MG). Bioscience Journal 22 (1): 151-162.
MGuberl7	MG	1	945	73	SSF	-19.1521	-48.1292	Prado Júnior, J. A. D., Vale, V. S. D., Oliveira, A. P. D., Gusson, A. E., Dias Neto, O. C., Lopes, S. D. F., & Schiavini, I. (2010). Estrutura da comunidade arbórea em um fragmento de floresta estacional semidecidual localizada na reserva legal da Fazenda Irara, Uberlândia, MG. Biosci. j.(Online), 638-647.
MGufjf	MG	1	2054	71	SSF	-21.7353	-43.3692	Fonseca, C.R. & Carvalho, F.A. 2012. Aspectos florísticos e fitossociológicos da comunidade arbórea de um fragmento urbano de floresta Atlântica (Juiz de Fora, MG, Brasil). Bioscience Journal 28 (5): 820-832.
MGufjf4	MG	0.4	583	91	SSF	-21.7787	-43.3699	Fonseca, T.R. 2016. Diversidade e estrutura de fragmentos florestais urbanos: abordagem prática do conceito de "Ecossistemas Emergentes" (Novel Ecosystems) para a Floresta Atlântica. Dissertação (Mestrado). Universidade Federal de Juiz de Fora, Juiz de Fora. 77p.
MGvargi	MG	1	1568	104	SSF	-21.5736	-45.4006	NAVES, R.P. & VAN DEN BERG, E. 2012. Caracterização de uma floresta estacional semidecidual em Varginha, MG. e comparação com remanescentes na região. Cerne 18 (3): 361-370.
MGvico1	MG	1	1826	93	SSF	-20.7594	-42.8668	Paula, A. D., Silva, A. F. D., Marco Júnior, P. D., Santos, F. A. M. D., & Souza, A. L. D. (2004). Sucessão ecológica da vegetação arbórea em uma Floresta Estacional Semidecidual, Viçosa, MG, Brasil. Acta Botanica Brasilica, 18, 407-423.
MGvico10	MG	0.5	1275	96	SSF	-20.7833	-42.9167	Silva, N. R. S., Martins, S. V., Meira Neto, J. A. A., & Souza, A. L. D. (2004).

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								Composição florística e estrutura de uma floresta estacional semidecidual montana em Viçosa, MG. Revista Árvore, 28, 397-405.
MGvico12	MG	0.3	399	54	SSF	-20.7951	-42.8638	Pinto, S. I. D. C., Martins, S. V., Silva, A. G. D., Barros, N. F. D., Dias, H. C. T., & Scoss, L. M. (2007). Estrutura do componente arbustivo-arbóreo de dois estádios sucessionais de floresta estacional semidecidual na Reserva Florestal Mata do Paraíso, Viçosa, MG, Brasil. Revista Árvore, 31, 823-833.
MGvico13	MG	0.3	623	70	SSF	-20.8067	-42.8512	Pinto, S. I. D. C., Martins, S. V., Silva, A. G. D., Barros, N. F. D., Dias, H. C. T., & Scoss, L. M. (2007). Estrutura do componente arbustivo-arbóreo de dois estádios sucessionais de floresta estacional semidecidual na Reserva Florestal Mata do Paraíso, Viçosa, MG, Brasil. Revista Árvore, 31, 823-833.
MGvico16	MG	1	1653	91	SSF	-20.7545	-42.8683	Neotropical Tree Communities database (TreeCo)
MGvico2	MG	1	1400	136	SSF	-20.7972	-42.8628	Neotropical Tree Communities database (TreeCo)
MGvico20	MG	0.5	770	126	SSF	-20.7966	-42.8465	Santos, M.L. 2005. Composição florística e estrutura de um trecho de Floresta Estacional Semidecidual primária na Zona da Mata de Minas Gerais. Dissertação (Mestrado). Universidade Federal de Viçosa, Viçosa. 59p.
MGvico3	MG	1	1639	119	SSF	-20.7558	-42.8593	Sevilha, A. C., Paula, A. D., Lopes, W. D. P., & Silva, A. D. (2001). Fitossociologia do estrato arbóreo de um trecho de floresta estacional no Jardim Botânico da Universidade Federal de Viçosa (Face

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								Sudoeste), Viçosa, Minas Gerais. Revista Árvore, 25(4), 431-443.
MGvico31	MG	0.37	723	69	SSF	-20.7072	-42.8564	Soares-júnior, F.J. 2000. Composição florística e estrutura de um fragmento de floresta estacional semidecidual na Fazenda Tico-Tico, Viçosa, MG. Dissertação (Mestrado). Universidade Federal de Viçosa, Viçosa. 68p.
MGvico32	MG	1	2053	93	SSF	-20.7254	-42.8607	Senra, L.C. 2000. Composição florística e estrutura fitossociológica de um fragmento florestal da Fazenda Rancho Fundo, Viçosa, MG. Dissertação (Mestrado). Universidade Federal de Viçosa, Viçosa. 78p.
MGvico34	MG	1.1	1882	71	SSF	-20.768	-42.8757	Mariscal-Flores, E.J.M. 1993. Potencial produtivo e alternativas de manejo sustentável de um fragmento de mata atlântica secundária, município de Viçosa, Minas Gerais. Dissertação (Mestrado). Universidade Federal de Viçosa, Viçosa. 165p.
MGvico4	MG	1	1371	121	SSF	-20.7544	-42.8613	Ferreira Júnior, W. G., Silva, A. F. D., Meira Neto, J. A. A., Schaefer, C. E. G. R., Dias, A. D. S., Ignácio, M., & Medeiros, M. C. M. P. D. (2007). Composição florística da vegetação arbórea de um trecho de floresta estacional semidecídua em Viçosa, Minas Gerais, e espécies de maior ocorrência na região. Revista Árvore, 31, 1131-1143.
MGvico7	MG	1	1623	189	SSF	-20.7956	-42.8472	Neotropical Tree Communities database (TreeCo)
MGvico9	MG	0.5	808	140	SSF	-20.7958	-42.8472	Campos, É. P. D., Silva, A. F. D., Meira Neto, J. A. A., & Martins, S. V. (2006). Florística e estrutura horizontal da vegetação arbórea de uma ravina em um

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								fragmento florestal no município de Viçosa, MG. Revista Árvore, 30, 1045-1054.
MSdour	MS	1	1046	113	SSF	-22.2852	-54.9065	Neotropical Tree Communities database (TreeCo)
MSdour1	MS	0.36	501	41	SSF	-22.151	-55.005	Sciamarelli, A. 2005. Estudo floristico e fitossociologico da" Mata de Dourados" Fazenda Paradouro, Dourados, Mato Grosso do Sul, Brasil. Tese (Doutorado). Universidade Estadual de Campinas, Campinas. 130p.
MSdour2	MS	0.559	572	54	SSF	-22.3812	-54.9085	Daniel, O. & Arruda, L. 2005. Fitossociologia de um fragmento de Floresta Estacional Semidecidual Aluvial às margens do Rio Dourados, MS. Scientia Forestalis 68 (1): 69-86.
MSjatei	MS	1	802	65	SSF	-22.7855	-53.5353	Assis, M.A. 1991. Fitossociologia de um remanescente de mata ciliar do Rio Ivinheima. Dissertação (Mestrado). Universidade Estadual de Campinas, Campinas. 163p.
MStaqu1	MS	0.54	762	43	SSF	-22.7449	-53.2862	Campos, J. B., Romagnolo, M. B., & Souza, M. C. D. (2000). Structure, composition and spatial distribution of tree species in a remnant of the semideciduous seasonal Alluvial Forest of the upper Paraná River Floodplain. Brazilian Archives of Biology and Technology, 43, 185-194.
PRarau2	PR	0.2	507	29	AF	-25.5867	-49.3458	Barddal, M. L., Roderjan, C. V., Galvão, F., & Curcio, G. R. (2004). Caracterização florística e fitossociológica de um trecho sazonalmente inundável de floresta aluvial, em Araucária, PR. Ciência Florestal, 14, 37-50.
PRastor	PR	0.75	922	43	SSF	-23.2662	-51.8272	da Veiga, M. P., Martins, S. S., Silva, I. C., Tormena, C. A., & da Silva, O. H. (2003). Avaliação dos aspectos florísticos de uma

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								mata ciliar no Norte do Estado do Paraná. Acta Scientiarum. Agronomy, 25(2), 519-525.
PRboa	PR	0.5	1338	43	AF	-24.7926	-51.5139	Silvestre, R. 2009. Comparação da florística, estrutura e padrão espacial em tres fragmentos de floresta ombrofila mista no estado do Parana. Dissertação (Mestrado). Universidade Federal do Paraná, Curitiba. 77p.
PRcuri5	PR	0.36	710	68	AF	-25.4481	-49.2406	Neotropical Tree Communities database (TreeCo)
PRdiam1	PR	4.35	3912	111	SSF	-22.6183	-52.8594	Neotropical Tree Communities database (TreeCo)
PRdiam2	PR	1.05	1146	84	SSF	-22.6131	-52.862	Neotropical Tree Communities database (TreeCo)
PRdiam3	PR	1.08	1130	74	SSF	-22.5992	-52.8857	Jandoti, D. 2009. Fitossociologia em um fragmento de floresta estacional semidecidual na Estação Ecológica do Caiuá, Paraná, Brasil. Dissertação (Mestrado). Universidade Estadual Paulista "Júlio de Mesquita Filho". Botucatu. 40p
PRdiam4	PR	1.2	1487	67	SSF	-22.5905	-52.8872	Costa Filho, L. V. D., Nanni, M. R., & Campos, J. B. (2006). Floristic and phytosociological description of a riparian forest and the relationship with the edaphic environment in Caiuá Ecological Station-Paraná-Brazil. Brazilian Archives of Biology and Technology, 49, 785-798.
PRfenix	PR	1	1550	80	SSF	-23.9167	-51.95	Borgo, M. 1999. Caracterização do componente arbóreo de um remanescente de Floresta Estacional Semidecidual Submontana no Parque Estadual de Vila Rica do Espírito Santo, Fênix - PR. Monografia (Graduação). Universidade Federal do Paraná, Curitiba, PR.

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
PRguarap11	PR	0.16	312	32	AF	-25.4239	-51.6957	Cordeiro, J. 2010. Compartimentação pedológico-ambiental e sua influência sobre a florística e estrutura de um remanescente de Floresta Ombrófila Mista na região de Guarapuava, PR. Tese (Doutorado). Universidade Federal do Paraná, Curitiba, Paraná, Brasil.
PRguarap12	PR	0.2	325	35	AF	-25.4214	-51.6971	Cordeiro, J. 2010. Compartimentação pedológico-ambiental e sua influência sobre a florística e estrutura de um remanescente de Floresta Ombrófila Mista na região de Guarapuava, PR. Tese (Doutorado). Universidade Federal do Paraná, Curitiba, Paraná, Brasil.
PRguarap13	PR	0.22	411	35	AF	-25.4231	-51.6966	Cordeiro, J. 2010. Compartimentação pedológico-ambiental e sua influência sobre a florística e estrutura de um remanescente de Floresta Ombrófila Mista na região de Guarapuava, PR. Tese (Doutorado). Universidade Federal do Paraná, Curitiba, Paraná, Brasil.
PRguarap14	PR	0.22	510	36	AF	-25.4206	-51.6969	Cordeiro, J. 2010. Compartimentação pedológico-ambiental e sua influência sobre a florística e estrutura de um remanescente de Floresta Ombrófila Mista na região de Guarapuava, PR. Tese (Doutorado). Universidade Federal do Paraná, Curitiba, Paraná, Brasil.
PRguarap6	PR	0.5	522	63	AF	-25.4468	-51.527	Silvestre, R. 2009. Comparação da florística, estrutura e padrão espacial em tres fragmentos de floresta ombrofila mista no estado do Parana. Dissertação (Mestrado). Universidade Federal do Paraná, Curitiba. 77p.
PRguaraq7	PR	0.22	517	84	ODF	-25.2916	-48.4636	Lindoso, G. D. S.2005. Aspectos estruturais de distribuiçao da comunidade vegetacional

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								em duas áreas de floresta ombrófila densa-Reserva Natural Serra do Itaqui-PR. Monografia, Universidade Federal do Paraná, Curitiba, Paraná, Brasil.
PRguaraq9	PR	0.22	319	63	ODF	-25.2916	-48.4636	Lindoso, G. D. S.2005. Aspectos estruturais de distribuiçao da comunidade vegetacional em duas áreas de floresta ombrófila densa-Reserva Natural Serra do Itaqui-PR. Monografia, Universidade Federal do Paraná, Curitiba, Paraná, Brasil.
PRibi1	PR	1	1329	99	SSF	-23.3049	-50.9726	Neotropical Tree Communities database (TreeCo)
PRibi2	PR	0.774	1157	105	SSF	-23.302	-50.9868	Carmo, M.R.B. 1995. Levantamento florístico e fitossociológico do remanescente florestal da Fazenda Doralice, Ibiporã - PR. Monografia (Graduação). Universidade Estadual de Londrina, Londrina, PR.
PRigua10	PR	0.6	788	78	SSF	-25.2536	-53.8372	Neotropical Tree Communities database (TreeCo)
PRigua11	PR	0.6	489	83	SSF	-25.1248	-53.7626	Neotropical Tree Communities database (TreeCo)
PRigua12	PR	0.6	728	71	SSF	-25.1697	-53.8225	Neotropical Tree Communities database (TreeCo)
PRigua2	PR	0.4	480	67	SSF	-25.4923	-54.3617	Gris, D. 2012. Riqueza e similaridade da vegetação arbórea do corredor de Biodiversidade Santa Maria, PR. Msc Dissertation, Universidade Estadual do Oeste do Paraná, Cascavel.
PRigua7	PR	0.6	542	67	SSF	-25.6458	-54.455	Neotropical Tree Communities database (TreeCo)
PRigua8	PR	0.6	531	78	SSF	-25.4761	-54.0193	Neotropical Tree Communities database (TreeCo)
PRigua9	PR	0.6	523	68	SSF	-25.2673	-53.7889	Neotropical Tree Communities database (TreeCo)

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
PRipir	PR	1	1577	36	AF	-25.0008	-50.432	Neotropical Tree Communities database (TreeCo)
PRjero1	PR	0.817	910	81	SSF	-23.7226	-50.7735	Furlanete, K.L.V.R.S. 2011. Padrões e relações florísticas do componente arbóreo na floresta Atlântica lato sensu do Brasil Meridional. Tese (Doutorado). Universidade Estadual de Campinas, Campinas. 153p.
PRlond2	PR	1	1418	100	SSF	-23.4452	-51.2546	Soares-Silva, L.H. Fitossociologia arbórea da porção norte do Parque Estadual Mata dos Godoy, Londrina – Pr. Curitiba, 1990. Dissertação (Mestrado) – Setor de Ciências Biológicas, Universidade Federal do Paraná. 196p.
PRlond3	PR	0.5	912	63	SSF	-23.4575	-51.2337	Bianchini, E., Popolo, R. S., Dias, M. C., & Pimenta, J. A. (2003). Diversidade e estrutura de espécies arbóreas em área alagável do município de Londrina, sul do Brasil. Acta Botanica Brasilica, 17, 405-419.
PRlond5	PR	0.6	567	82	SSF	-23.45	-51.25	Silveira, M. 1993. Estrutura vegetacional em uma topossequência no Parque Estadual Mata dos Godoy, Londrina, PR. Dissertação (Mestrado). Universidade Federal do Paraná, Curitiba, 142 p.
PRlond7	PR	0.6	1132	95	SSF	-23.4576	-51.2497	Neotropical Tree Communities database (TreeCo)
PRlond8	PR	0.4	482	74	SSF	-23.3799	-51.2363	Mattos, W.H. 2006. Fragmentos florestais em Londrina, Paraná: qualidade ambiental e conservação. Dissertação (Mestrado). Universidade Estadual de Londrina, Londrina. 128P.
PRlond9	PR	0.54	445	67	SSF	-23.3926	-51.2409	Mattos, W.H. 2006. Fragmentos florestais em Londrina, Paraná: qualidade ambiental e conservação. Dissertação (Mestrado).

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								Universidade Estadual de Londrina, Londrina. 128P.
PRmaria	PR	2.5	2018	71	SSF	-23.1619	-50.5666	Neotropical Tree Communities database (TreeCo)
PRmorr2	PR	0.132	319	57	ODF	-25.5	-48.9	Mattos, W.H. 2006. Fragmentos florestais em Londrina, Paraná: qualidade ambiental e conservação. Dissertação (Mestrado). Universidade Estadual de Londrina, Londrina. 128P.
PRpont5	PR	1	2080	93	AF	-25.2335	-49.9853	Mattos, W.H. 2006. Fragmentos florestais em Londrina, Paraná: qualidade ambiental e conservação. Dissertação (Mestrado). Universidade Estadual de Londrina, Londrina. 128P.
PRrebo3	PR	0.85	570	42	AF	-25.6785	-50.4856	Neotropical Tree Communities database (TreeCo)
PRrico1	PR	1	1019	64	SSF	-22.7913	-53.3209	Slusarski, S.R. & Souza, M.C. 2012. Analysis of floristic similarity between forest remnants from the upper Paraná river floodplain, Brazi. Acta Scientiarum, Biological Sciences 34 (3): 343-352.
PRsapo	PR	1	1482	121	SSF	-23.9259	-50.7496	Neotropical Tree Communities database (TreeCo)
PRsmsul1	PR	1.5	3171	92	AF	-25.8528	-50.3178	Britez, R.M. (Coord.) 1991. Fitossociologia, aspectos da ciclagem de minerais e fenologia da vegetação da Fazenda do Durgo, São Mateus do Sul, Paraná (subsídio científico para a revegetação de áreas degradadas pela exploração do xisto). SPVS, v. 1, Curitiba, PR. 222p.
PRtama1	PR	0.594	874	72	AF	-23.7681	-50.8919	Furlanete, K. L. V. R. DE S. 2011. Padrões e relações florísticas do componente arbóreo na floresta Atlântica lato sensu do Brasil Meridional. Tese (Doutorado).

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								Universidade Estadual de Campinas, Campinas. 153p.
PRtele	PR	1	1041	105	SSF	-24.3268	-50.5976	Neotropical Tree Communities database (TreeCo)
PRtiba1	PR	1	1492	118	AF	-24.5006	-50.4185	Dias, M. C., Vieira, A. O. S., Nakajima, J. N., Pimenta, J. A., Lobo, P. C. (1998). Composição florística e fitossociologia do componente arbóreo das florestas ciliares do rio Iapó, na bacia do rio Tibagi, Tibagi, PR. Brazilian Journal of Botany, 21, 183-195.
PRtiba4	PR	0.5	1933	110	AF	-24.6525	-50.256	Carmo, M.R.B. & Assis, M.A. 2012. Caracterização florística e estrutural das florestas naturalmente fragmentadas no Parque Estadual do Guartelá, município de Tibagi, estado do Paraná. Acta Botanica Brasilica 26 (1): 133-145.
PRvent	PR	1	1270	101	AF	-24.1431	-50.3084	Estevan, D.A. 2006. A vegetação no município de Ventania (Paraná, Brasil). Dissertação (Mestrado). Universidade Estadual de Londrina, Londrina, PR.
RJboni	RJ	0.4	697	93	ODF	-22.7167	-42.5482	Carvalho, F.A. & Nascimento, M.T. 2007. Estrutura e composição florística do estrato arbóreo de um remanescente de mata atlântica submontana no município de Rio Bonito, RJ, Brasil (Mata Rio Vermelho). Revista Árvore 31 (4): 717-730.
RJbuzios3	RJ	0.5	1163	84	ODF	-22.8025	-41.9517	Farág, P.R.C. 1999. Estrutura do estrato arbóreo da mata litorânea semicaducifólia sobre solo arenoso no município de Búzios, RJ. Dissertação (Mestrado). Universidade Federal do Rio de Janeiro, Rio de Janeiro, RJ.
RJfrib2	RJ	1	2088	170	ODF	-22.4083	-42.5167	Neotropical Tree Communities database (TreeCo)

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
RJgoyt4	RJ	1	1423	176	SSF	-21.7	-41.4029	Abreu, K.M.P. 2013. Estrutura, florística e diversidade de fragmentos de floresta estacional semidecidual no norte-noroeste fluminense. Tese (Doutorado). Universidade do Norte Fluminense, Campos dos Goytacazes. 190p.
RJigua1	RJ	1.17	2376	247	ODF	-22.5552	-43.442	Jesus, M.F.S. 2009. Análise dos efeitos de borda sobre a composição, dinâmica e estrutura da comunidade arbórea na Mata Atlântica da Reserva Biológica do Tinguá – RJ. Dissertação (Mestrado). Instituto de Pesquisas do Jardim Botânico do Rio de Janeiro, Rio de Janeiro. 149p.
RJitag	RJ	0.5	876	66	ODF	-22.8031	-43.8283	Gandra, M.F. 2008. Estrutura e composição florística do estrato arbóreo em um trecho de Floresta Atlântica na RPPN Porangaba, no município de Itaguaí, Rio de Janeiro. Monografia (Graduação). Universidade Federal Rural do Rio de Janeiro, Seropédica, RJ, Brasil. 55p
RJmaca	RJ	1	1405	127	ODF	-22.5352	-42.9087	Finotti, R., Kurtz, B. C., Cerqueira, R., & Garay, I. (2012). Variação na estrutura diamétrica, composição florística e características sucessionais de fragmentos florestais da bacia do rio Guapiaçu (Guapimirim/Cachoeiras de Macacu, RJ, Brasil). Acta Botanica Brasilica, 26, 464-475.
RJmaca1	RJ	0.439	592	114	ODF	-22.475	-42.9167	Kurtz, B.C. & Araujo, D.S.D. 2000. Composição florística e estrutura do componente arbóreo de um trecho de Mata Atlântica na Estação Ecológica Estadual do Paraíso, Cachoeiras de Macacu, Rio de Janeiro, Brasil. Rodriguesia 51 (78/115): 69-112.

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
RJmaca2	RJ	1	1113	146	ODF	-22.4801	-42.8716	Finotti, R., Kurtz, B. C., Cerqueira, R., & Garay, I. (2012). Variação na estrutura diamétrica, composição florística e características sucessionais de fragmentos florestais da bacia do rio Guapiaçu (Guapimirim/Cachoeiras de Macacu, RJ, Brasil). Acta Botanica Brasilica, 26, 464-475.
RJmaca3	RJ	1	1109	113	ODF	-22.5428	-42.8373	Finotti, R., Kurtz, B. C., Cerqueira, R., & Garay, I. (2012). Variação na estrutura diamétrica, composição florística e características sucessionais de fragmentos florestais da bacia do rio Guapiaçu (Guapimirim/Cachoeiras de Macacu, RJ, Brasil). Acta Botanica Brasilica, 26, 464-475.
RJmaca4	RJ	1	1030	121	ODF	-22.5755	-42.8459	Finotti, R., Kurtz, B. C., Cerqueira, R., & Garay, I. (2012). Variação na estrutura diamétrica, composição florística e características sucessionais de fragmentos florestais da bacia do rio Guapiaçu (Guapimirim/Cachoeiras de Macacu, RJ, Brasil). Acta Botanica Brasilica, 26, 464-475.
RJmaca5	RJ	1	1204	130	ODF	-22.4651	-42.7583	Finotti, R., Kurtz, B. C., Cerqueira, R., & Garay, I. (2012). Variação na estrutura diamétrica, composição florística e características sucessionais de fragmentos florestais da bacia do rio Guapiaçu (Guapimirim/Cachoeiras de Macacu, RJ, Brasil). Acta Botanica Brasilica, 26, 464-475.
RJmaca6	RJ	1	1088	143	ODF	-22.5008	-42.8014	Finotti, R., Kurtz, B. C., Cerqueira, R., & Garay, I. (2012). Variação na estrutura diamétrica, composição florística e características sucessionais de fragmentos

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								florestais da bacia do rio Guapiaçu (Guapimirim/Cachoeiras de Macacu, RJ, Brasil). Acta Botanica Brasilica, 26, 464-475.
RJmacae1	RJ	0.3	404	30	ODF	-22.3165	-42.0088	Cruz, A.R. 2007. Estrutura da comunidade vegetal arbórea do Parque Natural Municipal Fazenda Atalaia, Macaé, RJ. Monografia (Graduação), Universidade Federal Rural do Rio de Janeiro, Seropédica, RJ, Brasil. 38p
RJmacae2	RJ	0.3	231	38	ODF	-22.3108	-42.0043	Cruz, A.R. 2007. Estrutura da comunidade vegetal arbórea do Parque Natural Municipal Fazenda Atalaia, Macaé, RJ. Monografia (Graduação), Universidade Federal Rural do Rio de Janeiro, Seropédica, RJ, Brasil. 38p
RJnati1	RJ	1	1601	152	SSF	-21.0527	-42.002	Abreu, K.M.P. 2013. Estrutura, florística e diversidade de fragmentos de floresta estacional semidecidual no norte-noroeste fluminense. Tese (Doutorado). Universidade do Norte Fluminense, Campos dos Goytacazes. 190p.
RJostra1	RJ	0.2	366	99	ODF	-22.4268	-42.0567	Carvalho, F.A., Braga, J.M.A. & Nascimento, M.T. 2016. Tree structure and diversity of lowland Atlantic forest fragments: comparison of disturbed and undisturbed remnants. Journal of Forestry Research 27(3): 605-609.
RJrbpa41	RJ	0.2	212	45	ODF	-22.6185	-42.4508	Carvalho, F.A. & Nascimento, M.T. 2009 Estrutura diamétrica da comunidade e das principais populações arbóreas de um remanescente de Floresta Atlântica Submontana (Silva Jardim-RJ, Brasil). Revista Árvore 33 (2): 327-337.
RJrbpa42	RJ	0.2	280	52	ODF	-22.6088	-42.4589	Carvalho, F.A. & Nascimento, M.T. 2009 Estrutura diamétrica da comunidade e das

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								principais populações arbóreas de um remanescente de Floresta Atlântica Submontana (Silva Jardim-RJ, Brasil). Revista Árvore 33 (2): 327-337.
RJrbpa43	RJ	0.2	307	54	ODF	-22.6028	-42.4704	Carvalho, F.A. & Nascimento, M.T. 2009 Estrutura diamétrica da comunidade e das principais populações arbóreas de um remanescente de Floresta Atlântica Submontana (Silva Jardim-RJ, Brasil). Revista Árvore 33 (2): 327-337.
RJrbpa44	RJ	0.2	371	61	ODF	-22.6323	-42.4662	Carvalho, F.A. & Nascimento, M.T. 2009 Estrutura diamétrica da comunidade e das principais populações arbóreas de um remanescente de Floresta Atlântica Submontana (Silva Jardim-RJ, Brasil). Revista Árvore 33 (2): 327-337.
RJrbpa45	RJ	0.2	428	69	ODF	-22.6267	-42.4538	Carvalho, F.A. & Nascimento, M.T. 2009 Estrutura diamétrica da comunidade e das principais populações arbóreas de um remanescente de Floresta Atlântica Submontana (Silva Jardim-RJ, Brasil). Revista Árvore 33 (2): 327-337.
RJrio1	RJ	0.513	800	43	ODF	-22.9781	-43.6292	Peixoto, G. L., Martins, S. V., Silva, A. F. D., & Silva, E. (2005). Estrutura do componente arbóreo de um trecho de Floresta Atlântica na Área de Proteção Ambiental da Serra da Capoeira Grande, Rio de Janeiro, RJ, Brasil. Acta Botanica Brasilica, 19, 539-547.
RJsilva1	RJ	0.5	734	105	ODF	-22.5322	-42.3453	Neotropical Tree Communities database (TreeCo)
RJsilva3	RJ	0.2	289	67	ODF	-22.6534	-42.4383	Carvalho, F.A., Braga, J.M.A. Nascimento, M.T. 2016. Tree structure and diversity of lowland Atlantic forest fragments: comparison of disturbed and undisturbed

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								remnants. Journal of Forestry Research 27(3): 605-609.
RJsilva4	RJ	0.2	322	49	ODF	-22.6538	-42.4642	Carvalho, F.A., Braga, J.M.A. & Nascimento, M.T. 2016. Tree structure and diversity of lowland Atlantic forest fragments: comparison of disturbed and undisturbed remnants. Journal of Forestry Research 27(3): 605-609.
RJtere6	RJ	0.68	1596	135	ODF	-22.4595	-43.0063	Wesenberg, J. & Seele, C. 2009. Floristic-structural composition and diversity of tree and woody understorey vegetation in the montane Atlantic Forest of the Serra dos Órgãos National Park, Teresópolis, RJ, Brazil. In: Gaese, H.
RJuba	RJ	1	1142	132	SSF	-21.4003	-41.9661	Dan, M. L., Braga, J. M. A., & Nascimento, M. T. (2010). Estrutura da comunidade arbórea de fragmentos de floresta estacional semidecidual na bacia hidrográfica do rio São Domingos, Rio de Janeiro, Brasil. Rodriguésia, 61, 749-766.
SCalfre7	SC	0.4	963	90	AF	-27.8025	-49.2266	Neotropical Tree Communities database (TreeCo)
SCalta1	SC	2.61	1500	97	AF	-27.4833	-50.2864	Ferreira, P. I., Paludo, G. F., Chaves, C. L., da Costa Bortoluzzi, R. L., & Mantovani, A. (2012). Florística e fitossociologia arbórea de remanescentes florestais em uma fazenda produtora de Pinus spp. Floresta, 42(4), 783-794.
SCblum1	SC	0.4	785	64	ODF	-27.0032	-49.1783	Schorn, L.A. 2005. Estrutura e dinâmica de estágios sucessionais de uma floresta ombrófila densa em Blumenau, Santa Catarina. Tese (Doutorado). Universidade Federal do Paraná, Curitiba. 192p.
SCblum2	SC	1	1735	115	ODF	-26.9221	-49.0757	Sevegnani, L. 2003. Dinâmica de população de Virola bicuhyba (SCHOTT) WARB. (Myristicaceae) e fitossociologia de floresta

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								pluvial atlântica, sob clima temperado, Blumenau, SC. Tese (Doutorado). Universidade de São Paulo, São Paulo. 195p.
SCblum3	SC	1	1695	105	ODF	-26.9217	-49.0742	Ghoddosi, S.M. 2005. Dinâmica do componente arbóreo (1999-2004) de um trecho de floresta ombrófila densa em Blumenau, SC. Dissertação (Mestrado). Universidade Regional de Blumenau, Blumenau, 140p.
SCblum5	SC	0.33	765	109	ODF	-27.0591	-49.0783	Caglioni, E. 2013. Florística e fitossociologia do componente arbóreo e epifítico em segmento de encosta e margem de Rio no Parque Nacional da Serra do Itajaí - SC. Dissertação (Mestrado). Universidade Federal do Paraná, Curitiba, 93p.
SCbrusq6	SC	1	1727	139	ODF	-27.0988	-48.8905	de Maçaneiro, J. P., Seubert, R. C., & Schorn, L. A. (2015). Fitossociologia de uma Floresta Pluvial Subtropical primária no sul do Brasil. Floresta, 45(3), 555-566.
SCcaca2	SC	0.25	280	43	AF	-26.8507	-50.932	Negrelle, R.A.B. & Silva, F.C. 1992. Fitossociologia de um trecho de floresta com Araucaria angustifolia (Bert.) Ktze. no município de Caçador - SC. Boletim de Pesquisa Florestal, Colombo 24/25: 37.54.
SCdesc	SC	1.12	1119	73	SSF	-26.9366	-53.5241	Neotropical Tree Communities database (TreeCo)
SCfuma2	SC	0.125	198	48	ODF	-28.64	-49.3525	Oliveira, M.M. 2008. Composição e estrutura florestal de um remanescente florestal de entorno a área degradada pela extração de argila: subsídio para recuperação ambiental. Monografia (Graduação). Universidade do Extremo Sul Catarinense - UNESC, Criciúma. 41p.
SCguarc	SC	0.1	159	30	AF	-26.6476	-53.5801	Gnigler, L.B. 2010. Composição florística e estrutura de um remanescente de Floresta

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								Ombrófila Mista no município de Guaraciaba, extremo-oeste de Santa Catarina, Brasil. Monografia (Graduação). Universidade Federal do Paraná, Curitiba, 39p.
SCguat	SC	1.56	2078	75	SSF	-27.1078	-52.7847	Floss, P.A. 2011. Aspectos ecológicos e fitossociológicos no entorno de nascentes em formações florestais do Oeste de Santa Catarina. Tese (Doutorado). Universidade Federal de Santa Maria. Santa Maria, 156p.
SCilho	SC	1	1260	135	ODF	-26.8091	-48.9362	Iza, O.B. 2002. Parâmetros de autoecologia de uma comunidade arbórea de Floresta Ombrófila Densa, no Parque Botânico do Morro Baú, Ilhota, SC. Dissertação (Mestrado). Universidade Federal de Santa Catarina, Florianópolis. 92p.
SCilho2	SC	1	1832	156	ODF	-26.807	-48.9417	Lisboa, R.B.Z. 2001. Análise fitossociológica de uma comunidade arbórea na Floresta Ombrófila Densa, no Parque Botânico do Morro Baú, Ilhota/SC. Dissertação (Mestrado). Universidade Federal de Santa Catarina, Florianópolis, 132p.
SCitapi	SC	1.12	1265	69	SSF	-27.1896	-53.6299	Neotropical Tree Communities database (TreeCo)
SClages1	SC	1	1843	85	AF	-27.861	-50.1889	Higuchi, P., da Silva, A. C., Ferreira, T. D. S., de Souza, S. T., Gomes, J. P., da Silva, K. M., ... & da Silva Paulino, P. (2012). Influence of environmental variables on the tree community structure and floristic patterns in a montane araucaria forest fragment in Lages, Santa Catarina state. Ciência Florestal, 22(1), 79-90.
SClages2	SC	1	1783	80	AF	-27.851	-50.3184	Neotropical Tree Communities database (TreeCo)

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
SClages4	SC	0.64	736	45	AF	-27.7913	-50.3506	Neotropical Tree Communities database (TreeCo)
SClages5	SC	0.5	1040	63	AF	-27.8139	-50.113	Neotropical Tree Communities database (TreeCo)
SClagu3	SC	0.35	548	95	ODF	-28.4623	-48.8914	Rebelo, M.A. 2006. Florística e fitossociologia de um remanescente florestal ciliar: subsídio para a reabilitação da vegetação ciliar para a microbacia do rio Três Cachoeiras, Laguna, SC. Dissertação (Mestrado). Universidade do Extremo Sul Catarinense, Criciúma. 100p.
SCorle	SC	1	1944	112	ODF	-28.306	-49.3179	Citadini-Zanette, V. 1995. Florística, fitossociologia e aspectos da dinâmica de um remanescente de mata atlântica na microbacia do Rio Novo, Orleans, SC. Tese (Doutorado). Universidade Federal de São Carlos, São Carlos, 213p.
SCotac	SC	1.69	1603	94	AF	-27.6504	-49.826	Neotropical Tree Communities database (TreeCo)
SCsaud	SC	1.56	2178	84	SSF	-26.8758	-53.0658	Floss, P.A. 2011. Aspectos ecológicos e fitossociológicos no entorno de nascentes em formações florestais do Oeste de Santa Catarina. Tese (Doutorado). Universidade Federal de Santa Maria. Santa Maria, 156p.
SCserra4	SC	1	1457	54	AF	-28.3401	-49.7388	Neotropical Tree Communities database (TreeCo)
SCsjo1	SC	1.02	1470	79	SSF	-27.1011	-53.5756	Grasel, D., Spezia, M. B., & Oliveira, A. D. D. (2017). Fitossociologia do componente arborescente-arbóreo de uma Floresta Estacional no vale do rio Uruguai, Sul do Brasil. Ciência Florestal, 27, 153-167.
SCurub10	SC	1	1579	33	ODF	-28.0769	-49.625	Silva, A.C., Higuchi, P., Sobral, M.E.G., Negrini, M., Buzzi-Júnior, F., Bento, M.A., Silva, A.L., Marcon, A.K., Ferreira, T.S., Salami, B. & Dalla Rosa, A. 2017. Organização da comunidade e estrutura

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								filogenética do componente arbóreo de um fragmento de floresta nebular no planalto catarinense. Ciência Florestal 27(1): 129-141.
SCurupe	SC	0.584	969	38	AF	-27.9214	-49.8669	Neotropical Tree Communities database (TreeCo)
SPacar	SP	1	1415	72	SSF	-20.926	-50.3486	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p.
SPagud21	SP	0.44	522	42	SSF	-22.4865	-49.0586	Camargo, P.F.A. 1999. Composição florística e estrutural fitossociológica de um remanescente de floresta estacional semidecidual submontana na Fazenda Santa Rita, no Município de Agudos – SP. Dissertação (Mestrado) – Instituto de Biociências, UNESP, Botucatu, 1999. 118p.
SPagud22	SP	0.44	678	57	SSF	-22.4865	-49.056	Camargo, P.F.A. 1999. Composição florística e estrutural fitossociológica de um remanescente de floresta estacional semidecidual submontana na Fazenda Santa Rita, no Município de Agudos – SP. Dissertação (Mestrado) – Instituto de Biociências, UNESP, Botucatu, 1999. 118p.
SPandre3	SP	0.1	272	38	ODF	-23.7769	-46.3136	Neotropical Tree Communities database (TreeCo)
SPatib	SP	0.42	1026	119	SSF	-23.1794	-46.5311	Grombone, M. T., Bernacci, L. C., Meira Neto, J. A. A., Tamashiro, J. Y., & Leitão Filho, H. D. F. (1990). Estrutura fitossociológica da floresta semidecídua de altitude do Parque Municipal da Grota Funda (Atibaia-Estado de São Paulo). Acta Botanica Brasilica, 4, 47-64.

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
SPbarre1	SP	1	571	75	SSF	-20.6403	-48.7535	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p.
SPbarre2	SP	1	907	38	SSF	-20.485	-48.8225	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p.
SPbauru	SP	3.2	3838	117	SSF	-22.2315	-49.0819	Neotropical Tree Communities database (TreeCo)
SPbebe1	SP	1	699	39	SSF	-20.885	-48.5406	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p.
SPbofe1	SP	0.64	687	76	SSF	-23.0389	-48.2772	Mello, C. E. 2008. Estrutura da vegetação arbórea em gradiente altitudinal de um morro testemunho em uma Floresta Estacional Semidecidual na região centro - sul do estado de São Paulo, sudeste do Brasil. Dissertação (Mestrado). Universidade Estadual Paulista "Júlio de Mesquita Filho". Botucatu. 61p.
SPbotu	SP	1	1104	57	SSF	-22.8147	-48.394	Fonseca, R. C. B., Rodrigues, R. R. 2000. Análise estrutural e aspectos do mosaico sucessional de uma floresta semidecídua em Botucatu, SP. Scientia Forestalis 57: 27-43.

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
SPbrot5	SP	0.44	663	69	SSF	-22.0819	-48.0261	Feliciano, A.L.P. 1999. Caracterização ambiental, florística e fitossociológica de uma Unidade de Conservação. Caso de estudo: Estação Ecológica de São Carlos, Brotas, SP. 160p.
SPcamp13	SP	0.5	422	85	SSF	-22.8629	-47.0687	Penha, A.S. 1998. Propagação vegetativa de espécies arbóreas a partir de raízes gemíferas: representatividade na estrutura fitossociológica e descrição dos padrões de rebrota de uma comunidade florestal, Campinas, São Paulo. Dissertação (Mestrado). Universidade de Campinas, Campinas. 114p.
SPcamp2	SP	1	1080	115	SSF	-22.833	-46.9271	Neotropical Tree Communities database (TreeCo)
SPcamp42	SP	0.493	500	94	SSF	-22.8321	-46.9299	Santos, K. 2003. Caracterização florística e estrutural de onze fragmentos de mata estacional semidecidual da área de proteção ambiental do município de Campinas – SP. Tese (Doutorado). Universidade de Campinas, Campinas. 225p.
SPcamp43	SP	0.513	500	102	SSF	-22.8268	-46.9349	Santos, K. 2003. Caracterização florística e estrutural de onze fragmentos de mata estacional semidecidual da área de proteção ambiental do município de Campinas – SP. Tese (Doutorado). Universidade de Campinas, Campinas. 225p.
SPcamp44	SP	0.359	500	93	SSF	-22.827	-46.9199	Santos, K. 2003. Caracterização florística e estrutural de onze fragmentos de mata estacional semidecidual da área de proteção ambiental do município de Campinas – SP. Tese (Doutorado). Universidade de Campinas, Campinas. 225p.
SPcamp46	SP	0.434	500	97	SSF	-22.7532	-46.9407	Santos, K. 2003. Caracterização florística e estrutural de onze fragmentos de mata estacional semidecidual da área de proteção

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								ambiental do município de Campinas – SP. Tese (Doutorado). Universidade de Campinas, Campinas. 225p.
SPcamp47	SP	0.535	500	67	SSF	-22.7521	-46.9402	Santos, K. 2003. Caracterização florística e estrutural de onze fragmentos de mata estacional semidecidual da área de proteção ambiental do município de Campinas – SP. Tese (Doutorado). Universidade de Campinas, Campinas. 225p.
SPcamp50	SP	0.416	500	118	SSF	-22.9196	-46.8648	Santos, K. 2003. Caracterização florística e estrutural de onze fragmentos de mata estacional semidecidual da área de proteção ambiental do município de Campinas – SP. Tese (Doutorado). Universidade de Campinas, Campinas. 225p.
SPcamp52	SP	0.369	500	113	SSF	-22.9	-46.9	Santos, K. 2003. Caracterização florística e estrutural de onze fragmentos de mata estacional semidecidual da área de proteção ambiental do município de Campinas – SP. Tese (Doutorado). Universidade de Campinas, Campinas. 225p.
SPcamp53	SP	0.442	500	87	SSF	-22.783	-47.0031	Santos, K. 2003. Caracterização florística e estrutural de onze fragmentos de mata estacional semidecidual da área de proteção ambiental do município de Campinas – SP. Tese (Doutorado). Universidade de Campinas, Campinas. 225p.
SPcamp54	SP	0.397	500	52	SSF	-22.7989	-46.9533	Santos, K. 2003. Caracterização florística e estrutural de onze fragmentos de mata estacional semidecidual da área de proteção ambiental do município de Campinas – SP. Tese (Doutorado). Universidade de Campinas, Campinas. 225p.
SPcamp601	SP	0.35	229	37	SSF	-22.8249	-47.1117	Gandolfi, S. 2000. História Natural de uma floresta estacional semidecidual no município de Campinas (São Paulo, Brasil).

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								Tese (Doutorado). Universidade de Campinas, Campinas. 520p.
SPcamp602	SP	0.35	384	67	SSF	-22.8241	-47.1124	Gandolfi, S. 2000. História Natural de uma floresta estacional semidecidual no município de Campinas (São Paulo, Brasil). Tese (Doutorado). Universidade de Campinas, Campinas. 520p.
SPcamp603	SP	0.35	454	88	SSF	-22.8333	-47.1062	Gandolfi, S. 2000. História Natural de uma floresta estacional semidecidual no município de Campinas (São Paulo, Brasil). Tese (Doutorado). Universidade de Campinas, Campinas. 520p.
SPcana1	SP	1.2	2311	147	ODF	-24.8873	-47.933	Urbanetz, C. 2010. Fatores abióticos e variação espacial na estrutura da Floresta Ombrófila Densa Atlântica. Tese (Doutorado). Universidade de Campinas, Campinas. 114p.
SPcotia3	SP	0.2	353	95	ODF	-23.7563	-47.0045	Neotropical Tree Communities database (TreeCo)
SPeec4	SP	1	1218	84	SSF	-22.3818	-49.6834	Franco, G.A.D.C. 2002. Florística e fitossociologia de duas unidades do mosaico florestal da Estação Ecológica dos Caetetus - Floresta Estacional Semidecidual, Gália - SP. Dissertação (Mestrado). ESALQ/USP, Piracicaba. 95p.
SPeec5	SP	1	1111	74	SSF	-22.4088	-49.6886	Franco, G.A.D.C. 2002. Florística e fitossociologia de duas unidades do mosaico florestal da Estação Ecológica dos Caetetus - Floresta Estacional Semidecidual, Gália - SP. Dissertação (Mestrado). ESALQ/USP, Piracicaba. 95p.
SPgran1	SP	1	1035	60	SSF	-20.5531	-49.2488	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p.
SPhori1	SP	1	782	91	SSF	-21.521	-49.2947	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p.
SPigua1	SP	1	1826	162	ODF	-24.5492	-47.2378	Neotropical Tree Communities database (TreeCo)
SPiper11	SP	0.56	726	67	SSF	-23.4326	-47.6236	Albuquerque, G.B. & Rodrigues, R.R. 2000. A vegetação do Morro de Araçoiaba, Floresta Nacional de Ipanema, Iperó (SP). Scientia Forestalis 58: 145-159.
SPiper12	SP	0.56	933	51	SSF	-23.4317	-47.6285	Albuquerque, G.B. & Rodrigues, R.R. 2000. A vegetação do Morro de Araçoiaba, Floresta Nacional de Ipanema, Iperó (SP). Scientia Forestalis 58: 145-159.
SPirac	SP	1	795	57	SSF	-20.5096	-50.231	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p.
SPitab1	SP	0.761	1470	115	SSF	-23.0219	-46.735	Cerqueira, R.M. 2005. Florística e estrutura de um fragmento de floresta estacional semidecídua montana no município de Itatiba, SP. Dissertação (Mestrado). Universidade de Campinas, Campinas. 106p.
SPitape	SP	0.2	285	89	ODF	-23.5709	-47.0265	Neotropical Tree Communities database (TreeCo)
SPitat2	SP	0.42	845	84	SSF	-23.2779	-48.5577	Ivanauskas, N. M., Rodrigues, R. R., & Nave, A. G. Fitossociologia de um trecho de

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								Floresta Estacional Semidecidual em Itatinga, São Paulo, Brasil. SCIENTIA FORESTaLIS n. 56, p. 83-99
SPitat3	SP	0.282	530	90	SSF	-23.3167	-48.6167	Ivanauskas, N.M. & Rodrigues, R.R. 2002. Fitossociologia de um remanescente de Floresta Estacional Semidecidual em Itatinga, SP, para fins de restauração de áreas degradadas. Revista Árvore 26 (1): 43-57.
SPitir1	SP	1.28	873	69	SSF	-22.3869	-47.8439	Kotchetkoff-Henriques, O. & Joly, C.A. 1994. Estudo florístico e fitossociológico em uma mata mesófila na Serra do Itaqueri, Itirapina, estado de São Paulo. Revista Brasileira de Biologia 54 (3): 477-487.
SPitu1	SP	0.12	230	58	SSF	-23.4076	-47.2124	Wakabayashi, T.Y. 2015. Composição florística, estrutura fitossociológica e caracterização sucessional de três fragmentos florestais, na Estância Turística de Itu-SP, Brasil. Dissertação (Mestrado). Universidade Federal de São Carlos, Sorocaba. 74 p.
SPitu3	SP	0.12	154	54	SSF	-23.2839	-47.194	Wakabayashi, T.Y. 2015. Composição florística, estrutura fitossociológica e caracterização sucessional de três fragmentos florestais, na Estância Turística de Itu-SP, Brasil. Dissertação (Mestrado). Universidade Federal de São Carlos, Sorocaba. 74 p.
SPjabo1	SP	1.28	1694	71	SSF	-21.2479	-48.2682	Pinto, M.M. 1989. Levantamento fitossociológico de uma mata residual: campus de Jaboticabal da UNESP. Dissertação (Mestrado). Universidade Estadual Paulista Júlio de Mesquita Filho, Jaboticabal. 67p.
SPjoan	SP	0.3	494	91	ODF	-22.9032	-46.3392	Yamamoto, L. F. 2009. Florística e fitossociologia de espécies arbóreas ao

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								longo de um gradiente altitudinal no extremo sul da Mantiqueira (Serra do Lopo) - MG/SP. Tese (Doutorado). Universidade de Campinas, Campinas. 169p.
SPjund2	SP	0.42	1157	117	SSF	-23.2463	-46.9406	Neotropical Tree Communities database (TreeCo)
SPmacu1	SP	1	1689	78	SSF	-20.743	-49.9292	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p.
SPmairi	SP	1.675	2384	138	ODF	-23.417	-46.6379	Arzolla, F.A.R.D.P. 2002. Florística e fitossociologia de trecho da Serra da Cantareira, Núcleo Águas Claras, Parque Estadual da Cantareira, Mairiporã, SP. Dissertação (Mestrado). Universidade Estadual de Campinas. Campinas, SP. 184p.
SPmars	SP	0.2	306	98	ODF	-23.9258	-46.7284	Neotropical Tree Communities database (TreeCo)
SPmatao11	SP	0.81	902	72	SSF	-21.6029	-48.5146	Neotropical Tree Communities database (TreeCo)
SPmatao12	SP	0.81	1143	63	SSF	-21.6146	-48.5449	Neotropical Tree Communities database (TreeCo)
SPmatao2	SP	1	1175	101	SSF	-21.6206	-48.5372	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p.
SPmogic11	SP	0.27	480	79	ODF	-23.4877	-46.1912	Neotropical Tree Communities database (TreeCo)
SPmogic12	SP	0.351	480	65	ODF	-23.4996	-46.2057	Neotropical Tree Communities database (TreeCo)

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
SPmogic13	SP	0.377	480	94	ODF	-23.4984	-46.1965	Neotropical Tree Communities database (TreeCo)
SPpale1	SP	1	1679	70	SSF	-20.2929	-49.5069	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p.
SPpale2	SP	1	704	65	SSF	-20.3232	-49.5081	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p.
SPpari11	SP	0.6	949	125	ODF	-24.6128	-47.8788	Ivanauskas, N.M. 1997. Caracterização florística e fisionomia da Floresta Atlântica sobre a formação Pariquera-Açu, na Zona da Morraria Costeira do estado de São Paulo. Dissertação (Mestrado). Universidade Estadual de Campinas, Campinas, 231p.
SPpari12	SP	0.61	1007	149	ODF	-24.6904	-47.8748	Ivanauskas, N.M. 1997. Caracterização florística e fisionomia da Floresta Atlântica sobre a formação Pariquera-Açu, na Zona da Morraria Costeira do estado de São Paulo. Dissertação (Mestrado). Universidade Estadual de Campinas, Campinas, 231p.
SPpari2	SP	0.54	768	103	ODF	-24.6417	-47.7831	Sztutman, M. & Rodrigues, R.R. 2002. O mosaico vegetacional numa área de floresta contínua da planície litorânea, Parque Estadual da Campina do Encantado, Pariquera-Açu, SP. Revista Brasileira de Botânica 25 (2): 161-176.

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
SPpefi2	SP	0.312	500	92	ODF	-23.6444	-46.6201	de Vuono, Y.S. 1985. Fitossociologia do estrato arbóreo da floresta da Reserva Biológica do Instituto de Botânica (São Paulo, SP). Tese (Doutorado). Universidade de São Paulo, São Paulo, SP.
SPpefi8	SP	0.337	508	93	ODF	-23.6399	-46.6162	de Vuono, Y.S. 1985. Fitossociologia do estrato arbóreo da floresta da Reserva Biológica do Instituto de Botânica (São Paulo, SP). Tese (Doutorado). Universidade de São Paulo, São Paulo, SP.
SPpei1	SP	1.98	3078	164	ODF	-24.2333	-48.0667	Guilherme, F. A. G., Morellato, L. P. C., & Assis, M. A. (2004). Horizontal and vertical tree community structure in a lowland Atlantic Rain Forest, Southeastern Brazil. Brazilian Journal of Botany, 27(4), 725-737.
SPpei2	SP	0.52	769	142	ODF	-24.2322	-48.0821	Almeida-Scabbia, R.J. 1996. Fitossociologia de um trecho de floresta atlântica no Parque Estadual Intervales, SP. Dissertação (Mestrado). Universidade Estadual Paulista, Rio Claro, 121p.
SPpemd1	SP	1.075	1143	101	SSF	-22.587	-52.338	Neotropical Tree Communities database (TreeCo
SPperu1	SP	0.25	284	60	ODF	-24.3457	-47.0092	Oliveira, R. D. J., Mantovani, W., & Melo, M. M. D. R. F. D. (2001). Estrutura do componente arbustivo-arbóreo da floresta atlântica de encosta, Peruíbe, SP. Acta Botanica Brasilica, 15, 391-412.
SPpesm10	SP	0.4	629	106	ODF	-23.3306	-44.8289	Sanchez, M. 2001. Composição florística e estrutura da comunidade arbórea num gradiente altitudinal da Mata Atlântica. Tese (Doutorado). Universidade Estadual de Campinas, Campinas. 147p.
SPpesm20	SP	0.1	152	41	ODF	-23.3515	-44.8547	Assis, M.A. 1999. Florística e caracterização das comunidades vegetais da planície costeira de Picinguaba, Ubatuba –

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								SP. Tese (Doutorado). Universidade Estadual de Campinas, Campinas, 250p.
SPpesm21	SP	0.1	147	45	ODF	-23.3645	-44.829	Assis, M.A. 1999. Florística e caracterização das comunidades vegetais da planície costeira de Picinguaba, Ubatuba – SP. Tese (Doutorado). Universidade Estadual de Campinas, Campinas, 250p.
SPpesm22	SP	0.1	147	49	ODF	-23.3534	-44.8461	Assis, M.A. 1999. Florística e caracterização das comunidades vegetais da planície costeira de Picinguaba, Ubatuba – SP. Tese (Doutorado). Universidade Estadual de Campinas, Campinas, 250p.
SPpesm7	SP	0.18	252	98	ODF	-23.3132	-44.8111	Sanchez, M. 2001. Composição florística e estrutura da comunidade arbórea num gradiente altitudinal da Mata Atlântica. Tese (Doutorado). Universidade Estadual de Campinas, Campinas. 147p.
SPpesm9	SP	0.4	563	93	ODF	-23.329	-44.8301	Sanchez, M. 2001. Composição florística e estrutura da comunidade arbórea num gradiente altitudinal da Mata Atlântica. Tese (Doutorado). Universidade Estadual de Campinas, Campinas. 147p.
SPpesmS	SP	1	2184	109	ODF	-23.2396	-44.9854	Grillo, R.M.M. 2016. A floresta ombrófila densa altomontana no Parque Estadual da Serra do Mar-Núcleo Cunha, SP: análise da heterogeneidade estrutural e florística em escala local. Dissertação (Mestrado). Universidade Estadual Paulista, Rio Claro. 11p.
SPpesmU	SP	1	2182	113	ODF	-23.2382	-44.982	Morais, R.F. 2016. Estrutura, composição e riqueza da comunidade arbórea e relações com variáveis edáficas e topográficas na Floresta Pluvial Atlântica no Parque Estadual da Serra do Mar, São Paulo, Brasil. Tese (Doutorado). Universidade Estadual Paulista, Rio Claro. 125 p.

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
SPpind1	SP	1	769	58	SSF	-21.227	-48.9314	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p.
SPpira5	SP	0.6	535	45	SSF	-22.7124	-47.6243	Neotropical Tree Communities database (TreeCo)
SPpirc	SP	0.48	875	103	SSF	-23.0075	-46.2669	Neotropical Tree Communities database (TreeCo)
SPplana1	SP	1	2209	63	SSF	-20.9994	-49.9801	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p.
SPribpr2	SP	0.96	1392	126	SSF	-21.222	-47.8508	Tanaka, G.K. 2009. Estrutura e florística do estrato arbóreo de um fragmento de floresta estacional semidecidual: Estação Ecológica de Ribeirão Preto, SP. Dissertação (Mestrado). Universidade de São Paulo, Ribeirão Preto. 69p.
SProque	SP	0.945	1324	116	SSF	-23.5277	-47.1099	Leite, E.C. & Rodrigues, R.R. 2008. Fitossociologia e caracterização sucessional de um fragmento de floresta estacional no Sudeste do Brasil. Revista Árvore 32 (3): 583-595.
SPsales	SP	1	877	49	SSF	-21.4037	-49.494	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p.

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
SPsesc1	SP	0.5	830	103	ODF	-23.7292	-46.679	Neotropical Tree Communities database (TreeCo)
SPsjc1	SP	0.7	1415	168	ODF	-23.0657	-45.9339	Silva, A.F. 1989. Composição florística e estrutura fitossociológica do estrato arbóreo da Reserva Florestal Professor Augusto Ruschi, São José dos Campos, SP. Tese (Doutorado). Universidade Estadual de Campinas, Campinas. 148 p.
SPsoro1	SP	0.64	972	68	SSF	-23.3941	-47.485	Neotropical Tree Communities database (TreeCo)
SPtaqu1	SP	1	566	75	SSF	-21.4045	-48.6898	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p.
SPturma	SP	1	963	75	SSF	-20.004	-50.4339	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p
SPuniao	SP	1	981	62	SSF	-20.9211	-49.9261	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p.
SPvass8	SP	0.776	926	88	SSF	-21.7212	-47.5969	Martins, F.R. 1991. Estrutura de uma floresta mesófila. Editora da UNICAMP, Campinas. 214p.
SPvotu1	SP	1	1532	71	SSF	-20.5132	-50.0902	Ranga, N. T. et al. 2012. Caracterização floristica de remanescentes de vegetação

Name Code	State	Effort (ha)	Number of trees	Number of species	Forest type	Latitude	Longitude	Reference
								nativa da região noroeste de São Paulo (105-135) in Necchi Junior, O (ed.). Fauna e Flora de fragmentos florestais remanescentes da região noroeste do Estado de São Paulo. Editora Holos. 301 p.

Table S3. List of tree species in the Atlantic Forest restoration plantings (n = 1,073), ordered by number of seedlings planted. SSF: Semideciduous Seasonal Forest; ODF: Ombrophilous Dense Forest; AF: Mixed Ombrophilous Forest (Araucaria Forest). Seed dispersal syndrome: Anem: wind-dispersed, Auto: self-dispersed, Zoo: animal-dispersed. Successional group - Sec: secondary; In Sec: Initial secondary, Late sec: Late secondary. Risk of extinction: No: Not Threatened, EN: Endangered; DD: Data Deficient; VU: Vulnerable; CR: Critically Endangered. Relative abundance: percentage of relative abundance of the species. N of plantings: number of plantings in which the species was represented. Freq. in plantings: frequency of the species in the sum of plantings or the percentage of plantings in which the species was used. * Exotic species. ** Non-colonizer species according to the classification of Suganuma & Durigan (2021).

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SOS Mata Atlântica Non-Governmental Organization. “Click Árvore” restoration program. < https://www.sosma.org.br/>

Suganuma, M. S., & Durigan, G. 2021. Build it and they will come, but not all of them in fragmented Atlantic Forest landscapes. Restoration Ecology, e13537.

Species	**Family**	**Dispersal syndrome**	**Successional group**	**Nitrogen fixing**	**Risk of extinction**	**SSF**	**ODF**	**AF**	**Seedlings (N)**	**Relative abundance**	**N of plantings**	**Freq. in plantings (%)**
Schinus terebinthifolia Raddi	Anacardiaceae	Zoo	Pionerr	No	No	516,084	75,576	32,207	623,867	2.873	1,004	93.74
Ceiba speciosa (A.St.-Hil.) Ravenna	Malvaceae	Anem	In Sec	No	No	418,640	33,652	10,305	462,597	2.130	985	91.80
Parapiptadenia rigida (Benth.) Brenan	Fabaceae	Anem	In Sec	Yes	No	359,246	20,183	18,935	398,364	1.835	737	68.69
Croton urucurana Baill.	Euphorbiaceae	Auto	Pionerr	No	No	333,475	54,994	3,541	392,010	1.805	898	83.69
Inga laurina (Sw.) Willd.	Fabaceae	Zoo	In Sec	Yes	No	354,194	17,834	12,990	385,018	1.773	828	77.17
Guazuma ulmifolia Lam.	Malvaceae	Zoo	Pionerr	No	No	312,846	23,481	3,863	340,190	1.567	913	85.09
Citharexylum myrianthum Cham.	Verbenaceae	Zoo	Pionerr	No	No	310,901	21,562	4,332	336,795	1.551	837	78.01
Eugenia uniflora L.	Myrtaceae	Zoo	In Sec	No	No	254,508	25,770	40,059	320,337	1.475	901	83.97
Croton floribundus Spreng.	Euphorbiaceae	Auto	Pionerr	No	No	256,066	53,963	1,135	311,164	1.433	923	86.02
Heliocarpus popayanemnsis Kunth	Malvaceae	Anem	Pionerr	No	No	259,848	33,240	5,438	298,526	1.375	585	54.52
Cedrela fissilis Vell.	Meliaceae	Anem	In Sec	No	VU	251,786	32,241	11,136	295,163	1.359	946	88.16
Anadenanthera colubrina (Vell.) Brenan var. colubrina	Fabaceae	Anem	In Sec	Yes	No	200,573	9,352	1,372	286,025	1.317	812	75.68

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Seedlings (N)	Relative abundance	N of plantings	Freq. in plantings (%)
Solanum granulosoleprosum Dunal	Solanaceae	Zoo	Pionerr	No	No	251,527	19,796	12,540	283,863	1.307	340	31.69
Mimosa bimucronata (DC.) Kuntze	Fabaceae	Anem	Pionerr	Yes	No	70,531	3,628	18,290	259,137	1.193	591	55.08
Gallesia integrifolia (Spreng.) Harms	Phytolaccaceae	Anem	In Sec	No	No	243,146	11,926	2,942	258,014	1.188	824	76.79
Senna multijuga (Rich.) H.S.Irwin & Barneby	Fabaceae	Auto	Pionerr	No	No	239,422	8,261	3,775	251,458	1.158	640	59.65
Peltophorum dubium (Spreng.) Taub.	Fabaceae	Anem	In Sec	No	No	233,552	102,62	4,491	248,305	1.143	842	78.47
Senegalia polyphylla (DC.) Britton & Rose	Fabaceae	Auto	Pionerr	Yes	No	215,961	8,700	2,000	226,661	1.044	783	72.97
Tabebuia roseoalba (Ridl.) Sandwith	Bignoniaceae	Anem	In Sec	No	No	202,423	9,211	2,750	214,384	0.987	818	76.23
Inga vera Willd.	Fabaceae	Zoo	In Sec	Yes	No		1,500		214,033	0.986	591	55.08
Anadenanthera colubrina var. cebil (Griseb.) Altschul	Fabaceae	Anem	In Sec	Yes	No	237,150	15,373	33,502	211,297	0.973	885	82.48
Ficus guaranitica Chodat	Moraceae	Zoo	In Sec	No	No	199,423	6,975	2,072	208,470	0.960	800	74.56
Enterolobium contortisiliquum (Vell.) Morong	Fabaceae	Zoo	In Sec	Yes	No	191,774	8,077	2,572	202,423	0.932	841	78.38
Myracrodruon urundeuva Allemão	Anacardiaceae	Anem	Late sec	No	No	180,098	14,908	475	195,481	0.900	711	66.26
Luehea divaricata Mart. & Zucc.	Malvaceae	Anem	In Sec	No	No	157,649	16,000	19,332	192,981	0.889	769	71.67
Lafoensia pacari A.St.-Hil.	Lythraceae	Anem	In Sec	No	No	155,252	29,467	1,954	186,673	0.860	788	73.44
Genipa americana L.	Rubiaceae	Zoo	In Sec	No	No	178,944	5,404	485	184,833	0.851	750	69.90
Maclura tinctoria (L.) D.Don ex Steud.	Moraceae	Zoo	In Sec	No	No	173,296	5,981	1,884	181,161	0.834	636	59.27
Cecropia pachystachya Trécul	Urticaceae	Zoo	Pionerr	No	No	168,701	4,617	1,299	174,617	0.804	763	71.11
Trema micrantha (L.) Blume	Cannabaceae	Zoo	Pionerr	No	No	157,596	15,315	1,574	174,485	0.804	671	62.53
Handroanthus impetiginosus (Mart. ex DC.) Mattos	Bignoniaceae	Anem	Late sec	No	No	160,209	9,154	4,458	173,821	0.800	637	59.37
Pterogyne nitens Tul.	Fabaceae	Anem	In Sec	No	No	157,384	7,888	260	165,532	0.762	639	59.55

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Seedlings (N)	Relative abundance	N of plantings	Freq. in plantings (%)
Aloysia virgata (Ruiz & Pav.) Juss.	Verbenaceae	Anem	Pionerr	No	No	149,315	11,807	2,939	164,061	0.756	473	44.08
Luehea grandiflora Mart. & Zucc.	Malvaceae	Anem	Pionerr	No	No	153,189	2,503	7,765	163,457	0.753	695	64.77
Albizia niopoides (Spruce ex Benth.) Burkart	Fabaceae	Anem	In Sec	Yes	No	160,447	2,317	280	163,044	0.751	606	56.48
Psidium cattleyanum Sabine	Myrtaceae	Zoo	In Sec	No	No	123,966	19,457	17,761	161,184	0.742	531	49.49
Eugenia involucrata DC.	Myrtaceae	Zoo	Late sec	No	No	131,975	14,176	14,495	160,646	0.740	643	59.93
Hymenaea courbaril L.	Fabaceae	Zoo	Late sec	No	No	147,472	12,063	94	159,629	0.735	612	57.04
Psidium myrtoides O.Berg	Myrtaceae	Zoo	Late sec	No	EN	146,528	10,507	1,927	158,962	0.732	619	57.69
Cordia trichotoma (Vell.) Arráb. ex Steud.	Boraginaceae	Anem	Pionerr	No	No	144,270	12,727	1,345	158,342	0.729	731	68.13
Cariniana estrellensis (Raddi) Kuntze	Lecythidaceae	Anem	Late sec	No	No	141,656	14,613	715	156,984	0.723	776	72.32
Astronium graveolens Jacq.	Anacardiaceae	Anem	In Sec	No	No	153,332	1,443	1,064	155,839	0.718	781	72.79
Ficus eximia Schott	Moraceae	Zoo	In Sec	No	No	149,587	1,134	1,865	152,586	0.703	468	43.62
Poecilanthe parviflora Benth.	Fabaceae	Auto	Late sec	Yes	No	144,799	3,505	365	148,669	0.685	637	59.37
Vassobia breviflora (Sendtn.) Hunz.	Solanaceae	Zoo	Pionerr	No	No	143,853	1,80	3,095	147,128	0.678	292	27.21
Jacaranda cuspidifolia Mart.	Bignoniaceae	Anem	Pionerr	No	No	136,007	5,330	5,780	147,117	0.677	560	52.19
Myroxylon peruiferum L.f.	Fabaceae	Anem	Late sec	No	No	141,431	4,925	415	146,771	0.676	794	74.00
Aegiphila integrifolia (Jacq.) Moldenke	Lamiaceae	Zoo	Pionerr	No	No	126,433	15,117	2,315	143,865	0.663	661	61.60
Myrsine coriacea (Sw.) R.Br. ex Roem. & Schult.	Primulaceae	Zoo	Pionerr	No	No	126,623	10,722	5,058	142,403	0.656	651	60.67
Solanum caavurana Vell.	Solanaceae	Zoo	Pionerr	No	No	132,055	150	1,460	133,665	0.616	323	30.10
Jacaratia spinosa (Aubl.) A.DC.	Caricaceae	Zoo	In Sec	No	No	125,588	6,133	295	132,016	0.608	709	66.08
ANohornea triplinervia (Spreng.) Müll.Arg.	Euphorbiaceae	Zoo	In Sec	No	No	106,553	21,178	1,308	129,039	0.594	511	47.62
Psidium guajava L.*	Myrtaceae	Zoo	Pionerr	No	No	120,056	6,939	1,182	128,177	0.590	444	41.38

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Seedlings (N)	Relative abundance	N of plantings	Freq. in plantings (%)
Handroanthus chrysotrichus (Mart. ex DC.) Mattos	Bignoniaceae	Anem	In Sec	No	No	112,457	10,036	1,308	123,801	0.570	661	61.60
Colubrina glandulosa Perkins	Rhamnaceae	Zoo	In Sec	No	No	115,724	6,623	322	122,669	0.565	550	51.26
Cordia ecalyculata Vell.	Boraginaceae	Zoo	In Sec	No	No	102,329	19,004	911	122,244	0.563	718	66.92
Handroanthus heptaphyllus (Vell.) Mattos	Bignoniaceae	Anem	In Sec	No	No	113,653	5,871	508	120,032	0.553	535	49.86
Ficus insipida Willd.	Moraceae	Zoo	Pionerr	No	No	101,000	14,545	2,570	118,115	0.544	489	45.57
Solanum L.	Solanaceae	Zoo	Pionerr	No	-	110,497	4,275	1,975	116,747	0.538	295	27.49
Triplaris americana L.	Polygonaceae	Anem	In Sec	No	No	100,734	9,118	5,702	115,554	0.532	384	35.79
Pseudobombax grandiflorum (Cav.) A.Robyns	Malvaceae	Anem	In Sec	No	No	91,863	14,471	7,570	113,904	0.525	467	43.52
Cordia superba Cham.	Boraginaceae	Zoo	Late sec	No	No	92,871	20,756	187	113,814	0.524	536	49.95
Tapirira guianemnsis Aubl.	Anacardiaceae	Zoo	In Sec	No	No	102,532	8,417	900	111,849	0.515	484	45.11
Dictyoloma vandellianum A.Juss.	Rutaceae	Anem	In Sec	No	No	107,263	1,472	940	109,675	0.505	466	43.43
Anadenanthera peregrina var. *falcata* (Benth.) Altschul	Fabaceae	Anem	In Sec	Yes	No	101,790	4,808	1,005	107,603	0.496	549	51.16
Cedrela odorata L.	Meliaceae	Anem	In Sec	No	VU	100,855	5,954	250	107,059	0.493	385	35.88
Tabernaemontana hystrix Steud.	Apocynaceae	Zoo	Pionerr	No	No	95,428	8,102	2,577	106,107	0.489	551	51.35
ANohornea glandulosa Poepp. & Endl.	Euphorbiaceae	Zoo	Pionerr	No	No	79,609	25,227	1,187	106,023	0.488	384	35.79
Bauhinia forficata Link	Fabaceae	Auto	Pionerr	No	No	96,491	6,028	1,737	104,256	0.480	654	60.95
Handroanthus serratifolius (Vahl) S.Grose	Bignoniaceae	Anem	Late sec	No	No	97,848	3,715	1,520	103,083	0.475	430	40.07
Aspidosperma polyneuron Müll.Arg.	Apocynaceae	Anem	Late sec	No	No	97,193	4,444	640	102,277	0.471	733	68.31
Phytolacca dioica L.	Phytolaccaceae	Zoo	In Sec	No	No	90,100	8,497	2,435	101,032	0.465	459	42.78
Cecropia hololeuca Miq.	Urticaceae	Zoo	Pionerr	No	No	96,338	3,059	942	100,339	0.462	478	44.55

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Seedlings (N)	Relative abundance	N of plantings	Freq. in plantings (%)
Campomanemsia xanthocarpa (Mart.) O.Berg	Myrtaceae	Zoo	Late sec	No	No	89,722	3,972	6,380	100,074	0.461	547	50.98
Zeyheria tuberculosa (Vell.) Bureau ex Verl.	Bignoniaceae	Anem	Late sec	No	VU	96,542	1,855	201	98,598	0.454	545	50.79
Inga edulis Mart.	Fabaceae	Zoo	In Sec	Yes	No	90,409	7,076	885	98,370	0.453	558	52.00
Platypodium elegans Vogel	Fabaceae	Anem	In Sec	Yes	No	95,544	1,350		96,894	0.446	309	28.80
Myrsine guianemnsis (Aubl.) Kuntze	Primulaceae	Zoo	In Sec	No	No	86,440	6,906	780	94,126	0.433	465	43.34
Copaifera langsdorffii Desf.	Fabaceae	Zoo	Late sec	No	No	84,680	8,390	201	93,271	0.430	550	51.26
Mimosa scabrella Benth.	Fabaceae	Auto	Pionerr	Yes	No	300			92,449	0.426	156	14.54
Bastardiopsis densiflora (Hook. & Arn.) Hassl.	Malvaceae	Zoo	In Sec	No	No	86,449	2,677	2,250	91,376	0.421	315	29.36
Aspidosperma cylindrocarpon Müll.Arg.	Apocynaceae	Anem	Late sec	No	No	86,590	4,208	388	91,186	0.420	645	60.11
Eugenia brasiliensis Lam.	Myrtaceae	Zoo	Late sec	No	No	82,300	6,157	1,449	89,906	0.414	561	52.28
Pterocarpus rohrii Vahl	Fabaceae	Anem	In Sec	Yes	No	85,135	4,283	82	89,500	0.412	329	30.66
Lonchocarpus cultratus (Vell.) A.M.G.Azevedo & H.C.Lima	Fabaceae	Anem	In Sec	Yes	No	77,368	9,524	1,400	88,292	0.407	296	27.59
Nectandra megapotamica (Spreng.) Mez	Lauraceae	Zoo	In Sec	No	No	81,073	4,836	278	86,187	0.397	643	59.93
Pleroma granulosum (Desr.) D. Don	Melastomataceae	Anem	Pionerr	No	No	78,889	5,716	779	85,384	0.393	476	44.36
Lithraea molleoides (Vell.) Engl.	Anacardiaceae	Zoo	Pionerr	No	No	78,839	5,097	690	84,626	0.390	509	47.44
Zanthoxylum riedelianum Engl.	Rutaceae	Zoo	In Sec	No	No	82,678	275	42	82,995	0.382	311	28.98
Inga marginata Willd. **	Fabaceae	Zoo	In Sec	Yes	No	66,208	12,852	2,392	81,452	0.375	433	40.35
Casearia sylvestris Sw.	Salicaceae	Zoo	In Sec	No	No	67,687	10,879	2,830	81,396	0.375	443	41.29
Mabea fistulifera Mart.	Euphorbiaceae	Auto	Pionerr	No	No	75,474	4,221	65	79,760	0.367	373	34.76
Eugenia pyriformis Cambess.	Myrtaceae	Zoo	In Sec	No	No	64,936	9,302	5,321	79,559	0.366	577	53.77

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Seedlings (N)	Relative abundance	N of plantings	Freq. in plantings (%)
Allophylus edulis (A.St.-Hil. et al.) Hieron. ex Niederl.	Sapindaceae	Zoo	In Sec	No	No	60,419	10,893	7,599	78,911	0.363	475	44.27
Prunus myrtifolia (L.) Urb.	Rosaceae	Zoo	In Sec	No	No	65,490	8,454	4,943	78,887	0.363	403	37.56
Schinus molle L.	Anacardiaceae	Zoo	Pionerr	No	No	73,683	2,102	410	76,195	0.351	475	44.27
Piptadenia gonoacantha (Mart.) J.F.Macbr.	Fabaceae	Anem	Pionerr	Yes	No	71,374	3,466	1127	75,967	0.350	379	35.32
Ormosia arborea (Vell.) Harms	Fabaceae	Zoo	In Sec	Yes	No	71,494	2,354	40	73,888	0.340	403	37.56
Zanthoxylum rhoifolium Lam.	Rutaceae	Zoo	In Sec	No	No	70,526	2,308	729	73,563	0.339	273	25.44
Mabea piriri Aubl.	Euphorbiaceae	Auto	Pionerr	No	No	71,694	1,110	100	72,904	0.336	271	25.26
Casearia gossypiosperma Briq.	Salicaceae	Zoo	In Sec	No	No	70,630	1,159		71,789	0.331	316	29.45
Solanum pseudoquina A.St.-Hil.	Solanaceae	Zoo	Pionerr	No	No	47,686	22,357	1133	71,176	0.328	306	28.52
Annona cacans Warm.	Annonaceae	Zoo	In Sec	No	No	63,711	4,140	3137	70,988	0.327	529	49.30
Cabralea canjerana (Vell.) Mart.	Meliaceae	Zoo	In Sec	No	No	61,217	7,333	565	69,115	0.318	491	45.76
Jacaranda macrantha Cham.	Bignoniaceae	Anem	In Sec	No	No	65,180	3,229	252	68,661	0.316	348	32.43
Libidibia ferrea (Mart. ex Tul.) L.P.Queiroz	Fabaceae	Auto	In Sec	No	No	63,983	2,822	205	67,010	0.309	459	42.78
Sapindus saponaria L.	Sapindaceae	Zoo	In Sec	No	No	63,789	2,131	110	66,030	0.304	290	27.03
Guarea guidonia (L.) Sleumer	Meliaceae	Zoo	Late sec	No	No	60,088	3,599	120	63,807	0.294	244	22.74
Moquiniastrum polymorphum (Less.) G. Sancho	Asteraceae	Anem	Pionerr	No	No	58,938	2,484	750	62,172	0.286	237	22.09
Joannesia princeps Vell.	Euphorbiaceae	Zoo	In Sec	No	No	58,845	2,609		61,454	0.283	242	22.55
Solanum argenteum Dunal	Solanaceae	Zoo	Pionerr	No	No	58,678	2,178	490	61,346	0.283	300	27.96
Rhamnidium elaeocarpum Reissek	Rhamnaceae	Zoo	In Sec	No	No	59,782	1,485	20	61,287	0.282	250	23.30
Apeiba tibourbou Aubl.	Malvaceae	Auto	Pionerr	No	No	56,494	4,117	52	60,663	0.279	221	20.60
Helietta apiculata Benth.	Rutaceae	Anem	In Sec	No	No	58,610	1,394		60,004	0.276	157	14.63

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Eugenia myrcianthes Nied.	Myrtaceae	Zoo	In Sec	No	No	54,889	4,667	330	59,886	0.276	367	34.20
Euterpe edulis Mart.	Arecaceae	Zoo	Late sec	No	**VU**	35,752	21,231	520	57,503	0.265	256	23.86
Dilodendron bipinnatum Radlk.	Sapindaceae	Zoo	In Sec	No	No	56,991	450		57,441	0.265	183	17.05
Vitex megapotamica (Spreng.) Moldenke	Lamiaceae	Zoo	In Sec	No	No	49,349	2,694	4699	56,742	0.261	401	37.37
Astronium fraxinifolium Schott	Anacardiaceae	Anem	In Sec	No	No	56,252	150	305	56,707	0.261	363	33.83
Esenbeckia leiocarpa Engl.	Rutaceae	Auto	Late sec	No	No	53,753	2,645		56,398	0.260	269	25.07
Cariniana legalis (Mart.) Kuntze	Lecythidaceae	Anem	Late sec	No	**EN**	54,523	1,810	25	56,358	0.260	352	32.81
Apuleia leiocarpa (Vogel) J.F.Macbr. **	Fabaceae	Anem	In Sec	No	**VU**	54,312	190		54,502	0.251	158	14.73
Machaerium nictitans (Vell.) Benth.	Fabaceae	Anem	In Sec	Yes	No	50,697	3,334	200	54,231	0.250	283	26.37
Myrsine umbellata Mart.	Primulaceae	Zoo	In Sec	No	No	48,681	4,739	580	54,000	0.249	245	22.83
Balfourodendron riedelianum (Engl.) Engl.	Rutaceae	Anem	In Sec	No	No	48,098	5,399	36	53,533	0.247	390	36.35
Cordia americana (L.) Gottschling & J.S.Mill.	Boraginaceae	Anem	In Sec	No	No	50,619	2,182	64	52,865	0.243	249	23.21
Dendropanax cuneatus (DC.) Decne. & Planch.	Araliaceae	Zoo	In Sec	No	No	43,596	8,416	95	52,107	0.240	335	31.22
Stryphnodendron adstringens (Mart.) Coville	Fabaceae	Auto	Pionerr	Yes	No	51,618	250		51,868	0.239	157	14.63
Erythrina mulungu Mart.	Fabaceae	Anem	Sec	Yes	No	43,096	7,590	115	50,801	0.234	181	16.87
Duguetia lanceolata A.St.-Hil.**	Annonaceae	Zoo	Late sec	No	No	48,777	1,215		49,992	0.230	195	18.17
Cordia sellowiana Cham.	Boraginaceae	Zoo	In Sec	No	No	42,842	5,881	845	49,568	0.228	398	37.09
Centrolobium tomentosum Guillem. ex Benth.	Fabaceae	Anem	In Sec	Yes	No	44,258	4,922		49,180	0.226	227	21.16
Schizolobium parahyba (Vell.) Blake	Fabaceae	Anem	Pionerr	No	No	47,103	999	91	48,193	0.222	360	33.55
Terminalia glabrescens Mart.	Combretaceae	Anem	In Sec	No	No	46,954	1,067	145	48,166	0.222	233	21.71
Tabebuia aurea (Silva Manso) Benth. & Hook.f. ex S.Moore	Bignoniaceae	Anem	In Sec	No	No	44,530	2,785	100	47,415	0.218	181	16.87

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Seedlings (N)	Relative abundance	N of plantings	Freq. in plantings (%)
Aspidosperma parvifolium A.DC.	Apocynaceae	Anem	Late sec	No	No	41,422	5,132	185	46,739	0.215	369	34.39
Machaerium villosum Vogel	Fabaceae	Anem	In Sec	Yes	No	43,386	2,101	560	46,047	0.212	289	26.93
Terminalia argentea Mart.	Combretaceae	Anem	In Sec	No	No	43,832	2,150		45,982	0.212	215	20.04
Gymnanthes klotzschiana Müll.Arg. **	Euphorbiaceae	Auto	Pionerr	No	No	31,608	1,231	13013	45,852	0.211	132	12.30
Araucaria angustifolia (Bertol.) Kuntze	Araucariaceae	Zoo	In Sec	No	**EN**	21,519	15,569	8750	45,838	0.211	150	13.98
Calophyllum brasiliense Cambess.	Calophyllaceae	Zoo	In Sec	No	No	41,031	3,765	640	45,436	0.209	208	19.38
Inga sessilis (Vell.) Mart.	Fabaceae	Zoo	In Sec	Yes	No	40,797	2,807	465	44,069	0.203	339	31.59
Senna macranthera (DC. ex Collad.) H.S.Irwin & Barneby	Fabaceae	Auto	Pionerr	No	No	40,400	2,973	548	43,921	0.202	254	23.67
Solanum mauritianum Scop.	Solanaceae	Zoo	Pionerr	No	No	32,907	10,464	25	43,396	0.200	139	12.95
Nectandra grandiflora Nees	Lauraceae	Zoo	Late sec	No	No	36,698	5,187	63	41,948	0.193	241	22.46
Cybistax antisyphilitica (Mart.) Mart.	Bignoniaceae	Anem	In Sec	No	No	37,653	4,161		41,814	0.193	236	21.99
Syagrus romanzoffiana (Cham.) Glassman	Arecaceae	Zoo	In Sec	No	No	35,224	5,720	576	41,520	0.191	293	27.31
Handroanthus albus (Cham.) Mattos	Bignoniaceae	Anem	In Sec	No	No	36,485	3,770	1155	41,410	0.191	154	14.35
Albizia inundata (Mart.) Barneby & J.W.Grimes	Fabaceae	Auto	In Sec	Yes	No	24,584	15,790		40,374	0.186	77	7.18
Ficus enormis Mart. ex Miq.	Moraceae	Zoo	Late sec	No	No	38,725	68	1550	40,343	0.186	111	10.34
Lafoensia glyptocarpa Koehne	Lythraceae	Anem	Sec	No	No	32,040	7,686	180	39,906	0.184	159	14.82
Handroanthus ochraceus (Cham.) Mattos	Bignoniaceae	Anem	In Sec	No	No	38,676	825	82	39,583	0.182	197	18.36
Tabebuia insignis (Miq.) Sandwith	Bignoniaceae	Anem	In Sec	No	No	38,740	685		39,425	0.182	153	14.26
Annona sylvatica A.St.-Hil.	Annonaceae	Zoo	In Sec	No	No	31,801	4,903	2495	39,199	0.181	402	37.47
Machaerium stipitatum Vogel	Fabaceae	Anem	In Sec	Yes	No	35,713	2,128	1157	38,998	0.180	259	24.14
Solanum lycocarpum A.St.-Hil.	Solanaceae	Zoo	Pionerr	No	No	38,066	185		38,251	0.176	179	16.68

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Seedlings (N)	Relative abundance	N of plantings	Freq. in plantings (%)
Syagrus oleracea (Mart.) Becc.	Arecaceae	Zoo	In Sec	No	No	37,175	860		38,035	0.175	105	9.79
Jacaranda micrantha Cham.	Bignoniaceae	Anem	In Sec	No	No	32,904	4,446	255	37,605	0.173	204	19.01
Pera glabrata (Schott) Baill.	Peraceae	Zoo	In Sec	No	No	34,232	912	20	35,164	0.162	205	19.11
Bixa orellana L.	Bixaceae	Zoo	Pionerr	No	No	32,425	2,639		35,064	0.161	218	20.32
Citharexylum solanaceum Cham.	Verbenaceae	Zoo	In Sec	No	No	27,578	3,050	3275	33,903	0.156	134	12.49
Eugenia florida DC.	Myrtaceae	Zoo	In Sec	No	No	31,254	2,309	290	33,853	0.156	267	24.88
Croton jacobinensis Baill.	Euphorbiaceae	Auto	Pionerr	No	No	30,957	2,010	50	33,017	0.152	66	6.15
Handroanthus umbellatus (Sond.) Mattos	Bignoniaceae	Anem	In Sec	No	No	31,050	1,295	400	32,745	0.151	105	9.79
Campomanemsia guazumifolia (Cambess.) O.Berg	Myrtaceae	Zoo	In Sec	No	No	28,868	3,573		32,441	0.149	113	10.53
Platycyamus regnellii Benth.	Fabaceae	Anem	Late sec	Yes	No	28,932	3,273		32,205	0.148	90	8.39
Annona coriacea Mart.	Annonaceae	Zoo	In Sec	No	No	31,053	980	150	32,183	0.148	97	9.04
Jacaranda puberula Cham.	Bignoniaceae	Anem	In Sec	No	No	29,191	2,587	156	31,934	0.147	157	14.63
Dalbergia nigra (Vell.) Allemão ex Benth.	Fabaceae	Anem	In Sec	Yes	**VU**	29,517	1,929		31,446	0.145	159	14.82
Margaritaria nobilis L.f.	Phyllanthaceae	Auto	In Sec	No	No	30,520	130	400	31,050	0.143	321	29.92
Machaerium acutifolium Vogel	Fabaceae	Anem	Pionerr	Yes	No	29,097	1,839		30,936	0.142	218	20.32
Pouteria caimito (Ruiz & Pav.) Radlk.	Sapotaceae	Zoo	Late sec	No	No	30,633	179		30,812	0.142	139	12.95
Dahlstedtia muehlbergiana (Hassl.) M.J.Silva & A.M.G. Azevedo	Fabaceae	Anem	In Sec	Yes	No	25,814	4,719	117	30,650	0.141	290	27.03
Plathymenia reticulata Benth.	Fabaceae	Anem	In Sec	Yes	No	28,446	300		28,746	0.132	108	10.07
Bauhinia longifolia (Bong.) Steud.	Fabaceae	Auto	In Sec	No	No	21,820	6,787	50	28,657	0.132	184	17.15
Cenostigma pluviosum (DC.) E. Gagnon & G.P. Lewis	Fabaceae	Auto	Pionerr	No	No	27,241	1,396		28,637	0.132	186	17.33

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Seedlings (N)	Relative abundance	N of plantings	Freq. in plantings (%)
Acnistus arborescens (L.) Schltdl.	Solanaceae	Zoo	In Sec	No	No	15,183	13,280	57	28,520	0.131	110	10.25
Schefflera morototoni (Aubl.) Maguire et al.	Araliaceae	Zoo	Pionerr	No	No	27,622	752		28,374	0.131	198	18.45
Psychotria L.	Rubiaceae	Zoo	Sec	No	-	24,118	725	3,168	28,011	0.129	62	5.78
Handroanthus vellosoi (Toledo) Mattos	Bignoniaceae	Anem	In Sec	No	No	26,264	1,550	112	27,926	0.129	111	10.34
Spondias mombin L.	Anacardiaceae	Zoo	In Sec	No	No	25,940	1,520		27,460	0.126	89	8.29
Albizia polycephala (Benth.) Killip ex Record	Fabaceae	Anem	In Sec	Yes	No	15,271	11,971	79	27,321	0.126	116	10.81
Aspidosperma subincanum Mart.	Apocynaceae	Anem	Late sec	No	No	25,482	1,353		26,835	0.124	177	16.50
Aspidosperma ramiflorum Müll.Arg.	Apocynaceae	Anem	Late sec	No	No	20,854	3,917	20	24,791	0.114	173	16.12
Cupania vernalis Cambess.	Sapindaceae	Zoo	In Sec	No	No	18,069	5,812	440	24,321	0.112	158	14.73
Annona mucosa Jacq.	Annonaceae	Zoo	In Sec	No	No	23,613	572	110	24,295	0.112	180	16.78
Protium heptaphyllum (Aubl.) Marchand	Burseraceae	Zoo	In Sec	No	No	22,162	1,503	120	23,785	0.110	126	11.74
Casearia decandra Jacq.	Salicaceae	Zoo	Late sec	No	No	22,170	1,078	275	23,523	0.108	129	12.02
*Cassia ferruginea (*Schrad.) Schrad. ex DC.	Fabaceae	Auto	In Sec	No	No	18,894	3,655	865	23,414	0.108	183	17.05
Monteverdia ilicifolia (Mart. ex Reissek) Biral	Celastraceae	Zoo	Sec	No	NA	19,879	3,012	475	23,366	0.108	243	22.65
Ocotea odorifera (Vell.) Rohwer	Lauraceae	Zoo	Late sec	No	**EN**	21,648	1,187	130	22,965	0.106	143	13.33
Rauvolfia sellowii Müll.Arg.	Apocynaceae	Zoo	In Sec	No	No	19,876	2,145	121	22,142	0.102	190	17.71
Tapirira obtusa (Benth.) J.D.Mitch.	Anacardiaceae	Zoo	In Sec	No	No	15,135	6,536		21,671	0.100	78	7.27
Seguieria langsdorffii Moq.	Phytolaccaceae	Anem	Late sec	No	No	12,059	9,463		21,522	0.099	114	10.62
Ilex paraguariensis A.St.-Hil.	Aquifoliaceae	Zoo	Late sec	No	No	19,289	950	920	21,159	0.097	161	15.00
Cestrum intermedium Sendtn.	Solanaceae	Zoo	In Sec	No	No	20,530	150	445	21,125	0.097	160	14.91
Ruprechtia laxiflora Meisn.	Polygonaceae	Anem	In Sec	No	No	20,833	50	20	20,903	0.096	99	9.23
Myrcia tomentosa (Aubl.) DC.	Myrtaceae	Zoo	In Sec	No	No	18,798	1,392	357	20,547	0.095	130	12.12

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Seedlings (N)	Relative abundance	N of plantings	Freq. in plantings (%)
Holocalyx balansae Micheli	Fabaceae	Zoo	Late sec	No	No	19,660	852	20	20,532	0.095	172	16.03
Psidium rufum Mart. ex DC.	Myrtaceae	Zoo	In Sec	No	No	12,684	7,660		20,344	0.094	145	13.51
Sapium glandulosum (L.) Morong	Euphorbiaceae	Zoo	Pionerr	No	No	14,860	4,561	665	20,086	0.092	149	13.89
Ocotea puberula (Rich.) Nees	Lauraceae	Zoo	Late sec	No	No	11,244	6,360	2,367	19,971	0.092	156	14.54
Sparattosperma leucanthum (Vell.) K.Schum.	Bignoniaceae	Anem	In Sec	No	No	17,018	2,441	80	19,539	0.090	93	8.67
Tabernaemontana catharinensis A.DC.	Apocynaceae	Zoo	Pionerr	No	No	16,424	2,662		19,086	0.088	55	5.13
Vitex polygama Cham.	Lamiaceae	Zoo	In Sec	No	No	11,806	4,144	2,852	18,802	0.087	108	10.07
Clitoria fairchildiana R.A.Howard	Fabaceae	Auto	In Sec	Yes	No	18,552	135		18,687	0.086	94	8.76
Cassia leptophylla Vogel	Fabaceae	Auto	In Sec	No	No	15,524	2,355	100	17,979	0.083	131	12.21
Chrysophyllum gonocarpum (Mart. & Eichler ex Miq.) Engl.	Sapotaceae	Zoo	Late sec	No	No	15,152	2,561	100	17,813	0.082	64	5.96
Ceiba glaziovii (Kuntze) K.Schum.	Malvaceae	Anem	Late sec	No	No	17,720	50		17,770	0.082	36	3.36
Strychnos brasiliensis Mart.	Loganiaceae	Zoo	In Sec	No	No	12,948	3,595	865	17,408	0.080	86	8.01
Erythrina speciosa Andrews	Fabaceae	Auto	In Sec	Yes	No	10,942	5,744	550	17,236	0.079	94	8.76
Diptychandra aurantiaca Tul.	Fabaceae	Anem	In Sec	No	No	17,210			17,210	0.079	43	4.01
Xylopia brasiliensis Spreng.	Annonaceae	Zoo	In Sec	No	No	16,292	500		16,792	0.077	58	5.41
Erythrina falcata Benth.	Fabaceae	Auto	In Sec	Yes	No	12,069	4,298	310	16,677	0.077	113	10.53
Aralia warmingiana (Marchal) J.Wen	Araliaceae	Zoo	In Sec	No	No	16,074	300		16,374	0.075	80	7.46
Schinopsis brasiliensis Engl.	Anacardiaceae	Anem	Pionerr	No	No	13,369	2,625		15,994	0.074	66	6.15
Guarea kunthiana A.Juss.	Meliaceae	Zoo	Late sec	No	No	10,643	5,036		15,679	0.072	123	11.46
Campomanemsia neriiflora (O.Berg) Nied.	Myrtaceae	Zoo	Late sec	No	No	12,627	2,740	275	15,642	0.072	111	10.34

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Seedlings (N)	Relative abundance	N of plantings	Freq. in plantings (%)
Crateva tapia L.	Capparaceae	Zoo	In Sec	No	No	14,948	500		15,448	0.071	46	4.29
Erythrina crista-galli L.	Fabaceae	Auto	In Sec	Yes	No	12,930	2,146	20	15,096	0.070	119	11.09
Licania tomentosa (Benth.) Fritsch	Chrysobalanaceae	Zoo	In Sec	No	No	14,006	969		14,975	0.069	103	9.60
Machaerium brasiliense Vogel	Fabaceae	Anem	In Sec	Yes	No	13,707	987	25	14,719	0.068	122	11.37
Guarea macrophylla Vahl	Meliaceae	Zoo	Late sec	No	No	12,218	2,224	70	14,512	0.067	86	8.01
Machaerium scleroxylon Tul. **	Fabaceae	Anem	In Sec	Yes	No	13,793	441	26	14,260	0.066	65	6.06
Enterolobium timbouva Mart.	Fabaceae	Zoo	In Sec	Yes	No	7,355	6,851		14,206	0.065	33	3.08
Myrocarpus frondosus Allemão	Fabaceae	Anem	Late sec	No	No	11,951	1,772	120	13,843	0.064	110	10.25
Erythroxylum deciduum A.St.-Hil.	Erythroxylaceae	Zoo	In Sec	No	No	10,849	2,395	324	13,568	0.062	114	10.62
Diospyros inconstans Jacq.	Ebenaceae	Zoo	In Sec	No	No	11,533	1,610	186	13,329	0.061	196	18.27
Myrciaria tenella (DC.) O.Berg	Myrtaceae	Zoo	In Sec	No	DD	5,672	3,425	3,987	13,084	0.060	57	5.31
Magnolia ovata (A.St.-Hil.) Spreng.	Magnoliaceae	Zoo	Late sec	No	No	8,421	4,213	400	13,034	0.060	109	10.16
Pterodon pubescens (Benth.) Benth.	Fabaceae	Anem	Sec	No	No	13,016			13,016	0.060	89	8.29
Plinia peruviana (Poir.) Govaerts	Myrtaceae	Zoo	In Sec	No	No	11,846	527	527	12,900	0.059	106	9.88
Diatenopteryx sorbifolia Radlk.	Sapindaceae	Anem	In Sec	No	No	12,795			12,795	0.059	61	5.68
Matayba elaeagnoides Radlk.	Sapindaceae	Zoo	In Sec	No	No	8,739	3,995	60	12,794	0.059	151	14.07
Miconia cinnamomifolia (DC.) Naudin	Melastomataceae	Zoo	Pionerr	No	No	1,080	100		12,649	0.058	87	8.11
Terminalia triflora (Griseb.) Lillo **	Combretaceae	Anem	Late sec	No	No	10,868	1,672	20	12,560	0.058	106	9.88
Plinia cauliflora (Mart.) Kausel	Myrtaceae	Zoo	Late sec	No	No	11,300	990	152	12,442	0.057	163	15.19
Acrocomia aculeata (Jacq.) Lodd. ex Mart.	Arecaceae	Zoo	Pionerr	No	No	11,862	490	80	12,432	0.057	75	6.99
Senna pendula (Humb.& Bonpl.ex Willd.) H.S.Irwin & Barneby	Fabaceae	Auto	Pionerr	No	No	8,960	2,787		11,747	0.054	33	3.08

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Seedlings (N)	Relative abundance	N of plantings	Freq. in plantings (%)
Eriotheca gracilipes (K.Schum.) A.Robyns	Malvaceae	Anem	In Sec	No	No	11,607			11,607	0.053	52	4.85
Inga striata Benth.	Fabaceae	Zoo	In Sec	Yes	No	10,118	1,355		11,473	0.053	51	4.75
Vasconcellea quercifolia A.St.-Hil.	Caricaceae	Zoo	Pionerr	No	No	9,890	1,213	190	11,293	0.052	127	11.84
Posoqueria acutifolia Mart.	Rubiaceae	Zoo	Late sec	No	No	8,581	2,133	325	11,039	0.051	81	7.55
Annona glabra L.	Annonaceae	Zoo	Pionerr	No	No	9,125	1,280	50	10,455	0.048	51	4.75
Bauhinia holophylla (Bong.) Steud.	Fabaceae	Auto	Pionerr	No	No	8,846	1,500		10,346	0.048	66	6.15
Trichilia catigua A.Juss.	Meliaceae	Zoo	In Sec	No	No	8,022	1,821	100	9,943	0.046	93	8.67
Ocotea punohella (Nees & Mart.) Mez	Lauraceae	Zoo	In Sec	No	No	1,968	424	7377	9,769	0.045	55	5.13
Guapira opposita (Vell.) Reitz	Nyctaginaceae	Zoo	In Sec	No	No	4,287	4,372	760	9,419	0.043	54	5.03
Machaerium aculeatum Raddi	Fabaceae	Anem	In Sec	Yes	No	8,950	300	100	9,350	0.043	73	6.80
Achatocarpus praecox Griseb.	Achatocarpacea e	Zoo	Late sec	No	No	8,675	50	345	9,070	0.042	159	14.82
Caryocar brasiliense Cambess.	Caryocaraceae	Zoo	In Sec	No	No	8,975			8,975	0.041	65	6.06
Cordiera sessilis (Vell.) Kuntze	Rubiaceae	Zoo	In Sec	No	No	7,639	110	1,200	8,949	0.041	50	4.66
Mimosa caesalpiniifolia Benth.	Fabaceae	Anem	Pionerr	Yes	No	3,492			8,775	0.040	39	3.63
Eriotheca candolleana (K.Schum.) A.Robyns	Malvaceae	Anem	In Sec	No	No	8,396	344		8,740	0.040	42	3.91
Persea willdenovii Kosterm.	Lauraceae	Zoo	Late sec	No	No	2,282	6,133		8,415	0.039	62	5.78
Lecythis pisonis Cambess.	Lecythidaceae	Zoo	Late sec	No	No	7,596	400		7,996	0.037	74	6.90
Dalbergia miscolobium Benth.	Fabaceae	Anem	In Sec	Yes	No	7,793	150		7,943	0.037	35	3.26
Pachira glabra Pasq.	Malvaceae	Zoo	In Sec	No	No	7,113	750		7,863	0.036	64	5.96
Trichilia casaretti C.DC. **	Meliaceae	Zoo	Late sec	No	No	4,234	3,397		7,631	0.035	74	6.90
Pouteria ramiflora (Mart.) Radlk.	Sapotaceae	Zoo	Late sec	No	No	7,403	20		7,423	0.034	37	3.45
Amburana cearensis (Allemão) A.C.Sm.	Fabaceae	Anem	In Sec	No	No	7,346			7,346	0.034	69	6.43

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Muellera campestris (Mart. ex Benth.) M.J. Silva & A.M.G. Azevedo	Fabaceae	Anem	In Sec	Yes	No	6,600	636	24	7,260	0.033	45	4.19
Citronella gongonha (Mart.) R.A.Howard	Cardiopteridaceae	Zoo	Late sec	No	No	5,324	1,715	100	7,139	0.033	30	2.80
Pouteria torta (Mart.) Radlk.	Sapotaceae	Zoo	In Sec	No	No	6,580	250	280	7,110	0.033	57	5.31
Spondias venulosa (Engl.) Engl.	Anacardiaceae	Zoo	In Sec	No	No	5,620	1,080	400	7,100	0.033	40	3.73
Cryptocarya aschersoniana Mez	Lauraceae	Zoo	Late sec	No	No	4,936	1,879	200	7,015	0.032	76	7.08
Sebastiania brasiliensis Spreng.	Euphorbiaceae	Auto	In Sec	No	No	6,093	912		7,005	0.032	37	3.45
Erythrina verna Vell.	Fabaceae	Auto	In Sec	Yes	No	6,897		100	6,997	0.032	49	4.57
Trichilia pallida Sw.	Meliaceae	Zoo	Late sec	No	No	3,790	3,119		6,909	0.032	69	6.43
Esenbeckia grandiflora Mart.	Rutaceae	Auto	Late sec	No	No	3,372	3,281		6,653	0.031	50	4.66
Qualea grandiflora Mart.	Vochysiaceae	Anem	In Sec	No	No	5,577	985		6,562	0.030	54	5.03
Luetzelburgia auriculata (Allemão) Ducke **	Fabaceae	Anem	In Sec	No	No	5,065	1,383	20	6,468	0.030	66	6.15
Bauhinia cheilantha (Bong.) Steud.	Fabaceae	Auto	In Sec	No	No	3,581	2,800		6,381	0.029	36	3.36
Trichilia elegans A.Juss.	Meliaceae	Zoo	Late sec	No	No	5,298	775		6,073	0.028	53	4.94
Styrax camporum Pohl	Styracaceae	Zoo	In Sec	No	No	3,736	2,312		6,048	0.028	51	4.75
Nectandra cissiflora Nees	Lauraceae	Zoo	In Sec	No	No	4,760	1,020	85	5,865	0.027	64	5.96
Erythroxylum tortuosum Mart.	Erythroxylaceae	Zoo	Sec	No	No	5,752	40	60	5,852	0.027	50	4.66
Trichilia clausseni C.DC.	Meliaceae	Zoo	Late sec	No	No	4,084	1,624		5,708	0.026	46	4.29
Eugenia aff. *malacantha* D. Legrand	NA	Zoo	Sec	No	**EN**	3,559	1,726	200	5,485	0.025	36	3.36
Ficus gomelleira Kunth	Moraceae	Zoo	In Sec	No	No	5,262			5,262	0.024	18	1.68
Myrcia ilheosensis Kiaersk.	Myrtaceae	Zoo	Late sec	No	No	5,258			5,258	0.024	5	0.47
Ficus obtusifolia Kunth	Moraceae	Zoo	In Sec	No	No	4,525	700		5,225	0.024	19	1.77
Senna spectabilis (DC.) H.S.Irwin & Barneby	Fabaceae	Auto	Pionerr	No	No	4,049	1,065		5,114	0.024	34	3.17

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Leucochloron incuriale (Vell.) Barneby & J.W.Grimes	Fabaceae	Auto	In Sec	Yes	No	3,253	1,780		5,033	0.023	56	5.22
Amaioua guianemnsis Aubl.	Rubiaceae	Zoo	In Sec	No	No	4,283	747		5,030	0.023	44	4.10
Tabebuia nodosa (Griseb.) Griseb.	Bignoniaceae	Anem	Sec	No	No	4,800	150	52	5,002	0.023	40	3.73
Erythroxylum argentinum O.E.Schulz	Erythroxylaceae	Zoo	In Sec	No	No	3,954	992		4,946	0.023	31	2.89
Vernonanthura polyanthes (Sprengel) Vega & Dematteis	Asteraceae	Anem	Pionerr	No	No	4,095	780		4,875	0.022	31	2.89
Garcinia gardneriana (Planch. & Triana) Zappi	Clusiaceae	Zoo	Late sec	No	No	3,615	635	550	4,800	0.022	41	3.82
Campomanemsia guaviroba (DC.) Kiaersk.	Myrtaceae	Zoo	Late sec	No	No	1,180	3,600		4,780	0.022	13	1.21
Terminalia mameluco Pickel	Combretaceae	Anem	In Sec	No	No	4,265	500		4,765	0.022	34	3.17
Pseudobombax longiflorum (Mart.) A.Robyns	Malvaceae	Anem	In Sec	No	No	4,571	192		4,763	0.022	13	1.21
Senna alata (L.) Roxb.	Fabaceae	Auto	Pionerr	No	No	1,998	2,760		4,758	0.022	22	2.05
Dalbergia frutescens (Vell.) Britton **	Fabaceae	Anem	In Sec	Yes	No	4,362	392		4,754	0.022	50	4.66
Campomanemsia phaea (O.Berg) Landrum	Myrtaceae	Zoo	Late sec	No	No	1,775	2,853		4,628	0.021	30	2.80
Blepharocalyx salicifolius (Kunth) O.Berg	Myrtaceae	Zoo	Late sec	No	No	2,579	1,471	450	4,500	0.021	48	4.47
Myrcia neoclusiifolia A.R.Lourenço & E.Lucas	Myrtaceae	Zoo	In Sec	No	No	1,654	2,812		4,466	0.021	28	2.61
Bougainvillea spectabilis Willd.	Nyctaginaceae	Anem	Late sec	No	No	4,305	150		4,455	0.021	44	4.10
Myrciaria glomerata O.Berg	Myrtaceae	Zoo	In Sec	No	No	4,429			4,429	0.020	42	3.91
Ocotea catharinensis Mez	Lauraceae	Zoo	Late sec	No	**VU**	2,267	1,754	200	4,221	0.019	18	1.68
Protium spruceanum (Benth.) Engl.	Burseraceae	Zoo	Late sec	No	No	3,640	270		3,910	0.018	20	1.86
Taliparitipernambucense (Arruda) Bovini	Malvaceae	Anem	Sec	No	No	2,830	842	70	3,742	0.017	24	2.24
Miconia pusilliflora (DC.) Naudin	Melastomataceae	Zoo	Pionerr	No	No	100			3,724	0.017	7	0.65

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Seedlings (N)	Relative abundance	N of plantings	Freq. in plantings (%)
Xylosma ciliatifolia (Clos) Eichler	Salicaceae	Zoo	Late sec	No	No	1,529	2,166		3,695	0.017	8	0.75
Paubrasilia echinata (Lam.) Gagnon H.C.Lima & G.P.Lewis	Fabaceae	Auto	Pionerr	No	**EN**	2,641	1,004		3,645	0.017	19	1.77
Plinia rivularis (Cambess.) Rotman	Myrtaceae	Zoo	Late sec	No	No	2,810	823		3,633	0.017	26	2.42
Pleroma mutabile (Vell.) Triana	Melastomataceae	Anem	Pionerr	No	No	2,674	779	150	3,603	0.017	36	3.36
Vochysia bifalcata Warm.	Vochysiaceae	Anem	In Sec	No	No	3,167	24	398	3,589	0.017	63	5.87
Magonia pubescens A.St.-Hil.	Sapindaceae	Anem	In Sec	No	No	3,488	100		3,588	0.017	28	2.61
Eriotheca pentaphylla (Vell. & K.Schum.) A.Robyns	Malvaceae	Anem	In Sec	No	No	3,476	83		3,559	0.016	16	1.49
Mimosa artemisiana Heringer & Paula	Fabaceae	Auto	Pionerr	Yes	No	7,079	1,696		3,492	0.016	23	2.14
Boehmeria caudata Sw.	Urticaceae	Zoo	Pionerr	No	No	2,370	975		3,345	0.015	16	1.49
Ternstroemia brasiliensis Cambess.	Pentaphylacaceae	Zoo	In Sec	No	No	2,855	477		3,332	0.015	25	2.33
Solanum sanctae-catharinae Dunal	Solanaceae	Zoo	In Sec	No	No	3,246	50		3,296	0.015	21	1.96
Spondias tuberosa Arruda	Anacardiaceae	Zoo	In Sec	No	No	2,573	700		3,273	0.015	15	1.40
Machaerium paraguariense Hassl.	Fabaceae	Anem	In Sec	Yes	No	2,782	391		3,173	0.015	15	1.40
Simira sampaioana (Standl.) Steyerm. **	Rubiaceae	Anem	Late sec	No	No	3,038	100		3,138	0.014	16	1.49
Sterculia striata A.St.-Hil. & Naudin	Malvaceae	Zoo	In Sec	No	No	2,883	250		3,133	0.014	27	2.52
Guatteria australis A.St.-Hil.	Annonaceae	Zoo	In Sec	No	No	2,940	20	100	3060	0.014	17	1.58
Ecclinusa ramiflora Mart.	Sapotaceae	Zoo	Late sec	No	No	2,940			2,940	0.014	36	3.36
Calliandra brevipes Benth.	Fabaceae	Auto	Pionerr	Yes	No	670	2,261		2,931	0.013	17	1.58
Erythrina velutina Willd.	Fabaceae	Auto	In Sec	Yes	No	2,564	360		2,924	0.013	30	2.80
Andira anthelmia (Vell.) Benth.	Fabaceae	Zoo	In Sec	Yes	No	462	2,356	100	2,918	0.013	38	3.54
Galipea jasminiflora (A.St.-Hil.) Engl.	Rutaceae	Auto	Late sec	No	No	2,623	100	100	2,823	0.013	19	1.77

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Seedlings (N)	Relative abundance	N of plantings	Freq. in plantings (%)
Qualea dichotoma (Mart.) Warm.	Vochysiaceae	Anem	Late sec	No	No	2,299	518		2,817	0.013	14	1.30
Ocotea porosa (Nees & Mart.) Barroso	Lauraceae	Zoo	Late sec	No	**EN**	1,230	210	1,330	2,770	0.013	10	0.93
Aspidosperma pyrifolium Mart. & Zucc.	Apocynaceae	Anem	In Sec	No	No	2,510	175		2,685	0.012	22	2.05
Coutarea hexandra (Jacq.) K.Schum.	Rubiaceae	Anem	In Sec	No	No	1,090	1,538	40	2,668	0.012	30	2.80
Eugenia neomyrtifolia Sobral	Myrtaceae	Zoo	Late sec	No	No	1,731	902		2,633	0.012	28	2.61
Rhamnus sphaerosperma Sw.	Rhamnaceae	Zoo	In Sec	No	No	2,356	249		2,605	0.012	17	1.58
Qualea multiflora subsp. *pubescens* Mart.	Vochysiaceae	Anem	Late sec	No	No	2,317	167		2,484	0.011	22	2.05
Trichilia hirta L.	Meliaceae	Zoo	Late sec	No	No	505	1,966		2,471	0.011	22	2.05
Physocalymma scaberrimum Pohl	Lythraceae	Anem	Pionerr	No	No	2,245	50		2,295	0.011	8	0.75
Ocotea corymbosa (Meisn.) Mez	Lauraceae	Zoo	Late sec	No	No	1,581	601	72	2,254	0.010	60	5.59
Combretum leprosum Mart.	Combretaceae	Anem	In Sec	No	No	1,401		800	2,201	0.010	7	0.65
Couroupita guianemnsis Aubl.	Lecythidaceae	Anem	Sec	No	No	1,670	450		2,120	0.010	20	1.86
Cyclolobium brasiliense Benth.	Fabaceae	Anem	Late sec	Yes	No	2,020	96		2,116	0.010	14	1.30
Xylosma glaberrima Sleumer	Salicaceae	Zoo	In Sec	No	No	1,615	500		2,115	0.010	11	1.03
Eugenia longipedunculata Nied.	Myrtaceae	Zoo	Late sec	No	No	1,850	254		2,104	0.010	6	0.56
Prockia crucis P.Browne ex L. **	Salicaceae	Zoo	In Sec	No	No	1,975	50	60	2,085	0.010	45	4.19
Albizia edwallii (Hoehne) Barneby & J.W.Grimes	Fabaceae	Anem	In Sec	Yes	No	1,220	835		2,055	0.009	6	0.56
Virola bicuhyba (Schott ex Spreng.) Warb.	Myristicaceae	Zoo	Late sec	No	**EN**	1,428	562	60	2,050	0.009	20	1.86
Guapira noxia (Netto) Lundell	Nyctaginaceae	Zoo	In Sec	No	No	951	926	140	2,017	0.009	25	2.33
Maytenus gonoclada Mart.	Celastraceae	Zoo	Late sec	No	No	100	600		1,888	0.009	5	0.47
Ilex cerasifolia Reissek	Aquifoliaceae	Zoo	In Sec	No	No	1,120	667	100	1,887	0.009	20	1.86

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Seedlings (N)	Relative abundance	N of plantings	Freq. in plantings (%)
Myrcianthes pungens (O.Berg) D.Legrand	Myrtaceae	Zoo	In Sec	No	No	1,272	250	280	1,802	0.008	7	0.65
Eugenia speciosa Cambess.	Myrtaceae	Zoo	Late sec	No	No	1,317	440	15	1772	0.008	16	1.49
Paratecoma peroba (Record) Kuhlm.	Bignoniaceae	Anem	In Sec	No	**EN**	1,769			1,769	0.008	26	2.42
Connarus regnellii G.Schellenb.	Connaraceae	Zoo	In Sec	No	No	844	884		1,728	0.008	22	2.05
Commiphora leptophloeos (Mart.) J.B.Gillett	Burseraceae	Zoo	Pionerr	No	No	1,544	162		1,706	0.008	14	1.30
Byrsonima verbascifolia (L.) DC.	Malpighiaceae	Zoo	In Sec	No	No	230	1,450		1,680	0.008	10	0.93
Himatanthus Willdenow	Apocynaceae	Anem	Sec	No	-	1,376	200		1,576	0.007	12	1.12
Eugenia hiemalis Cambess.	Myrtaceae	Zoo	In Sec	No	No	1,290	168	110	1,568	0.007	35	3.26
Pourouma Aubl.	Urticaceae	Zoo	Sec	No	-	1,541			1,541	0.007	12	1.12
Eugenia paracatuana O.Berg	Myrtaceae	Zoo	Late sec	No	No	1,521			1,521	0.007	11	1.03
Inga vera subsp. *affinis* (DC.) T.D.Penn.	Fabaceae	Zoo	In Sec	Yes	No		1,500		1,500	0.007	3	0.28
Ateleia glazioveana Baill.	Fabaceae	Anem	Pionerr	Yes	No	1,330	106		1,436	0.007	14	1.30
Machaerium fulvovenosum H.C.Lima	Fabaceae	Anem	In Sec	Yes	No	1,401			1,401	0.006	8	0.75
Pseudobombax marginatum (A.St.-Hil. Juss. & Cambess.) A.Robyns	Malvaceae	Anem	In Sec	No	No	1,245	100		1,345	0.006	13	1.21
Cupania racemosa (Vell.) Radlk.	Sapindaceae	Zoo	In Sec	No	No	1,041	115	100	1,256	0.006	15	1.40
Hyeronima aNohorneoides Allemão	Phyllanthaceae	Zoo	In Sec	No	No	941	305		1,246	0.006	11	1.03
Brosimum Sw.	Moraceae	Zoo	Sec	No	-	1,140	100		1,240	0.006	9	0.84
Miconia ligustroides (DC.) Naudin	Melastomataceae	Zoo	Pionerr	No	No	1,324	2,400		1,180	0.005	6	0.56
Eugenia sonderiana O.Berg	Myrtaceae	Zoo	Late sec	No	No	235	909		1,144	0.005	12	1.12
Sloanea hirsuta (Schott) Planch. ex Benth. **	Elaeocarpaceae	Zoo	Late sec	No	No	890	210		1,100	0.005	11	1.03
Lamanonia ternata Vell.	Cunoniaceae	Anem	In Sec	No	No	280	815		1,095	0.005	16	1.49

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Seedlings (N)	Relative abundance	N of plantings	Freq. in plantings (%)
Carpotroche brasiliensis (Raddi) A Gray	Achariaceae	Zoo	Late sec	No	No	1,085			1,085	0.005	9	0.84
Toulicia guianemnsis Aubl.	Sapindaceae	Anem	Sec	No	No	1,055			1,055	0.005	9	0.84
Myrcia splendens (Sw.) DC.	Myrtaceae	Zoo	In Sec	No	No	641	400		1,041	0.005	5	0.47
Jatropha mollissima (Pohl) Baill.	Euphorbiaceae	Auto	Sec	No	No	1,000			1,000	0.005	4	0.37
Cordia glazioviana (Taub.) Gottschling & J.S.Mill.	Boraginaceae	Anem	In Sec	No	No	980			980	0.005	9	0.84
Neoraputia alba (Nees & Mart.) Emmerich ex Kallunki	Rutaceae	Auto	Late sec	No	No	965			965	0.004	10	0.93
Tibouchina pulchra Cogn.	Melastomataceae	Anem	Pionerr	No	No	818	100	40	958	0.004	17	1.58
Calliandra spinosa Ducke	Fabaceae	Auto	Pionerr	Yes	No	840	100		940	0.004	6	0.56
Savia dictyocarpa Müll.Arg. **	Phyllanthaceae	Auto	Late sec	No	No	816	100		916	0.004	12	1.12
Allophylus petiolulatus Radlk.	Sapindaceae	Zoo	Late sec	No	No		900		900	0.004	3	0.28
Casearia lasiophylla Eichler	Salicaceae	Zoo	Late sec	No	No	784	116		900	0.004	10	0.93
Ximenia americana L.	Olacaceae	Zoo	Sec	No	No	750	150		900	0.004	4	0.37
Lecythis lurida (Miers) S.A.Mori	Lecythidaceae	Zoo	Late sec	No	No	575	300		875	0.004	11	1.03
Miconia cinerascens Miq.	Melastomataceae	Zoo	Pionerr	No	No	774	62		836	0.004	14	1.30
Mollinedia widgrenii A.DC.	Monimiaceae	Zoo	Late sec	No	No	400	12		769	0.004	8	0.75
Randia armata (Sw.) DC.	Rubiaceae	Zoo	In Sec	No	No	725	16		741	0.003	5	0.47
Albizia pedicellaris (DC.) L.Rico	Fabaceae	Zoo	Late sec	Yes	No	440	300		740	0.003	5	0.47
Ziziphus joazeiro Mart.	Rhamnaceae	Zoo	In Sec	No	No	590	150		740	0.003	5	0.47
Melanoxylon brauna Schott	Fabaceae	Anem	Late sec	Yes	**VU**	163			700	0.003	6	0.56
Ficus catappifolia Kunth & C.D.Bouché	Moraceae	Zoo	Pionerr	No	No	23	650		673	0.003	4	0.37
Dalbergia cearensis Ducke	Fabaceae	Anem	In Sec	Yes	No	660			660	0.003	3	0.28

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Seedlings (N)	Relative abundance	N of plantings	Freq. in plantings (%)
Tecoma stans (L.) Juss. ex Kunth*	Bignoniaceae	Anem	Pionerr	No	No	651			651	0.003	5	0.47
Pimenta pseudocaryophyllus (Gomes) Landrum	Myrtaceae	Zoo	Late sec	No	No		625		625	0.003	6	0.56
Tachigali denudata (Vogel) Oliveira-Filho	Fabaceae	Anem	Late sec	Yes	No	410	200		610	0.003	4	0.37
Abarema langsdorffii (Benth.) Barneby & J.W.Grimes	Fabaceae	Zoo	In Sec	Yes	No	500		100	600	0.003	4	0.37
Cecropia glaziovii Snethl.	Urticaceae	Zoo	Pionerr	No	No	600			600	0.003	1	0.09
Dimorphandra mollis Benth.	Fabaceae	Zoo	In Sec	Yes	No	577			577	0.003	4	0.37
Eugenia neoverrucosa Sobral **	Myrtaceae	Zoo	Late sec	No	No	553	12		565	0.003	6	0.56
Cnidoscolus quercifolius Pohl	Euphorbiaceae	Auto	Pionerr	No	No	429	100		529	0.002	3	0.28
Qualea parviflora Mart.	Vochysiaceae	Anem	In Sec	No	No	510			510	0.002	3	0.28
Ocotea silvestris Vattimo-Gil **	Lauraceae	Zoo	Late sec	No	No	306	200		506	0.002	6	0.56
Vatairea macrocarpa (Benth.) Ducke	Fabaceae	Anem	In Sec	No	No	340	150		490	0.002	5	0.47
Dodonaea viscosa Jacq.	Sapindaceae	Anem	Pionerr	No	No	450			450	0.002	5	0.47
Kielmeyera variabilis Mart. & Zucc.	Calophyllaceae	Anem	In Sec	No	No	400	50		450	0.002	4	0.37
Monteverdia aquifolia (Mart.) Biral	Celastraceae	Zoo	Late sec	No	No	400	12		412	0.002	4	0.37
Cynophalla flexuosa (L.) J.Presl	Capparaceae	Zoo	Sec	No	No	350	50		400	0.002	4	0.37
Cenostigma pyramidale (Tul.) E. Gagnon & G.P. Lewis	Fabaceae	Auto	Pionerr	No	No	375			375	0.002	2	0.19
Dalbergia brasiliensis Vogel	Fabaceae	Anem	In Sec	Yes	No		375		375	0.002	5	0.47
Cochlospermum vitifolium (Willd.) Spreng.	Bixaceae	Anem	Pionerr	No	No	320	50		370	0.002	5	0.47
Ocotea diospyrifolia (Meisn.) Mez	Lauraceae	Zoo	In Sec	No	No	140	212		352	0.002	8	0.75
Ficus luschnathiana (Miq.) Miq.	Moraceae	Zoo	In Sec	No	No		300		300	0.001	2	0.19

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Seedlings (N)	Relative abundance	N of plantings	Freq. in plantings (%)
Mimosa tenuiflora (Willd.) Poir.	Fabaceae	Auto	Pionerr	Yes	No	210	559		300	0.001	2	0.19
Swartzia oblata R.S.Cowan	Fabaceae	Zoo	Late sec	Yes	No	246	22		268	0.001	3	0.28
Gleditsia amorphoides (Griseb.) Taub.	Fabaceae	Zoo	In Sec	No	**VU**		250		250	0.001	1	0.09
Zollernia glabra (Spreng.) Yakovlev	Fabaceae	Zoo	Late sec	No	No	250			250	0.001	1	0.09
Bowdichia virgilioides Kunth	Fabaceae	Anem	In Sec	Yes	No	134	100		234	0.001	5	0.47
Chloroleucon dumosum (Benth.) G.P.Lewis	Fabaceae	Zoo	In Sec	Yes	No	210			210	0.001	2	0.19
Citronella paniculata (Mart.) R.A.Howard **	Cardiopteridaceae	Zoo	Late sec	No	No	120	50		170	0.001	2	0.19
Psidium guineense Sw.	Myrtaceae	Zoo	In Sec	No	No	170			170	0.001	2	0.19
Miconia chamissois Naudin	Melastomataceae	Zoo	Pionerr	No	No	774	62		163	0.001	4	0.37
Xylopia aromatica (Lam.) Mart.	Annonaceae	Zoo	Pionerr	No	No	160			160	0.001	1	0.09
Ocotea minarum (Nees & Mart.) Mez	Lauraceae	Zoo	In Sec	No	No	27	100		127	0.001	3	0.28
Piptadenia stipulacea (Benth.) Ducke	Fabaceae	Anem	Pionerr	Yes	No	120			120	0.001	2	0.19
Microdesmia rigida (Benth.) Sothers & Prance	Chrysobalanaceae	Zoo	Sec	No	No	100			100	0.000	1	0.09
Pityrocarpa moniliformis (Benth.) Luckow & R.W.Jobson	Fabaceae	Anem	Pionerr	No	No	100			100	0.000	2	0.19
Andira fraxinifolia Benth.	Fabaceae	Zoo	In Sec	Yes	No	50	24		74	0.000	3	0.28
Byrsonima sericea DC.	Malpighiaceae	Zoo	Pionerr	No	No	12			12	0.000	1	0.09

Table S4. List of tree species in 268 Brazilian Atlantic Forest remnants, ordered by number of trees. SSF: Semideciduous Seasonal Forest; ODF: Ombrophilous Dense Forest; AF: Mixed Ombrophilous Forest (Araucaria Forest). Seed dispersal syndrome: Anem: wind-dispersed, Auto: self-dispersed, Zoo: animal-dispersed. Successional group - Sec: secondary; In Sec: Initial secondary, Late sec: Late secondary. Threat of extinction: No: not endangered; EN: Endangered; VU: Vulnerable; CR: Critically Endangered. Trees (N): Number of trees of each species. * Exotic species.

Reference: Renato A. Ferreira de Lima*. Neotropical Tree Communities database (TreeCo) <http://labtrop.ib.usp.br/doku.php?id=projetos:treeco:start>

*raflima@usp.br.

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Euterpe edulis Mart.	Arecaceae	Zoo	Late Sec	No	VU	3,770	6,318		10,088
Myrcia splendens (Sw.) DC.	Myrtaceae	Zoo	In Sec	No	No	2,117	1,346	578	4,041
Cabralea canjerana (Vell.) Mart.	Meliaceae	Zoo	In Sec	No	No	1,314	2,040	209	3,563
Metrodorea nigra A.St.-Hil.	Rutaceae	Auto	Late Sec	No	No	3,451	92		3,543
Sorocea bonplandii (Baill.) W.C.Burger et al.	Moraceae	Zoo	Late Sec	No	No	2,961	446	96	3,503
Myrsine umbellata Mart.	Primulaceae	Zoo	In Sec	No	No	1,182	1,666	611	3,459
Guapira opposita (Vell.) Reitz	Nyctaginaceae	Zoo	In Sec	No	No	794	2,263	10	3,067
Copaifera langsdorffii Desf.	Fabaceae	Zoo	Late Sec	No	No	2,935	14	61	3,010
Siparuna guianensis Aubl.	Siparunaceae	Zoo	In Sec	No	No	2,621	315		2,936
Actinostemon concolor (Spreng.) Müll.Arg.	Euphorbiaceae	Auto	Late Sec	No	No	1,445	142	1,101	2,688
Croton floribundus Spreng.	Euphorbiaceae	Auto	Pioneer	No	No	2,160	107	326	2,593
Psychotria vellosiana Benth.	Rubiaceae	Zoo	Late Sec	No	No	477	1,750	206	2,433
Trichilia clausseni C.DC.	Meliaceae	Zoo	Late Sec	No	No	2,268	4	26	2,298
Casearia sylvestris Sw.	Salicaceae	Zoo	In Sec	No	No	1,340	464	476	2,280
Cupania vernalis Cambess.	Sapindaceae	Zoo	In Sec	No	No	1,393	102	595	2,090
Casearia gossypiosperma Briq.	Salicaceae	Zoo	In Sec	No	No	2,063		1	2,064
Trichilia catigua A.Juss.	Meliaceae	Zoo	In Sec	No	No	1,966	8		1,974
Alchornea triplinervia (Spreng.) Müll.Arg.	Euphorbiaceae	Zoo	In Sec	No	No	812	1,030	91	1,933

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Mabea fistulifera Mart.	Euphorbiaceae	Auto	Pioneer	No	No	1,796	71		1,867
Astronium graveolens Jacq.	Anacardiaceae	Anem	In Sec	No	No	1,779	69	1	1,849
Matayba elaeagnoides Radlk.	Sapindaceae	Zoo	In Sec	No	No	731	32	986	1,749
Machaerium stipitatum Vogel	Fabaceae	Anem	In Sec	Yes	No	1,640	11	92	1,743
Piptadenia gonoacaNoha (Mart.) J.F.Macbr.	Fabaceae	Anem	Pioneer	Yes	No	1,581	155	3	1,739
Aspidosperma polyneuron Müll.Arg.	Apocynaceae	Anem	Late Sec	No	No	1,646	12	18	1,676
Chrysophyllum gonocarpum (Mart. & Eichler ex Miq.) Engl.	Sapotaceae	Zoo	Late Sec	No	No	1,640	12	7	1,659
Astrocaryum aculeatissimum (Schott) Burret	Arecaceae	Zoo	Late Sec	No	No	54	1,577		1,631
Nectandra megapotamica (Spreng.) Mez	Lauraceae	Zoo	In Sec	No	No	1,317	20	279	1,616
Casearia decandra Jacq.	Salicaceae	Zoo	Late Sec	No	No	737	167	685	1,589
Gymnanthes klotzschiana Müll.Arg.	Euphorbiaceae	Auto	Pioneer	No	No	214	3	1,345	1,562
Prunus myrtifolia (L.) Urb.	Rosaceae	Zoo	In Sec	No	No	733	525	293	1,551
Tapirira guianensis Aubl.	Anacardiaceae	Zoo	In Sec	No	No	1,320	218		1,538
Alsophila setosa Kaulf.	Cyatheaceae	Anem	Climax	No	No	212	758	537	1,507
Amaioua guianensis Aubl.	Rubiaceae	Zoo	In Sec	No	No	1,286	188		1,474
Tapirira obtusa (Benth.) J.D.Mitch.	Anacardiaceae	Zoo	In Sec	No	No	1,338	81		1,419
Ocotea corymbosa (Meisn.) Mez	Lauraceae	Zoo	Late Sec	No	No	1,293	94	29	1,416
Dicksonia sellowiana Hook.	Dicksoniaceae	Anem	Late Sec	No	EN	26	222	1,126	1,374
Campomanesia xanthocarpa (Mart.) O.Berg	Myrtaceae	Zoo	Late Sec	No	No	774	10	583	1,367
Pera glabrata (Schott) Baill.	Peraceae	Zoo	In Sec	No	No	830	468	43	1,341
Allophylus edulis (A.St.-Hil. et al.) Hieron. ex Niederl.	Sapindaceae	Zoo	In Sec	No	No	716	21	602	1,339
Apuleia leiocarpa (Vogel) J.F.Macbr.	Fabaceae	Anem	In Sec	No	VU	1,191	147		1,338
Guatteria australis A.St.-Hil.	Annonaceae	Zoo	In Sec	No	No	430	823	57	1,310
Anadenanthera colubrina (Vell.) Brenan	Fabaceae	Anem	In Sec	Yes	No	1,160	4	86	1,250
Galipea jasminiflora (A.St.-Hil.) Engl.	Rutaceae	Auto	Late Sec	No	No	1,241			1,241

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Ocotea odorifera (Vell.) Rohwer	Lauraceae	Zoo	Late Sec	No	EN	872	193	176	1,241
Casearia arborea (Rich.) Urb.	Salicaceae	Zoo	In Sec	No	No	1,044	176		1,220
Protium heptaphyllum (Aubl.) Marchand	Burseraceae	Zoo	In Sec	No	No	1,144	63		1,207
Sloanea guianensis (Aubl.) Benth.	Elaeocarpaceae	Zoo	Late Sec	No	No	260	924		1,184
Luehea divaricata Mart. & Zucc.	Malvaceae	Anem	In Sec	No	No	862	33	221	1,116
Miconia pusilliflora (DC.) Naudin	Melastomataceae	Zoo	Pioneer	No	No	120	949	10	1,079
Parapiptadenia rigida (Benth.) Brenan	Fabaceae	Anem	In Sec	Yes	No	900		167	1,067
Urera baccifera (L.) Gaudich. ex Wedd.	Urticaceae	Zoo	Pioneer	No	No	1,048	3	5	1,056
Guarea guidonia (L.) Sleumer	Meliaceae	Zoo	Late Sec	No	No	585	466		1,051
Trichilia pallida Sw.	Meliaceae	Zoo	Late Sec	No	No	1,038	4	5	1,047
Inga vera Willd.	Fabaceae	Zoo	In Sec	Yes	No	974	11	56	1,041
Rudgea jasminoides (Cham.) Müll.Arg.	Rubiaceae	Zoo	Late Sec	No	No	351	606	80	1,037
Senegalia polyphylla (DC.) Britton & Rose	Fabaceae	Auto	Pioneer	Yes	No	997	6		1,003
Cryptocarya aschersoniana Mez	Lauraceae	Zoo	Late Sec	No	No	757	153	74	984
Ocotea indecora (Schott) Mez	Lauraceae	Zoo	Climax	No	No	621	342	17	980
Inga marginata Willd.	Fabaceae	Zoo	In Sec	Yes	No	914	20	41	975
Roupala montana Aubl.	Proteaceae	Anem	In Sec	No	No	388	451	135	974
Guarea macrophylla Vahl	Meliaceae	Zoo	Late Sec	No	No	333	620	20	973
Tabernaemontana catharinensis A.DC.	Apocynaceae	Zoo	Pioneer	No	No	932	28	1	961
Casearia obliqua Spreng.	Salicaceae	Zoo	In Sec	No	No	268	284	391	943
Gallesia integrifolia (Spreng.) Harms	Phytolaccaceae	Anem	In Sec	No	No	916	11		927
Psychotria suterella Müll.Arg.	Rubiaceae	Zoo	Late Sec	No	No	9	909	9	927
Coussarea contracta (Walp.) Müll.Arg.	Rubiaceae	Zoo	Late Sec	No	No	401	47	446	894
Holocalyx balansae Micheli	Fabaceae	Zoo	Late Sec	No	No	890			890
Clethra scabra Pers.	Clethraceae	Anem	Pioneer	No	No	330	331	228	889
Sebastiania brasiliensis Spreng.	Euphorbiaceae	Auto	In Sec	No	No	660	18	208	886

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Lacistema pubescens Mart.	Lacistemataceae	Zoo	In Sec	No	No	599	279		878
Machaerium nyctitans (Vell.) Benth.	Fabaceae	Anem	In Sec	Yes	No	750	101	20	871
Nectandra oppositifolia Nees	Lauraceae	Zoo	In Sec	No	No	628	235		863
Trichilia elegans A.Juss.	Meliaceae	Zoo	Late Sec	No	No	773	54	29	856
Cupania oblongifolia Mart.	Sapindaceae	Zoo	In Sec	No	No	91	762		853
Aparisthmium cordatum (A.Juss.) Baill.	Euphorbiaceae	Zoo	Pioneer	No	No	222	630		852
Garcinia gardneriana (Planch. & Triana) Zappi	Clusiaceae	Zoo	Late Sec	No	No	357	495		852
Lonchocarpus cultratus (Vell.) A.M.G.Azevedo & H.C.Lima	Fabaceae	Anem	In Sec	Yes	No	758	17	72	847
Guarea kunthiana A.Juss.	Meliaceae	Zoo	Late Sec	No	No	806	25	11	842
Myrceugenia euosma (O.Berg) D.Legrand	Myrtaceae	Zoo	In Sec	No	No		512	311	823
Savia dictyocarpa Müll.Arg.	PhyllaNohaceae	Auto	Late Sec	No	No	804	14		818
Xylopia aromatica (Lam.) Mart.	Annonaceae	Zoo	Pioneer	No	No	818			818
Balfourodendron riedelianum (Engl.) Engl.	Rutaceae	Anem	In Sec	No	No	800		8	808
Ilex paraguariensis A.St.-Hil.	Aquifoliaceae	Zoo	Late Sec	No	No	74	301	429	804
Araucaria angustifolia (Bertol.) Kuntze	Araucariaceae	Zoo	In Sec	No	EN	54	26	719	799
Terminalia glabrescens Mart.	Combretaceae	Anem	In Sec	No	No	789			789
Siphoneugena densiflora O.Berg	Myrtaceae	Zoo	Late Sec	No	No	545	238		783
Chrysophyllum marginatum (Hook. & Arn.) Radlk.	Sapotaceae	Zoo	In Sec	No	No	711	4	61	776
Cyathea phalerata Mart.	Cyatheaceae	Anem	Late Sec	No	No	76	688		764
PimeNoa pseudocaryophyllus (Gomes) Landrum	Myrtaceae	Zoo	Late Sec	No	No	167	586	4	757
Eugenia uniflora L.	Myrtaceae	Zoo	In Sec	No	No	368	1	386	755
Luehea grandiflora Mart. & Zucc.	Malvaceae	Anem	Pioneer	No	No	716	38		754
Trichilia casaretti C.DC.	Meliaceae	Zoo	Late Sec	No	No	644	108		752
Ocotea diospyrifolia (Meisn.) Mez	Lauraceae	Zoo	In Sec	No	No	499	155	95	749
Bathysa australis (A.St.-Hil.) K.Schum.	Rubiaceae	Auto	In Sec	No	No	275	468		743

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Endlicheria paniculata (Spreng.) J.F.Macbr.	Lauraceae	Zoo	Late Sec	No	No	493	127	121	741
Platypodium elegans Vogel	Fabaceae	Anem	In Sec	Yes	No	735	1		736
MoNoeverdia gonoclada (Mart.) Biral	Celastraceae	Zoo	Late Sec	No	No	293	331	104	728
Drimys brasiliensis Miers	WiNoeraceae	Zoo	Late Sec	No	No	23	620	81	724
ANohornea glandulosa Poepp. & Endl.	Euphorbiaceae	Zoo	Pioneer	No	No	616	94	8	718
Diatenopteryx sorbifolia Radlk.	Sapindaceae	Anem	In Sec	No	No	712		4	716
Pterodon emarginatus Vogel	Fabaceae	Anem	In Sec	No	No	712			712
Heisteria silvianii Schwacke	Olacaceae	Zoo	Late Sec	No	No	100	610		710
Myrcia glomerata (Cambess.) G.Burton & E.Lucas	Myrtaceae	Zoo	In Sec	No	No	119	399	189	707
Myrciaria floribunda (H.West ex Willd.) O.Berg	Myrtaceae	Zoo	Late Sec	No	No	413	119	174	706
Annona sylvatica A.St.-Hil.	Annonaceae	Zoo	In Sec	No	No	626	60	19	705
Sapium glandulosum (L.) Morong	Euphorbiaceae	Zoo	Pioneer	No	No	278	266	146	690
Myrceugenia miersiana (Gardner) D.Legrand & Kausel	Myrtaceae	Zoo	Late Sec	No	No	50	523	116	689
Guazuma ulmifolia Lam.	Malvaceae	Zoo	Pioneer	No	No	671	10	1	682
Jacaranda puberula Cham.	Bignoniaceae	Anem	In Sec	No	No	50	251	374	675
Cedrela fissilis Vell.	Meliaceae	Anem	In Sec	No	VU	419	123	129	671
Cecropia pachystachya Trécul	Urticaceae	Zoo	Pioneer	No	No	595	59	12	666
Eugenia florida DC.	Myrtaceae	Zoo	In Sec	No	No	608	35	21	664
Xylopia sericea A.St.-Hil.	Annonaceae	Zoo	Pioneer	No	No	520	135		655
Hyeronima aNohorneoides Allemão	PhyllaNohaceae	Zoo	In Sec	No	No	157	478		635
Myrcia neobrasiliensis A.R.Lourenço & E.Lucas	Myrtaceae	Zoo	In Sec	No	No	324	273	28	625
Centrolobium tomentosum Guill. ex Benth.	Fabaceae	Anem	In Sec	Yes	No	621	2		623
Mimosa scabrella Benth.	Fabaceae	Auto	Pioneer	Yes	No			603	603
Cariniana estrellensis (Raddi) Kuntze	Lecythidaceae	Anem	Late Sec	No	No	502	71	29	602
Cordiera sessilis (Vell.) Kuntze	Rubiaceae	Zoo	In Sec	No	No	592	7		599

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Dahlstedtia muehlbergiana (Hassl.) M.J.Silva & A.M.G. Azevedo	Fabaceae	Anem	In Sec	Yes	No	567	2	21	590
Duguetia lanceolata A.St.-Hil.	Annonaceae	Zoo	Late Sec	No	No	529	54		583
Ocotea lancifolia (Schott) Mez	Lauraceae	Zoo	Climax	No	No	25	554	3	582
Cordia sellowiana Cham.	Boraginaceae	Zoo	In Sec	No	No	417	163		580
Qualea grandiflora Mart.	Vochysiaceae	Anem	In Sec	No	No	580			580
Blepharocalyx salicifolius (Kunth) O. Berg	Myrtaceae	Zoo	Late Sec	No	No	249	65	262	576
Vochysia tucanorum Mart.	Vochysiaceae	Anem	In Sec	No	No	452	117	4	573
Bauhinia forficata Link	Fabaceae	Auto	Pioneer	No	No	546	10	12	568
Syagrus romanzoffiana (Cham.) Glassman	Arecaceae	Zoo	In Sec	No	No	414	80	67	561
Ocotea pulchella (Nees & Mart.) Mez	Lauraceae	Zoo	In Sec	No	No	239	123	189	551
Virola bicuhyba (Schott ex Spreng.) Warb.	Myristicaceae	Zoo	Late Sec	No	EN	141	402		543
Aspidosperma olivaceum Müll.Arg.	Apocynaceae	Anem	Late Sec	No	No	181	361		542
Trichilia lepidota Mart.	Meliaceae	Zoo	Climax	No	No	507	33		540
Xylopia brasiliensis Spreng.	Annonaceae	Zoo	In Sec	No	No	438	99	1	538
Machaerium brasiliense Vogel	Fabaceae	Anem	In Sec	Yes	No	359	174	3	536
Piptocarpha macropoda (DC.) Baker	Asteraceae	Anem	Pioneer	No	No	354	175	1	530
Machaerium villosum Vogel	Fabaceae	Anem	In Sec	Yes	No	444	84		528
Miconia latecrenata (DC.) Naudin	Melastomataceae	Zoo	Pioneer	No	No	512	16		528
Lamanonia ternata Vell.	Cunoniaceae	Anem	In Sec	No	No	237	195	95	527
Esenbeckia leiocarpa Engl.	Rutaceae	Auto	Late Sec	No	No	515	1		516
Siphoneugena crassifolia (DC.) Proença & Sobral	Myrtaceae	Zoo	Late Sec	No	No	136	365		501
Myrcia laruotteana Cambess.	Myrtaceae	Zoo	In Sec	No	No	239	247	14	500
Maprounea guianensis Aubl.	Euphorbiaceae	Zoo	In Sec	No	No	461	38		499
Protium widgrenii Engl.	Burseraceae	Zoo	Late Sec	No	No	457	36		493
Zygia latifolia (L.) Fawc. & Rendle	Fabaceae	Auto	In Sec	Yes	No	489			489

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Miconia sellowiana Naudin	Melastomataceae	Zoo	In Sec	No	No	116	356	15	487
Myrcia neoclusiifolia A.R.Lourenço & E.Lucas	Myrtaceae	Zoo	In Sec	No	No	468	15		483
Anadenanthera peregrina (L.) Speg.	Fabaceae	Anem	In Sec	Yes	No	478	1		479
Coutarea hexandra (Jacq.) K.Schum.	Rubiaceae	Anem	In Sec	No	No	419	32	28	479
ZaNohoxylum rhoifolium Lam.	Rutaceae	Zoo	In Sec	No	No	269	53	151	473
Dalbergia nigra (Vell.) Allemão ex Benth.	Fabaceae	Anem	In Sec	Yes	VU	446	24		470
Myrcia tomentosa (Aubl.) DC.	Myrtaceae	Zoo	In Sec	No	No	432	33		465
Schefflera morototoni (Aubl.) Maguire et al.	Araliaceae	Zoo	Pioneer	No	No	412	24	27	463
Dendropanax cuneatus (DC.) Decne. & Planch.	Araliaceae	Zoo	In Sec	No	No	430	23	9	462
Mollinedia schottiana (Spreng.) Perkins	Monimiaceae	Zoo	Late Sec	No	No	19	403	35	457
Myrsine coriacea (Sw.) R.Br. ex Roem. & Schult.	Primulaceae	Zoo	Pioneer	No	No	145	191	121	457
Vochysia magnifica Warm.	Vochysiaceae	Anem	Late Sec	No	No	343	113	1	457
Nectandra grandiflora Nees	Lauraceae	Zoo	Late Sec	No	No	230	98	124	452
Chrysophyllum flexuosum Mart.	Sapotaceae	Zoo	In Sec	No	No	83	367		450
Machaerium paraguariense Hassl.	Fabaceae	Anem	In Sec	Yes	No	302		147	449
Ruprechtia laxiflora Meisn.	Polygonaceae	Anem	In Sec	No	No	384	22	41	447
Eugenia longipedunculata Nied.	Myrtaceae	Zoo	Late Sec	No	No	195	47	204	446
Podocarpus lambertii Klotzsch ex Endl.	Podocarpaceae	Zoo	Late Sec	No	No		108	333	441
Virola sebifera Aubl.	Myristicaceae	Zoo	Pioneer	No	No	441			441
Ocotea puberula (Rich.) Nees	Lauraceae	Zoo	Late Sec	No	No	160	68	210	438
Aiouea saligna Meisn.	Lauraceae	Zoo	Late Sec	No	No	14	414	2	430
Annona cacans Warm.	Annonaceae	Zoo	In Sec	No	No	326	82	19	427
Annona dolabripetala Raddi	Annonaceae	Zoo	In Sec	No	No	363	64		427
Peltophorum dubium (Spreng.) Taub.	Fabaceae	Anem	In Sec	No	No	420	3	4	427
Calophyllum brasiliense Cambess.	Calophyllaceae	Zoo	In Sec	No	No	409	17		426
Plinia rivularis (Cambess.) Rotman	Myrtaceae	Zoo	Late Sec	No	No	366	37	23	426

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Cheiloclinium cognatum (Miers) A.C.Sm.	Celastraceae	Zoo	In Sec	No	No	410	15		425
Miconia argyrophylla DC.	Melastomataceae	Zoo	_	No	No	423			423
Pseudopiptadenia contorta (DC.) G.P.Lewis & M.P.Lima	Fabaceae	Anem	In Sec	Yes	No	240	183		423
Muellera campestris (Mart. ex Benth.) M.J. Silva & A.M.G. Azevedo	Fabaceae	Anem	In Sec	Yes	No	268	3	147	418
Protium spruceanum (Benth.) Engl.	Burseraceae	Zoo	Late Sec	No	No	397	21		418
Cyathea delgadii Sternb.	Cyatheaceae	Anem	Climax	No	No	29	388		417
Schefflera calva (Cham.) Frodin & Fiaschi	Araliaceae	Zoo	In Sec	No	No	144	270		414
Senefeldera verticillata (Vell.) Croizat	Euphorbiaceae	Auto	Late Sec	No	No	334	80		414
Miconia cinnamomifolia (DC.) Naudin	Melastomataceae	Zoo	Pioneer	No	No	263	149	1	413
Ilex theezans Mart. ex Reissek	Aquifoliaceae	Zoo	Pioneer	No	No	9	237	166	412
Lithraea brasiliensis Marchand	Anacardiaceae	Zoo	Pioneer	No	No			412	412
Actinostemon klotzschii (Didr.) Pax	Euphorbiaceae	Auto	Late Sec	No	No	392	17		409
Myracrodruon urundeuva Allemão	Anacardiaceae	Anem	Late Sec	No	No	409			409
Casearia ulmifolia Vahl ex Vent.	Salicaceae	Zoo	In Sec	No	No	405	2		407
Myrcia venulosa DC.	Myrtaceae	Zoo	In Sec	No	No	245	153	6	404
Ixora brevifolia Benth.	Rubiaceae	Zoo	Late Sec	No	No	392	11		403
Sloanea hirsuta (Schott) Planch. ex Benth.	Elaeocarpaceae	Zoo	Late Sec	No	No	231	125	47	403
Miconia chartacea Triana	Melastomataceae	Zoo	Climax	No	No	324	78		402
Aspidosperma parvifolium A.DC.	Apocynaceae	Anem	Late Sec	No	No	306	95		401
Jacaratia spinosa (Aubl.) A.DC.	Caricaceae	Zoo	In Sec	No	No	377	22	1	400
Jacaranda macraNoha Cham.	Bignoniaceae	Anem	In Sec	No	No	360	39		399
Hymenaea courbaril L.	Fabaceae	Zoo	Late Sec	No	No	372	25		397
Cordia americana (L.) Gottschling & J.S.Mill.	Boraginaceae	Anem	In Sec	No	No	385		3	388
EremaNohus erythropappus (DC.) MacLeish	Asteraceae	Anem	Pioneer	No	No	241	144		385
Citronella paniculata (Mart.) R.A.Howard	Cardiopteridaceae	Zoo	Late Sec	No	No	187	164	33	384

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Hirtella hebeclada Moric. ex DC.	Chrysobalanaceae	Zoo	Late Sec	No	No	89	292		381
Rudgea viburnoides (Cham.) Benth.	Rubiaceae	Zoo	In Sec	No	No	378			378
Rudgea recurva Müll.Arg.	Rubiaceae	Zoo	Climax	No	No		377		377
Miconia pepericarpa DC.	Melastomataceae	Zoo	_	No	No	374	2		376
Lithraea molleoides (Vell.) Engl.	Anacardiaceae	Zoo	Pioneer	No	No	261	3	109	373
Celtis iguanaea (Jacq.) Sarg.	Cannabaceae	Zoo	Pioneer	No	No	318	1	53	372
Ocotea aciphylla (Nees & Mart.) Mez	Lauraceae	Zoo	Late Sec	No	No	86	285		371
Miconia cinerascens Miq.	Melastomataceae	Zoo	Pioneer	No	No	8	354	8	370
Aloysia virgata (Ruiz & Pav.) Juss.	Verbenaceae	Anem	Pioneer	No	No	323	2	36	361
Matayba guianensis Aubl.	Sapindaceae	Zoo	In Sec	No	No	208	151		359
Nectandra lanceolata Nees	Lauraceae	Zoo	In Sec	No	No	288	23	47	358
Ilex microdonta Reissek	Aquifoliaceae	Zoo	In Sec	No	No	5	288	61	354
Ceiba speciosa (A.St.-Hil.) Ravenna	Malvaceae	Anem	In Sec	No	No	315	37		352
Daphnopsis fasciculata (Meisn.) Nevling	Thymelaeaceae	Zoo	Late Sec	No	No	182	166	4	352
Vernonanthura divaricata (Spreng.) H.Rob.	Asteraceae	Anem	Pioneer	No	No	296	54		350
Metrodorea stipularis Mart.	Rutaceae	Auto	Late Sec	No	No	349			349
Monteverdia evonymoides (Reissek) Biral	Celastraceae	Zoo	Late Sec	No	No	190	130	29	349
Brosimum guianense (Aubl.) Huber	Moraceae	Zoo	In Sec	No	No	205	143		348
Protium warmingianum Marchand	Burseraceae	Zoo	Late Sec	No	No	348			348
Myrcia neolucida A.R.Lourenço & E.Lucas	Myrtaceae	Zoo	Late Sec	No	No	20	324		344
Cyathea corcovadensis (Raddi) Domin	Cyatheaceae	Anem	Late Sec	No	No	82	241	13	336
Albizia polycephala (Benth.) Killip ex Record	Fabaceae	Anem	In Sec	Yes	No	228	78	26	332
Campomanesia guazumifolia (Cambess.) O.Berg	Myrtaceae	Zoo	In Sec	No	No	249	33	50	332
Myrcia subcordata DC.	Myrtaceae	Zoo	Climax	No	No	17	224	91	332
Moquiniastrum polymorphum (Less.) G. Sancho	Asteraceae	Anem	Pioneer	No	No	225	46	60	331
Rhamnidium elaeocarpum Reissek	Rhamnaceae	Zoo	In Sec	No	No	325	6		331

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Metternichia principis J.C.Mikan	Solanaceae	Auto	In Sec	No	No		330		330
Psychotria nuda (Cham. & Schltdl.) Wawra	Rubiaceae	Zoo	Late Sec	No	No	16	312		328
Faramea porophylla (Vell.) Müll.Arg.	Rubiaceae	Zoo	In Sec	No	No		3	323	326
Vernonanthura discolor (Spreng.) H.Rob.	Asteraceae	Anem	Pioneer	No	No	33	110	181	324
Eugenia subterminalis DC.	Myrtaceae	Zoo	Late Sec	No	No	215	6	102	323
Helicostylis tomentosa (Poepp. & Endl.) Rusby	Moraceae	Zoo	In Sec	No	No	9	314		323
Actinostemon concepcionis (Chodat & Hassl.) Hochr.	Euphorbiaceae	Auto	Late Sec	No	No	318	1		319
Leptolobium elegans Vogel	Fabaceae	Anem	In Sec	Yes	No	315			315
Croton piptocalyx Müll.Arg.	Euphorbiaceae	Auto	Pioneer	No	No	219	94		313
Myrceugenia myrcioides (Cambess.) O.Berg	Myrtaceae	Zoo	Late Sec	No	No	1	236	76	313
Coccoloba mollis Casar.	Polygonaceae	Zoo	In Sec	No	No	311			311
Dalbergia frutescens (Vell.) Britton	Fabaceae	Anem	In Sec	Yes	No	149	8	149	306
Tachigali rugosa (Mart. ex Benth.) Zarucchi & Pipoly	Fabaceae	Anem	In Sec	Yes	No	301	2		303
Inga sessilis (Vell.) Mart.	Fabaceae	Zoo	In Sec	Yes	No	161	120	20	301
Mollinedia clavigera Tul.	Monimiaceae	Zoo	Late Sec	No	No	87	108	106	301
Trema micraNoha (L.) Blume	Cannabaceae	Zoo	Pioneer	No	No	264	33	4	301
Ecclinusa ramiflora Mart.	Sapotaceae	Zoo	Late Sec	No	No	12	288		300
Eugenia hiemalis Cambess.	Myrtaceae	Zoo	In Sec	No	No	243	53	3	299
Casearia grandiflora Cambess.	Salicaceae	Zoo	In Sec	No	No	297			297
Unonopsis guatterioides (A.DC.) R.E.Fr.	Annonaceae	Zoo	Late Sec	No	No	297			297
Myrcia pubipetala Miq.	Myrtaceae	Zoo	Late Sec	No	No		294		294
Miconia trianae Cogn.	Melastomataceae	Zoo	Climax	No	No	293			293
Esenbeckia febrifuga (A.St.-Hil.) A. Juss. ex Mart.	Rutaceae	Auto	Late Sec	No	No	282		7	289
Persea willdenovii Kosterm.	Lauraceae	Zoo	Late Sec	No	No	250	28	11	289
Meliosma sellowii Urb.	Sabiaceae	Zoo	Late Sec	No	No	13	269	6	288
Triplaris americana L.	Polygonaceae	Anem	In Sec	No	No	287			287

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Faramea hyaciNohina Mart.	Rubiaceae	Zoo	In Sec	No	No	286			286
Vismia magnoliifolia Cham. & Schltdl.	Hypericaceae	Zoo	Pioneer	No	No	284	1		285
Ilex brevicuspis Reissek	Aquifoliaceae	Zoo	In Sec	No	No	28	156	100	284
Leucochloron incuriale (Vell.) Barneby & J.W.Grimes	Fabaceae	Auto	In Sec	Yes	No	187	79	18	284
Cecropia glaziovii Snethl.	Urticaceae	Zoo	Pioneer	No	No	174	104		278
Myrcia retorta Cambess.	Myrtaceae	Zoo	Late Sec	No	No		245	33	278
Campomanesia guaviroba (DC.) Kiaersk.	Myrtaceae	Zoo	Late Sec	No	No	200	45	29	274
Croton urucurana Baill.	Euphorbiaceae	Auto	Pioneer	No	No	250	24		274
Myrcia strigipes Mart.	Myrtaceae	Zoo	Late Sec	No	No		272		272
Myrcia spectabilis DC.	Myrtaceae	Zoo	Late Sec	No	No		270		270
Myrocarpus frondosus Allemão	Fabaceae	Anem	Late Sec	UndeLateed	No	218	43	9	270
Pterocarpus rohrii Vahl	Fabaceae	Anem	In Sec	Yes	No	38	232		270
Ocotea dispersa (Nees & Mart.) Mez	Lauraceae	Zoo	Late Sec	No	No	97	171		268
Cinnamodendron dinisii Schwacke	Canellaceae	Zoo	Late Sec	No	No		5	261	266
Banara tomentosa Clos	Salicaceae	Zoo	Late Sec	No	No	36		222	258
Myrciaria tenella (DC.) O.Berg	Myrtaceae	Zoo	In Sec	No	No	92	42	124	258
Allophylus guaraniticus (A. St.-Hil.) Radlk.	Sapindaceae	Zoo	Late Sec	No	No	124	12	121	257
Nectandra cissiflora Nees	Lauraceae	Zoo	In Sec	No	No	257			257
Albizia niopoides (Spruce ex Benth.) Burkart	Fabaceae	Anem	In Sec	Yes	No	250	2	4	256
Maclura tinctoria (L.) D.Don ex Steud.	Moraceae	Zoo	In Sec	No	No	246	3	7	256
Cordiera concolor (Cham.) Kuntze	Rubiaceae	Zoo	Climax	No	No	187	54	14	255
Eugenia neoverrucosa Sobral	Myrtaceae	Zoo	Late Sec	No	No	147	10	95	252
Syzygium jambos (L.) Alston*	Myrtaceae	Zoo	_	No	No	214	38		252
Alseis floribunda Schott	Rubiaceae	Anem	In Sec	No	No	206	42	2	250
Guettarda viburnoides Cham. & Schltdl.	Rubiaceae	Zoo	In Sec	No	No	240	10		250

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Leandra breviflora Cogn.	Melastomataceae	Zoo	_	No	No		250		250
Byrsonima ligustrifolia A.Juss.	Malpighiaceae	Zoo	In Sec	No	No	3	240	6	249
Nectandra nitidula Nees	Lauraceae	Zoo	Late Sec	No	No	179	70		249
Sorocea guilleminiana Gaudich.	Moraceae	Zoo	Climax	No	No	75	173		248
Amaioua iNoermedia Mart. ex Schult. & Schult.f.	Rubiaceae	Zoo	In Sec	No	No	121	126		247
HandroaNohus impetiginosus (Mart. ex DC.) Mattos	Bignoniaceae	Anem	Late Sec	No	No	240	6		246
Myrcia guianensis (Aubl.) DC.	Myrtaceae	Zoo	In Sec	No	No	57	79	110	246
Brosimum glaziovii Taub.	Moraceae	Zoo	Late Sec	No	No	197	48		245
Gymnanthes edwalliana (Pax & K. Hoffm.) Esser & L.S. Oliveira	Euphorbiaceae	Auto	Late Sec	No	No	188	57		245
Aspidosperma cylindrocarpon Müll.Arg.	Apocynaceae	Anem	Late Sec	No	No	242			242
Aspidosperma discolor A.DC.	Apocynaceae	Anem	Late Sec	No	No	239			239
Pourouma guianensis Aubl.	Urticaceae	Zoo	In Sec	No	No	48	191		239
Coussarea nodosa (Benth.) Mùll.Arg.	Rubiaceae	Zoo	_	No	No	9	229		238
Esenbeckia grandiflora Mart.	Rutaceae	Auto	Late Sec	No	No	60	104	72	236
Malouetia cestroides (Nees ex Mart.) Müll.Arg.	Apocynaceae	Anem	Late Sec	No	No		236		236
Schefflera angustissima (Marchal) Frodin	Araliaceae	Zoo	In Sec	No	No	13	208	14	235
Trichilia silvatica C.DC.	Meliaceae	Zoo	Late Sec	No	No	75	159		234
Cecropia hololeuca Miq.	Urticaceae	Zoo	Pioneer	No	No	153	80		233
Psidium guajava L.*	Myrtaceae	Zoo	Pioneer	No	No	232		1	233
Psychotria mapourioides DC.	Rubiaceae	Zoo	Late Sec	No	No	2	231		233
Bauhinia longifolia (Bong.) Steud.	Fabaceae	Auto	In Sec	No	No	207	18	6	231
Myrsine gardneriana A.DC.	Primulaceae	Zoo	In Sec	No	No	76	147	7	230
Aspidosperma ramiflorum Müll.Arg.	Apocynaceae	Anem	Late Sec	No	No	207	21		228
Inga striata Benth.	Fabaceae	Zoo	In Sec	Yes	No	160	28	40	228
Curitiba prismatica (D.Legrand) Salywon & Landrum	Myrtaceae	Zoo	In Sec	No	No			227	227

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Vitex megapotamica (Spreng.) Moldenke	Lamiaceae	Zoo	In Sec	No	No	119	23	85	227
Cordia ecalyculata Vell.	Boraginaceae	Zoo	In Sec	No	No	160	39	27	226
Drimys angustifolia Miers	WiNoeraceae	Zoo	In Sec	No	No		89	137	226
Ocotea catharinensis Mez	Lauraceae	Zoo	Climax	No	VU	2	224		226
Tovomitopsis saldanhae Engl.	Clusiaceae	Zoo	Late Sec	No	No	164	62		226
Dalbergia villosa (Benth.) Benth.	Fabaceae	Anem	Late Sec	Yes	No	116	109		225
Marlierea riedeliana (O.Berg) D.Legrand	Myrtaceae	Zoo	_	No	No		225		225
Geonoma schottiana Mart.	Arecaceae	Zoo	Late Sec	No	No	184	37	3	224
Matayba juglandifolia (Cambess.) Radlk.	Sapindaceae	Zoo	In Sec	No	No	136	88		224
Ocotea bicolor Vattimo-Gil	Lauraceae	Zoo	Late Sec	No	No	16	174	34	224
Micrandra elata (Didr.) Müll.Arg.	Euphorbiaceae	Auto	In Sec	No	No	223			223
Styrax leprosus Hook. & Arn.	Styracaceae	Zoo	In Sec	No	No	62	9	152	223
Styrax pohlii A.DC.	Styracaceae	Zoo	In Sec	No	No	185	38		223
Eugenia dodonaeifolia Cambess.	Myrtaceae	Zoo	In Sec	No	No	59	111	51	221
Miconia cabucu Hoehne	Melastomataceae	Zoo	Pioneer	No	No	1	220		221
Eugenia cerasiflora Miq.	Myrtaceae	Zoo	Late Sec	No	No	139	81		220
Coussarea hydrangeifolia (Benth.) Müll.Arg.	Rubiaceae	Zoo	In Sec	No	No	215	4		219
Cupania ludowigii Somner & Ferrucci	Sapindaceae	Zoo	Pioneer	No	No	217	2		219
Annona neosericea H.Rainer	Annonaceae	Zoo	In Sec	No	No	100	99	17	216
Copaifera trapezifolia Hayne	Fabaceae	Zoo	Climax	No	No	40	175		215
Mollinedia widgrenii A.DC.	Monimiaceae	Zoo	Late Sec	No	No	132	83		215
Myrcia multiflora (Lam.) DC.	Myrtaceae	Zoo	Late Sec	No	No	87	56	72	215
Conchocarpus rubrus (A.St.Hil.) Bruniera & Groppo	Rutaceae	Zoo	In Sec	No	No	204	7		211
Diospyros lasiocalyx (Mart.) B.Walln.	Ebenaceae	Zoo	In Sec	No	No	208		1	209
Vismia brasiliensis Choisy	Hypericaceae	Zoo	Pioneer	No	No	199	8		207
Pseudobombax grandiflorum (Cav.) A.Robyns	Malvaceae	Anem	In Sec	No	No	118	88		206

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Machaerium acutifolium Vogel	Fabaceae	Anem	Pioneer	Yes	No	203	2		205
Virola gardneri (A.DC.) Warb.	Myristicaceae	Zoo	Late Sec	No	No	85	118		203
Aegiphila iNoegrifolia (Jacq.) Moldenke	Lamiaceae	Zoo	Pioneer	No	No	131	55	15	201
Schinus terebinthifolia Raddi	Anacardiaceae	Zoo	Pioneer	No	No	88	11	102	201
Qualea multiflora Mart.	Vochysiaceae	Anem	Late Sec	No	No	199			199
Astronium nelson-rosae SaNoin	Anacardiaceae	Anem	Late Sec	No	No	198			198
Sweetia fruticosa Spreng.	Fabaceae	Anem	Late Sec	No	No	197			197
Eugenia involucrata DC.	Myrtaceae	Zoo	Late Sec	No	No	135	42	19	196
Eugenia acutata Miq.	Myrtaceae	Zoo	Late Sec	No	No	159	36		195
Pilocarpus pauciflorus A.St.-Hil.	Rutaceae	Zoo	Late Sec	No	No	49	30	116	195
Trichilia pallens C.DC.	Meliaceae	Zoo	Climax	No	No	188	7		195
Myroxylon peruiferum L.f.	Fabaceae	Anem	Late Sec	No	No	191	3		194
Aniba firmula (Nees & Mart.) Mez	Lauraceae	Zoo	Late Sec	No	No	86	106	1	193
Ocotea silvestris Vattimo-Gil	Lauraceae	Zoo	Late Sec	No	No	140	29	23	192
Cryptocarya moschata Nees & Mart.	Lauraceae	Zoo	Late Sec	No	No	59	109	21	189
Miconia albicans (Sw.) Triana	Melastomataceae	Zoo	Pioneer	No	No	184	5		189
Byrsonima laxiflora Griseb.	Malpighiaceae	Zoo	In Sec	No	No	138	50		188
Myrcia tricona (D.Legrand) A.R.Lourenço & E.Lucas	Myrtaceae	Zoo	Climax	No	No	180	8		188
Machaerium hirtum (Vell.) Stellfeld	Fabaceae	Anem	Pioneer	Yes	No	166	21		187
Solanum pseudoquina A.St.-Hil.	Solanaceae	Zoo	Pioneer	No	No	66	90	29	185
Astronium fraxinifolium Schott	Anacardiaceae	Anem	In Sec	No	No	134	49		183
Eugenia oblongata O.Berg	Myrtaceae	Zoo	Late Sec	No	No	15	168		183
Myrcia tijucensis Kiaersk.	Myrtaceae	Zoo	Late Sec	No	No		183		183
Pachystroma longifolium (Nees) I.M.Johnst.	Euphorbiaceae	Auto	Late Sec	No	No	166	17		183
Tabebuia roseoalba (Ridl.) Sandwith	Bignoniaceae	Anem	In Sec	No	No	182	1		183
Casearia lasiophylla Eichler	Salicaceae	Zoo	Late Sec	No	No	117	11	54	182

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Licania apetala (E.Mey.) Fritsch	Chrysobalanaceae	Zoo	Late Sec	No	No	182			182
Eugenia ramboi D.Legrand	Myrtaceae	Zoo	Late Sec	No	No	57		124	181
Carpotroche brasiliensis (Raddi) A Gray	Achariaceae	Zoo	Late Sec	No	No	180			180
Picramnia ramiflora Planch.	Picramniaceae	Zoo	Late Sec	No	No	180			180
Colubrina glandulosa Perkins	Rhamnaceae	Zoo	In Sec	No	No	174	5		179
Bastardiopsis densiflora (Hook. & Arn.) Hassl.	Malvaceae	Zoo	In Sec	No	No	176	1		177
Laplacea fruticosa (Schrad.) Kobuski	Theaceae	Anem	In Sec	No	No	40	118	19	177
Aspidosperma australe Müll.Arg.	Apocynaceae	Anem	In Sec	No	No	90	86		176
Croton echinocarpus Müll. Arg.	Euphorbiaceae	Auto	_	No	No	39	137		176
Trichilia hirta L.	Meliaceae	Zoo	Late Sec	No	No	156	20		176
Citrus ×aurantium L.*	Rutaceae	Zoo	_	No	No	174	1		175
Margaritaria nobilis L.f.	PhyllaNohaceae	Auto	In Sec	No	No	93	81		174
Symplocos falcata Brand	Symplocaceae	Zoo	Late Sec	No	No		173		173
Nectandra membranacea (Sw.) Griseb.	Lauraceae	Zoo	In Sec	No	No	44	126	2	172
Eugenia expansa Spring ex Mart.	Myrtaceae	Zoo	Late Sec	No	No		171		171
Platycyamus regnellii Benth.	Fabaceae	Anem	Late Sec	Yes	No	156	15		171
Faramea montevidensis (Cham. & Schltdl.) DC.	Rubiaceae	Zoo	Late Sec	No	No		170		170
Pleroma candolleanum (Mart. ex DC.) Triana	Melastomataceae	Anem	In Sec	No	No	41	128		169
Cupania racemosa (Vell.) Radlk.	Sapindaceae	Zoo	In Sec	No	No	3	165		168
Pausandra morisiana (Casar.) Radlk.	Euphorbiaceae	Zoo	Late Sec	No	No	4	164		168
Pilocarpus pennatifolius Lem.	Rutaceae	Zoo	Late Sec	No	No	168			168
Ocotea velutina (Nees) Rohwer	Lauraceae	Zoo	Late Sec	No	No	164	3		167
Andira fraxinifolia Benth.	Fabaceae	Zoo	In Sec	Yes	No	78	88		166
Bathysa stipulata (Vell.) C.Presl	Rubiaceae	Auto	Pioneer	No	No		165		165
Dahlstedtia floribunda (Vogel) M.J. Silva & A.M.G. Azevedo	Fabaceae	Anem	In Sec	Yes	No	149	1	15	165

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Eugenia pyriformis Cambess.	Myrtaceae	Zoo	In Sec	No	No	81	36	48	165
Heliocarpus popayanensis Kunth	Malvaceae	Anem	Pioneer	No	No	123	1	41	165
Pouteria torta (Mart.) Radlk.	Sapotaceae	Zoo	In Sec	No	No	155	10		165
Parapiptadenia pterosperma (Benth.) Brenan	Fabaceae	Anem	In Sec	Yes	No	149	14		163
Zeyheria tuberculosa (Vell.) Bureau ex Verl.	Bignoniaceae	Anem	Late Sec	No	VU	163			163
Strychnos brasiliensis Mart.	Loganiaceae	Zoo	In Sec	No	No	99	8	55	162
Alsophila sternbergii (Sternb.) D.S.ConaNo	Cyatheaceae	Anem	Late Sec	No	No	18	143		161
HandroaNohus ochraceus (Cham.) Mattos	Bignoniaceae	Anem	In Sec	No	No	161			161
Tetrastylidium grandifolium (Baill.) Sleumer	Olacaceae	Zoo	Late Sec	No	No	16	144		160
Heisteria ovata Benth.	Olacaceae	Zoo	Late Sec	No	No	159			159
Aspidosperma subincanum Mart.	Apocynaceae	Anem	Late Sec	No	No	130	27		157
Ouratea semiserrata (Mart. & Nees) Engl.	Ochnaceae	Zoo	Late Sec	No	No	65	92		157
Jacaranda micrantha Cham.	Bignoniaceae	Anem	In Sec	No	No	130	20	6	156
Scutia buxifolia Reissek	Rhamnaceae	Zoo	Late Sec	No	No			155	155
Solanum sanctae-catharinae Dunal	Solanaceae	Zoo	In Sec	No	No	42		112	154
Cordia trichotoma (Vell.) Arrab. ex Steud.	Boraginaceae	Anem	Pioneer	No	No	152	1		153
Macropeplus deNoatus (Perkins) I.SaNoos & Peixoto	Monimiaceae	Zoo	Late Sec	No	No		153		153
Eugenia mosenii (Kausel) Sobral	Myrtaceae	Zoo	Late Sec	No	No		152		152
Ocotea porosa (Nees & Mart.) Barroso	Lauraceae	Zoo	Late Sec	No	EN	1	2	149	152
Piper amalago L.	Piperaceae	Zoo	Pioneer	No	No	150	2		152
Psychotria carthagenensis Jacq.	Rubiaceae	Zoo	Late Sec	No	No	134	17		151
Symplocos celastrinea Mart.	Symplocaceae	Zoo	Late Sec	No	No	20	111	19	150
Campomanesia velutina (Cambess.) O.Berg	Myrtaceae	Zoo	Pioneer	No	No	149			149
Ouratea parviflora (A.DC.) Baill.	Ochnaceae	Zoo	Late Sec	No	No		149		149
Ocotea laxa (Nees) Mez	Lauraceae	Zoo	Late Sec	No	No	78	58	12	148
Trichilia emarginata (Turcz.) C.DC.	Meliaceae	Zoo	_	No	No	148			148

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Mollinedia argyrogyna Perkins	Monimiaceae	Zoo	Late Sec	No	No	127	20		147
Ocotea nutans (Nees) Mez	Lauraceae	Zoo	Climax	No	No		21	126	147
Ormosia arborea (Vell.) Harms	Fabaceae	Zoo	In Sec	Yes	No	88	55	4	147
Agonandra brasiliensis Miers ex Benth. & Hook.f.	Opiliaceae	Zoo	Late Sec	No	No	146			146
Croton priscus Croizat	Euphorbiaceae	Auto	Pioneer	No	No	146			146
Erythroxylum deciduum A.St.-Hil.	Erythroxylaceae	Zoo	In Sec	No	No	97	11	38	146
Myrceugenia rufescens (DC.) D.Legrand & Kausel	Myrtaceae	Zoo	In Sec	No	No	2	144		146
Myrcia hatschbachii D.Legrand	Myrtaceae	Zoo	In Sec	No	No			146	146
Piptocarpha angustifolia Dusén ex Malme	Asteraceae	Anem	Pioneer	No	No	5	5	136	146
Plathymenia reticulata Benth.	Fabaceae	Anem	In Sec	Yes	No	92	54		146
NeomitraNohes glomerata (D.Legrand) D.Legrand	Myrtaceae	Zoo	In Sec	No	No	36	107		143
Annona rugulosa (Schltdl.) H.Rainer	Annonaceae	Zoo	In Sec	No	No	46	1	95	142
Mollinedia uleana Perkins	Monimiaceae	Zoo	Late Sec	No	No	22	120		142
Sparattosperma leucaNohum (Vell.) K.Schum.	Bignoniaceae	Anem	In Sec	No	No	105	36		141
Callisthene major Mart.	Vochysiaceae	Anem	In Sec	No	No	89		51	140
Ixora gardneriana Benth.	Rubiaceae	Zoo	Late Sec	No	No	132	8		140
Callisthene fasciculata Mart.	Vochysiaceae	Anem	Late Sec	No	No	139			139
Magnolia ovata (A.St.-Hil.) Spreng.	Magnoliaceae	Zoo	Late Sec	No	No	49	90		139
Miconia prasina (Sw.) DC.	Melastomataceae	Zoo	Pioneer	No	No	48	91		139
Miconia urophylla DC.	Melastomataceae	Zoo	Pioneer	No	No	135	3		138
Myrcia vellozoi Mazine	Myrtaceae	Zoo	In Sec	No	No	97	41		138
Chrysophyllum viride Mart. & Eichler	Sapotaceae	Zoo	Climax	No	No		132	5	137
Machaerium scleroxylon Tul.	Fabaceae	Anem	In Sec	Yes	No	115		22	137
Myrceugenia oxysepala (Burret) D.Legrand & Kausel	Myrtaceae	Zoo	Climax	No	No		94	43	137
Seguieria aculeata Jacq.	Phytolaccaceae	Anem	In Sec	No	No	132	3	2	137
Xylosma prockia (Turcz.) Turcz.	Salicaceae	Zoo	Late Sec	No	No	107	29	1	137

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Cassia ferruginea (Schrad.) Schrad. ex DC.	Fabaceae	Auto	In Sec	No	No	123	13		136
Diploon cuspidatum (Hoehne) Cronquist	Sapotaceae	Zoo	Late Sec	No	No	4	132		136
Erythroxylum pelleterianum A.St.-Hil.	Erythroxylaceae	Zoo	In Sec	No	No	127	9		136
Bathysa mendoncaei K.Schum.	Rubiaceae	Auto	Late Sec	No	No	5	130		135
Myrsine lancifolia Mart.	Primulaceae	Zoo	In Sec	No	No	73	51	11	135
Bathysa nicholsonii K.Schum.	Rubiaceae	Auto	In Sec	No	No	134			134
Piptocarpha axillaris (Less.) Baker	Asteraceae	Anem	Pioneer	No	No	61	57	16	134
Eugenia pisiformis Cambess.	Myrtaceae	Zoo	Late Sec	No	No	10	122		132
Myrcia strigosa A.R.Lourenço & E.Lucas	Myrtaceae	Zoo	Climax	No	No		132		132
Cinnamomum amoenum (Nees & Mart.) Kosterm.	Lauraceae	Zoo	Late Sec	No	No		38	93	131
Eugenia neoglomerata Sobral	Myrtaceae	Zoo	Late Sec	No	No		131		131
Myrsine guianensis (Aubl.) Kuntze	Primulaceae	Zoo	In Sec	No	No	105	26		131
Solanum swartzianum Roem. & Schult.	Solanaceae	Zoo	Pioneer	No	No	94	36	1	131
Bowdichia virgilioides Kunth	Fabaceae	Anem	In Sec	Yes	No	130			130
Handroanthus chrysotrichus (Mart. ex DC.) Mattos	Bignoniaceae	Anem	In Sec	No	No	44	85	1	130
Ixora venulosa Benth.	Rubiaceae	Zoo	Late Sec	No	No	105	10	15	130
Hedyosmum brasiliense Mart. ex Miq.	ChloraNohaceae	Zoo	In Sec	No	No	92	37		129
Calliandra foliolosa Benth.	Fabaceae	Auto	Late Sec	Yes	No	128			128
Ilex taubertiana Loes.	Aquifoliaceae	Zoo	Late Sec	No	No		127	1	128
Handroanthus serratifolius (Vahl) S.Grose	Bignoniaceae	Anem	Late Sec	No	No	81	46		127
Nectandra angustifolia (Schrad.) Nees	Lauraceae	Zoo	In Sec	No	No	127			127
Bixa arborea Huber	Bixaceae	Zoo	Pioneer	No	No	126			126
Cestrum intermedium Sendtn.	Solanaceae	Zoo	In Sec	No	No	65	5	56	126
Eriotheca pentaphylla (Vell. & K.Schum.) A.Robyns	Malvaceae	Anem	In Sec	No	No		125		125
Eugenia excelsa O.Berg	Myrtaceae	Zoo	Late Sec	No	No	39	86		125
Pouteria caimito (Ruiz & Pav.) Radlk.	Sapotaceae	Zoo	Late Sec	No	No	48	77		125

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Handroanthus umbellatus (Sond.) Mattos	Bignoniaceae	Anem	In Sec	No	No	19	105		124
Myrceugenia ovata (Hook. & Arn.) O.Berg	Myrtaceae	Zoo	In Sec	No	No	16	65	43	124
Ocotea divaricata (Nees) Mez	Lauraceae	Zoo	Late Sec	No	No	7	116		123
Rinorea guianensis Aubl.	Violaceae	Auto	In Sec	No	No		123		123
Inga capitata Desv.	Fabaceae	Zoo	In Sec	Yes	No	74	48		122
ZaNohoxylum kleinii (R.S.Cowan) P.G.Waterman	Rutaceae	Zoo	In Sec	No	No			122	122
Pisonia ambigua Heimerl	Nyctaginaceae	Zoo	In Sec	No	No	115	6		121
Cybianthus brasiliensis (Mez) G.Agostini	Primulaceae	Zoo	Late Sec	No	No		120		120
Guatteria sellowiana Schltdl.	Annonaceae	Zoo	Late Sec	No	No	46	74		120
Mollinedia triflora (Spreng.) Tul.	Monimiaceae	Zoo	Climax	No	No	1	88	30	119
Psidium sartorianum (O.Berg) Nied.	Myrtaceae	Zoo	In Sec	No	No	119			119
Cinnamomum pseudoglaziovii (Lorea-Hern.) Van der Werff	Lauraceae	Zoo	Climax	No	No	34	72	12	118
Guapira hirsuta (Choisy) Lundell	Nyctaginaceae	Zoo	In Sec	No	No	55	61	2	118
Roupala longepetiolata Pohl	Proteaceae	Anem	_	No	No	24	94		118
Connarus regnellii G.Schellenb.	Connaraceae	Zoo	In Sec	No	No	88	29		117
Vitex polygama Cham.	Lamiaceae	Zoo	In Sec	No	No	69	48		117
Ocotea glaziovii Mez	Lauraceae	Zoo	Late Sec	No	No	32	84		116
Monteverdia floribunda (Reissek) Biral	Celastraceae	Zoo	Late Sec	No	No	114	1		115
Simira sampaioana (Standl.) Steyerm.	Rubiaceae	Anem	Late Sec	No	No	115			115
Croton salutaris Casar.	Euphorbiaceae	Auto	Pioneer	No	No	100	14		114
*Posoqueria latifolia (*Rudge) Schult.	Rubiaceae	Zoo	In Sec	No	No	13	100		113
Bougainvillea glabra Choisy	Nyctaginaceae	Anem	In Sec	No	No	112			112
Coussapoa microcarpa (Schott) Rizzini	Urticaceae	Zoo	In Sec	No	No	52	60		112
Cryptocarya botelhensis P.L.R.Moraes	Lauraceae	Zoo	Late Sec	No	No		112		112
Aspidosperma cuspa (Kunth) S.F.Blake	Apocynaceae	Anem	In Sec	No	No	111			111

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Bougainvillea spectabilis Willd.	Nyctaginaceae	Anem	Late Sec	No	No	111			111
Micropholis venulosa (Mart. & Eichler) Pierre	Sapotaceae	Zoo	Late Sec	No	No	111			111
Myrceugenia alpigena (DC.) Landrum	Myrtaceae	Zoo	In Sec	No	No		111		111
Siparuna reginae (Tul.) A.DC.	Siparunaceae	Zoo	Late Sec	No	No	31	80		111
Solanum bullatum Vell.	Solanaceae	Zoo	In Sec	No	No	44	67		111
Acca sellowiana (O.Berg) Burret	Myrtaceae	Zoo	Pioneer	No	No			110	110
Baccharis semiserrata DC.	Asteraceae	Anem	Pioneer	No	No		83	27	110
Helietta apiculata Benth.	Rutaceae	Anem	In Sec	No	No	109		1	110
Ocotea brachybotrya (Meisn.) Mez	Lauraceae	Zoo	Late Sec	No	No	41	69		110
Quiina glaziovii Engl.	Quiinaceae	Zoo	In Sec	No	No	9	101		110
Styrax camporum Pohl	Styracaceae	Zoo	In Sec	No	No	110			110
Cariniana legalis (Mart.) Kuntze	Lecythidaceae	Anem	Late Sec	No	EN	93	16		109
Myrcia palustris DC.	Myrtaceae	Zoo	In Sec	No	No			109	109
Coussarea meridionalis (Vell.) Müll.Arg.	Rubiaceae	Zoo	Late Sec	No	No		108		108
Myrrhinium atropurpureum Schott	Myrtaceae	Zoo	In Sec	No	No		19	89	108
Seguieria langsdorffii Moq.	Phytolaccaceae	Anem	Late Sec	No	No	76	32		108
Ficus guaranitica Chodat	Moraceae	Zoo	In Sec	No	No	100	3	4	107
*Brosimum lactescens (*S.Moore) C.C.Berg	Moraceae	Zoo	Climax	No	No	4	102		106
Myrcia amazonica DC.	Myrtaceae	Zoo	Late Sec	No	No	40	66		106
Eriotheca candolleana (K.Schum.) A.Robyns	Malvaceae	Anem	In Sec	No	No	101	4		105
DuraNoa vestita Cham.	Verbenaceae	Zoo	In Sec	No	No			104	104
Machaerium aculeatum Raddi	Fabaceae	Anem	In Sec	Yes	No	92	11	1	104
Allophylus racemosus Sw.	Sapindaceae	Zoo	In Sec	No	No	98	5		103
Guapira areolata (Heimerl) Lundell	Nyctaginaceae	Zoo	Late Sec	No	No	100	2		102
Schizolobium parahyba (Vell.) Blake	Fabaceae	Anem	Pioneer	No	No	49	52	1	102
Joannesia princeps Vell.	Euphorbiaceae	Zoo	In Sec	No	No	92	9		101

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Miconia lepidota DC.	Melastomataceae	Zoo	In Sec	No	No	85	16		101
Hirtella glandulosa Spreng.	Chrysobalanaceae	Zoo	In Sec	No	No	100			100
Inga edulis Mart.	Fabaceae	Zoo	In Sec	Yes	No	27	73		100
Neoraputia alba (Nees & Mart.) Emmerich ex Kallunki	Rutaceae	Auto	Late Sec	No	No	100			100
Croton celtidifolius Baill.	Euphorbiaceae	Auto	Pioneer	No	No	74	25		99
Matayba intermedia Radlk.	Sapindaceae	Zoo	In Sec	No	No		99		99
Prunus brasiliensis (Cham. & Schltdl.) D.Dietr.	Rosaceae	Zoo	Climax	No	No	54	15	30	99
Monteverdia communis (Reissek) Biral	Celastraceae	Zoo	_	No	No	44	54		98
Ocotea teleiandra (Meisn.) Mez	Lauraceae	Zoo	Late Sec	No	No	25	73		98
Pterogyne nitens Tul.	Fabaceae	Anem	In Sec	No	No	98			98
Dilodendron bipinnatum Radlk.	Sapindaceae	Zoo	In Sec	No	No	97			97
Eugenia prasina O.Berg	Myrtaceae	Zoo	Late Sec	No	No	51	46		97
Ilex cerasifolia Reissek	Aquifoliaceae	Zoo	In Sec	No	No	97			97
*Lonchocarpus nitidus (*Vogel) Benth.	Fabaceae	Anem	In Sec	Yes	No	97			97
Solanum argenteum Dunal	Solanaceae	Zoo	Pioneer	No	No	91	2	4	97
Bauhinia ungulata L.	Fabaceae	Auto	In Sec	No	No	96			96
Coccoloba warmingii Meisn.	Polygonaceae	Zoo	Late Sec	No	No	82	14		96
Ilex dumosa Reissek	Aquifoliaceae	Zoo	In Sec	No	No	14	48	34	96
Luetzelburgia guaissara Toledo	Fabaceae	Anem	In Sec	No	No	94		2	96
Dasyphyllum brasiliense (Spreng.) Cabrera	Asteraceae	Anem	In Sec	No	No	1	47	47	95
Myrceugenia ovalifolia (O.Berg) Landrum	Myrtaceae	Zoo	_	No	No		95		95
*Myrcia selloi (*Spreng.) N.Silveira	Myrtaceae	Zoo	Late Sec	No	No	63	15	17	95
Tetrorchidium rubrivenium Poepp.	Euphorbiaceae	Zoo	In Sec	No	No	40	50	5	95
Chionanthus trichotomus (Miq.) Miq.	Moraceae	Zoo	_	No	No	94			94
Terminalia phaeocarpa Eichler	Combretaceae	Anem	Late Sec	No	No	94			94

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Guatteria schomburgkiana Mart.	Annonaceae	Zoo	Late Sec	No	No	93			93
*Pleroma granulosum (*Desr.) D. Don	Melastomataceae	Anem	Pioneer	No	No	32	61		93
Weinmannia paulliniifolia Pohl ex Ser.	Cunoniaceae	Anem	In Sec	No	No	1	70	22	93
ZaNohoxylum caribaeum Lam.	Rutaceae	Zoo	In Sec	No	No	83		10	93
Cryptocarya mandioccana Meisn.	Lauraceae	Zoo	Late Sec	No	No		92		92
MoNoeverdia ilicifolia (Mart. ex Reissek) Biral	Celastraceae	Zoo	Late Sec	No	No	59	2	31	92
Oxandra espintana (Spruce ex Benth.) Baill.	Annonaceae	Zoo	Late Sec	No	No	30	62		92
Tibouchina sellowiana Cogn.	Melastomataceae	Anem	Pioneer	No	No	60	4	28	92
Miconia castaneiflora Naudin	Melastomataceae	Zoo	_	No	No		91		91
Myrceugenia glaucescens (Cambess.) D.Legrand & Kausel	Myrtaceae	Zoo	Late Sec	No	No		36	55	91
Neomitranthes obscura (DC.) N.Silveira	Myrtaceae	Zoo	Late Sec	No	No	91			91
Eugenia handroana D.Legrand	Myrtaceae	Zoo	Late Sec	No	No	41	27	22	90
HimataNohus bracteatus (A. DC.) Woodson	Apocynaceae	Anem	Late Sec	No	No	55	35		90
Artocarpus heterophyllus Lam.*	Moraceae	Zoo	In Sec	No	No		89		89
Cordiera elliptica (Cham.) Kuntze	Rubiaceae	Zoo	Late Sec	No	No	71	18		89
Diospyros inconstans Jacq.	Ebenaceae	Zoo	In Sec	No	No	89			89
Erythroxylum pulchrum A.St.-Hil.	Erythroxylaceae	Zoo	Late Sec	No	No	24	65		89
Psidium cattleyanum Sabine	Myrtaceae	Zoo	In Sec	No	No	60	28	1	89
Solanum leucodendron Sendtn.	Solanaceae	Zoo	Pioneer	No	No	52	37		89
Amphirrhox longifolia (A.St.-Hil.) Spreng.	Violaceae	Auto	Late Sec	No	No		87		87
Eugenia francavilleana O.Berg	Myrtaceae	Zoo	In Sec	No	No	60	27		87
Eugenia subavenia O.Berg	Myrtaceae	Zoo	Climax	No	No		87		87
Inga cylindrica (Vell.) Mart.	Fabaceae	Zoo	In Sec	Yes	No	70	17		87
Siphoneugena reitzii D.Legrand	Myrtaceae	Zoo	Late Sec	No	No		87		87
Zanthoxylum monogynum A.St.-Hil.	Rutaceae	Zoo	In Sec	No	No	84	3		87

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Chrysophyllum inornatum Mart.	Sapotaceae	Zoo	Late Sec	No	No		86		86
Eugenia ligustrina (Sw.) Willd.	Myrtaceae	Zoo	Late Sec	No	No	85	1		86
Meriania robusta Cogn.	Melastomataceae	Zoo	_	No	No		86		86
MoNoeverdia aquifolia (Mart.) Biral	Celastraceae	Zoo	Late Sec	No	No	75	4	7	86
Sessea brasiliensis Toledo	Solanaceae	Zoo	In Sec	No	No	70	16		86
Cupania furfuracea Radlk.	Sapindaceae	Zoo	_	No	VU		85		85
Eugenia brevistyla D.Legrand	Myrtaceae	Zoo	Climax	No	No		85		85
Eugenia puberula Nied.	Myrtaceae	Zoo	_	No	No		85		85
Inga virescens Benth.	Fabaceae	Zoo	Late Sec	Yes	No	3		82	85
Myrcia hebepetala DC.	Myrtaceae	Zoo	Late Sec	No	No	49	19	17	85
*Symplocos uniflora (*Pohl) Benth.	Symplocaceae	Zoo	In Sec	No	No	3	4	78	85
Guapira nitida (Mart. ex J.A.Schmidt) Lundell	Nyctaginaceae	Zoo	In Sec	No	No		84		84
Myrcianthes pungens (O.Berg) D.Legrand	Myrtaceae	Zoo	In Sec	No	No	45		39	84
Licania hoehnei Pilg.	Chrysobalanaceae	Zoo	Late Sec	No	No	13	70		83
*Zanthoxylum petiolare (*Sw.) Sw.	Rutaceae	Zoo	In Sec	No	No	83			83
Guapira venosa (Choisy) Lundell	Nyctaginaceae	Zoo	In Sec	No	No	82			82
Gymnanthes nervosa Müll.Arg.	Euphorbiaceae	Auto	_	No	No		82		82
Marlierea excoriata Mart.	Myrtaceae	Zoo	Climax	No	No	34	48		82
Myrcia oblongata DC.	Myrtaceae	Zoo	Pioneer	No	No	4		78	82
Senegalia lowei (L.Rico) Seigler & Ebinger	Fabaceae	Auto	_	Yes	No	82			82
Licania octandra (Hoffmanns. ex Roem. & Schult.) Kuntze	Chrysobalanaceae	Zoo	Late Sec	No	No	3	78		81
Miconia cubatanensis Hoehne	Melastomataceae	Zoo	Pioneer	No	No	2	79		81
Mouriri chamissoana Cogn.	Melastomataceae	Zoo	Climax	No	No		81		81
Xylosma ciliatifolia (Clos) Eichler	Salicaceae	Zoo	Late Sec	No	No	8	17	56	81
Diptychandra aurantiaca Tul.	Fabaceae	Anem	In Sec	No	No	80			80

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Guettarda sericea Müll.Arg.	Rubiaceae	Zoo	In Sec	No	No	80			80
Picrasma crenata (Vell.) Engl.	Simaroubaceae	Zoo	Late Sec	No	No	61	1	18	80
ZaNohoxylum fagara (L.) Sarg.	Rutaceae	Zoo	In Sec	No	No	66	5	9	80
Prockia crucis P.Browne ex L.	Salicaceae	Zoo	In Sec	No	No	77		2	79
Psychotria glaziovii Müll.Arg.	Rubiaceae	Zoo	Late Sec	No	No		79		79
Psychotria laciniata Vell.	Rubiaceae	Zoo	Late Sec	No	No		79		79
Terminalia argentea Mart. & Zucc.	Combretaceae	Anem	In Sec	No	No	79			79
Hirtella gracilipes (Hook.f.) Prance	Chrysobalanaceae	Zoo	In Sec	No	No	78			78
Cedrela odorata L.	Meliaceae	Anem	In Sec	No	VU	57	20		77
Eugenia vattimoana Mattos	Myrtaceae	Zoo	_	No	VU	47	30		77
Syagrus pseudococos (Raddi) Glassman	Arecaceae	Zoo	_	No	No		77		77
Eugenia burkartiana (D.Legrand) D.Legrand	Myrtaceae	Zoo	Late Sec	No	No	43	4	29	76
Eugenia leptoclada O.Berg	Myrtaceae	Zoo	Late Sec	No	No	57	19		76
Rudgea sessilis (Vell.) Müll.Arg.	Rubiaceae	Zoo	Late Sec	No	No	22	54		76
Enterolobium contortisiliquum (Vell.) Morong	Fabaceae	Zoo	In Sec	Yes	No	75			75
Solanum mauritianum Scop.	Solanaceae	Zoo	Pioneer	No	No	8		67	75
Zollernia ilicifolia (Brongn.) Vogel	Fabaceae	Zoo	Late Sec	No	No	38	37		75
Agonandra excelsa Griseb.	Opiliaceae	Zoo	Late Sec	No	No	60	14		74
Guettarda uruguensis Cham. & Schltdl.	Rubiaceae	Zoo	In Sec	No	No	7	1	66	74
Miconia discolor DC.	Melastomataceae	Zoo	In Sec	No	No	66	8		74
Ocotea spixiana (Nees) Mez	Lauraceae	Zoo	Late Sec	No	No	74			74
Bathysa gymnocarpa K.Schum.	Rubiaceae	Auto	In Sec	No	No		73		73
Eugenia sonderiana O.Berg	Myrtaceae	Zoo	Late Sec	No	No	72	1		73
Ocotea paranapiacabensis Coe-Teixeira	Lauraceae	Zoo	Late Sec	No	No		73		73
Plinia peruviana (Poir.) Govaerts	Myrtaceae	Zoo	In Sec	No	No	30	3	40	73
Pouteria gardneri (Mart. & Miq.) Baehni	Sapotaceae	Zoo	Late Sec	No	No	72	1		73

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Psychotria leiocarpa Cham. & Schltdl.	Rubiaceae	Zoo	Late Sec	No	No	26	46		72
Eugenia verticillata (Vell.) Angely	Myrtaceae	Zoo	Late Sec	No	No	14	56	1	71
Piptadenia paniculata Benth.	Fabaceae	Anem	In Sec	Yes	No	49	22		71
Leandra carassana (DC.) Cogn.	Melastomataceae	Zoo	Pioneer	No	No		70		70
Myrcia aethusa (O.Berg) N.Silveira	Myrtaceae	Zoo	Late Sec	No	No	3	59	8	70
Ouratea castaneifolia (DC.) Engl.	Ochnaceae	Zoo	In Sec	No	No	45	25		70
Symplocos pubescens Klotzsch ex Benth.	Symplocaceae	Zoo	Late Sec	No	No	40	30		70
Andira vermifuga (Mart.) Benth.	Fabaceae	Zoo	Late Sec	Yes	No	69			69
Lafoensia pacari A.St.-Hil.	Lythraceae	Anem	In Sec	No	No	57	4	8	69
Protium kleinii Cuatrec.	Burseraceae	Zoo	Climax	No	No		69		69
Aralia warmingiana (Marchal) J.Wen	Araliaceae	Zoo	In Sec	No	No	67	1		68
Mouriri glazioviana Cogn.	Melastomataceae	Zoo	Pioneer	No	No	68			68
Ocotea leucoxylon (Sw.) Laness.	Lauraceae	Zoo	Late Sec	No	No		68		68
Psidium rufum Mart. ex DC.	Myrtaceae	Zoo	In Sec	No	No	58	10		68
Qualea cordata Spreng.	Vochysiaceae	Anem	Late Sec	No	No	62	3	3	68
Cybistax antisyphilitica (Mart.) Mart.	Bignoniaceae	Anem	In Sec	No	No	26	41		67
Mollinedia boracensis Peixoto	Monimiaceae	Zoo	Late Sec	No	No		67		67
Senna macranthera (DC. ex Collad.) H.S.Irwin & Barneby	Fabaceae	Auto	Pioneer	No	No	62	5		67
Stryphnodendron adstringens (Mart.) Coville	Fabaceae	Auto	Pioneer	Yes	No	67			67
Symplocos tenuifolia Brand	Symplocaceae	Zoo	Pioneer	No	No	14		53	67
Andradea floribunda Allemão	Nyctaginaceae	_	In Sec	No	No	58	8		66
Annona emarginata (Schltdl.) H.Rainer	Annonaceae	Zoo	In Sec	No	No	48	12	6	66
Athenaea fasciculata (Vell.) I.M.C. Rodrigues & Stehmann	Solanaceae	Zoo	Pioneer	No	No		66		66
Swartzia myrtifolia Sm.	Fabaceae	Zoo	Late Sec	Yes	No	45	21		66
Xylopia langsdorffiana A.St.-Hil. & Tul.	Annonaceae	Zoo	In Sec	No	No	2	64		66

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Calliandra tweedii Benth.	Fabaceae	Auto	Pioneer	Yes	No	65			65
Inga laurina (Sw.) Willd.	Fabaceae	Zoo	In Sec	Yes	No	58	7		65
Licania spicata Hook.f.	Chrysobalanaceae	Zoo	In Sec	No	No	47	18		65
Symplocos tetrandra Mart.	Symplocaceae	Zoo	In Sec	No	No	3	31	31	65
Cryptocarya saligna Mez	Lauraceae	Zoo	Late Sec	No	No		64		64
Lafoensia vandelliana Cham. & Schltdl.	Lythraceae	Anem	Late Sec	No	No	33	31		64
Miconia tristis Spring	Melastomataceae	Zoo	Pioneer	No	No	43	21		64
Micropholis crassipedicellata (Mart. & Eichler) Pierre	Sapotaceae	Zoo	Late Sec	No	No		64		64
Myrcia diaphana (O.Berg) N.Silveira	Myrtaceae	Zoo	_	No	VU			64	64
Astronium concinnum Schott	Anacardiaceae	Anem	Late Sec	No	No	63			63
Nectandra reticulata (Ruiz & Pav.) Mez	Lauraceae	Zoo	In Sec	No	No	59	4		63
Pera heteranthera (Schrank) I.M.Johnst.	Peraceae	Zoo	In Sec	No	No	11	52		63
Attalea dubia (Mart.) Burret	Arecaceae	Zoo	In Sec	No	No	12	50		62
Chamaecrista ensiformis (Vell.) H.S.Irwin & Barneby	Fabaceae	Auto	In Sec	Yes	No		62		62
Mollinedia acutissima Perkins	Monimiaceae	Zoo	Climax	No	No	6	56		62
Phyllostylon rhamntides (Poiss.) Taub.	Ulmaceae	Anem	_	No	No	62			62
Schefflera longipetiolata (Pohl ex DC.) Frodin & Fiaschi	Araliaceae	Zoo	_	No	No	21	41		62
Tabernaemontana laeta Mart.	Apocynaceae	Zoo	Pioneer	No	No	50	12		62
Cordyline spectabilis Kunth & Bouché	Laxmanniaceae	Zoo	In Sec	No	No	10		51	61
Dasyphyllum spinescens (Less.) Cabrera	Asteraceae	Anem	In Sec	No	No	17	2	42	61
Ocotea daphnifolia (Meisn.) Mez	Lauraceae	Zoo	Late Sec	No	No	2	59		61
Zanthoxylum petiolare A.St.-Hil. & Tul.	Rutaceae	Zoo	In Sec	No	No	53		8	61
Brunfelsia pilosa Plowman	Solanaceae	Zoo	Pioneer	No	No			60	60
Clusia criuva Cambess.	Clusiaceae	Zoo	Pioneer	No	No	20	40		60
Eugenia myrcianthes Nied.	Myrtaceae	Zoo	In Sec	No	No	60			60

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Myrcia ferrugintsa Mazine	Myrtaceae	Zoo	Late Sec	No	No	1	59		60
Salacia elliptica (Mart.) G. Don	Celastraceae	Zoo	In Sec	No	No	49	11		60
Styrax latifolius Pohl	Styracaceae	Zoo	_	No	No	60			60
Xylosma ventsa N.E.Br.	Salicaceae	Zoo	In Sec	No	No	60			60
Ilex contcarpa Reissek	Aquifoliaceae	Zoo	_	No	No	59			59
Tibouchina pulchra Cogn.	Melastomataceae	Anem	Pioneer	No	No		59		59
Cyathea atrovirens (Langsd. & Fisch.) Domin	Cyatheaceae	Anem	In Sec	No	No		58		58
Dictyoloma vandellianum A.Juss.	Rutaceae	Anem	In Sec	No	No	45	13		58
Eugenia handroi (Mattos) Mattos	Myrtaceae	Zoo	Late Sec	No	No	58			58
Handroanthus heptaphyllus (Vell.) Mattos	Bignoniaceae	Anem	In Sec	No	No	38	20		58
Mabea piriri Aubl.	Euphorbiaceae	Auto	Pioneer	No	No	1	57		58
Maytenus boaria Molina	Celastraceae	Zoo	Late Sec	No	No		43	15	58
Rustia formosa (Cham. & Schltdl.) Klotzsch	Rubiaceae	Auto	Late Sec	No	No		58		58
Chionanthus filiformis (Vell.) P.S.Green	Oleaceae	Zoo	Late Sec	No	No	5	50	2	57
Guatteria campestris R.E.Fr.	Annonaceae	Zoo	_	No	No	36	21		57
Mollinedia gilgiana Perkins	Monimiaceae	Zoo	_	No	No		57		57
Ocotea punthra Vattimo-Gil	Lauraceae	Zoo	Climax	No	No		57		57
*Verntnanthura petiolaris (*DC.) H.Rob.	Asteraceae	Anem	Pioneer	No	No	2	54	1	57
Allophylus petiolulatus Radlk.	Sapindaceae	Zoo	Late Sec	No	No	1	53	2	56
Coussarea platyphylla Müll.Arg.	Rubiaceae	Zoo	Climax	No	No	56			56
Machaerium floridum (Mart. ex Benth.) Ducke	Fabaceae	Anem	In Sec	Yes	No	51	5		56
Muellera virgilioides (Vogel) M.J. Silva & A.M.G. Azevedo	Fabaceae	Anem	_	Yes	No		56		56
Piper arboreum Aubl.	Piperaceae	Zoo	In Sec	No	No	50	6		56
Weinmannia pinnata L.	Cunoniaceae	Anem	Late Sec	No	No		56		56
Byrsonima intermedia A.Juss.	Malpighiaceae	Zoo	_	No	No	55			55

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Cupania zanthoxyloides Radlk.	Sapindaceae	Zoo	Late Sec	No	No	36	19		55
Inga lanceifolia Benth.	Fabaceae	Zoo	Late Sec	Yes	No	2	53		55
Sterculia striata A.St.-Hil. & Naudin	Malvaceae	Zoo	In Sec	No	No	54	1		55
Erythrina falcata Benth.	Fabaceae	Auto	In Sec	Yes	No	43	7	4	54
Miconia budlejoides Triana	Melastomataceae	Zoo	Pioneer	No	No	6	48		54
Mollinedia oligantha Perkins	Monimiaceae	Zoo	Late Sec	No	No		54		54
Platymiscium floribundum Vogel	Fabaceae	Anem	Late Sec	Yes	No	18	36		54
Solanum concinnum Schott ex Sendtn.	Solanaceae	Zoo	_	No	No	1	53		54
Eugenia pluriflora DC.	Myrtaceae	Zoo	In Sec	No	No	1	21	31	53
Licaria armeniaca (Nees) Kosterm.	Lauraceae	Zoo	Late Sec	No	No	14	39		53
Ocotea minarum (Nees & Mart.) Mez	Lauraceae	Zoo	In Sec	No	No	45	8		53
Erythroxylum citrifolium A.St.-Hil.	Erythroxylaceae	Zoo	In Sec	No	No	31	21		52
Hyeronima oblonga (Tul.) Müll.Arg.	PhyllaNohaceae	Zoo	_	No	No	3	49		52
Myrceugenia brevipedicellata (Burret) D.Legrand & Kausel	Myrtaceae	Zoo	_	No	EN		52		52
Schizocalyx cuspidatus (A.St.-Hil.) Kainul. & B. Bremer	Rubiaceae	Auto	In Sec	No	No	30	22		52
Symplocos revoluta Casar.	Symplocaceae	Zoo	_	No	No	31	21		52
Daphntpsis brasiliensis Mart.	Thymelaeaceae	Zoo	In Sec	No	No	16	35		51
Eugenia beaurepairiana (Kiaersk.) D.Legrand	Myrtaceae	Zoo	Late Sec	No	No	2	49		51
Ilex pseudobuxus Reissek	Aquifoliaceae	Zoo	Late Sec	No	No		51		51
Psychotria hastisepala Müll.Arg.	Rubiaceae	Zoo	Late Sec	No	No	7	44		51
Terminalia triflora (Griseb.) Lillo	Combretaceae	Anem	Late Sec	No	No	49		2	51
Ateleia glazioveana Baill.	Fabaceae	Anem	Pioneer	Yes	No	46		4	50
Beilschmiedia emarginata (Meisn.) Kosterm.	Lauraceae	Zoo	Late Sec	No	No	9	41		50
Eugenia nutans O.Berg	Myrtaceae	Zoo	Climax	No	No		50		50
Ficus adhatodifolia Schott in Spreng.	Moraceae	Zoo	Pioneer	No	No	32	17	1	50

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Guatteria ferruginea A.St.-Hil.	Annonaceae	Zoo	_	No	No	43	7		50
Ixora burchelliana Müll.Arg.	Rubiaceae	Zoo	In Sec	No	No		50		50
Nectandra cuspidata Nees	Lauraceae	Zoo	In Sec	No	No	50			50
*Siphoneugena kiaerskoviana (*Burret) Kausel	Myrtaceae	Zoo	Sec	No	No	17	33		50
Swartzia simplex (Sw.) Spreng.	Fabaceae	Zoo	Late Sec	Yes	No	1	49		50
Ternstroemia brasiliensis Cambess.	PeNoaphylacaceae	Zoo	In Sec	No	No	37	13		50
Vantanea compacta (Schnizl.) Cuatrec.	Humiriaceae	Zoo	Late Sec	No	No		50		50
Actintstemon verticillatus (Klotzsch) Baill.	Euphorbiaceae	Auto	Late Sec	No	No	8	41		49
Ficus eximia Schott	Moraceae	Zoo	In Sec	No	No	49			49
*Leandra barbinervis (*Cham. ex Triana) Cogn.	Melastomataceae	Zoo	In Sec	No	No		49		49
Oxandra martiana (Schltdl.) R.E.Fr.	Annonaceae	Zoo	Late Sec	No	No	44	5		49
Pouteria ventsa (Mart.) Baehni	Sapotaceae	Zoo	Late Sec	No	No	14	35		49
Psidium guineense Sw.	Myrtaceae	Zoo	In Sec	No	No	49			49
Tabernaemontana hystrix Steud.	Apocynaceae	Zoo	Pioneer	No	No	48	1		49
ANthornea sidifolia Müll.Arg.	Euphorbiaceae	Zoo	In Sec	No	No	14	32	2	48
Eugenia pruintsa D.Legrand	Myrtaceae	Zoo	Climax	No	EN	2	46		48
Persea alba Nees & Mart.	Lauraceae	Zoo	Climax	No	No		48		48
Picramnia glazioviana Engl.	Picramniaceae	Zoo	Late Sec	No	No	17	31		48
Vismia martiana Reichardt	Hypericaceae	Zoo	Pioneer	No	No	38	10		48
Zanthoxylum riedelianum Engl.	Rutaceae	Zoo	In Sec	No	No	43	2	3	48
Clarisia ilicifolia (Spreng.) Lanj. & Rossberg	Moraceae	Zoo	Late Sec	No	No	47			47
Coccoloba declinata (Vell.) Mart.	Polygonaceae	Zoo	Late Sec	No	No	45	2		47
Eugenia supraaxillaris Spring	Myrtaceae	Zoo	Late Sec	No	No		47		47
Genipa americana L.	Rubiaceae	Zoo	In Sec	No	No	30	17		47
Licania Kunthiana Hook.f.	Chrysobalanaceae	Zoo	Late Sec	No	No	16	31		47
Luehea candicans Mart. & Zucc.	Malvaceae	Anem	In Sec	No	No	45	2		47

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Miconia ligustroides (DC.) Naudin	Melastomataceae	Zoo	Pioneer	No	No	28	4	15	47
Tachigali denudata (Vogel) Oliveira-Filho	Fabaceae	Anem	Late Sec	Yes	No		47		47
Eugenia multicostata D.Legrand	Myrtaceae	Zoo	Climax	No	No		46		46
Ficus luschnathiana (Miq.) Miq.	Moraceae	Zoo	In Sec	No	No	27	11	8	46
Gymnanthes serrata Baill. ex Müll.Arg.	Euphorbiaceae	Auto	In Sec	No	No	46			46
Paubrasilia echinata (Lam.) Gagntn, H.C.Lima & G.P.Lewis	Fabaceae	Auto	Late Sec	No	EN		46		46
Pouteria bangii (Rusby) T.D.Penn.	Sapotaceae	Zoo	Late Sec	No	No	1	45		46
Psychotria pleiocephala Müll.Arg.	Rubiaceae	Zoo	Late Sec	No	No	46			46
Aspidosperma spruceanum Benth. ex Müll.Arg.	Apocynaceae	Anem	In Sec	No	No	31	14		45
Erythroxylum cuspidifolium Mart.	Erythroxylaceae	Zoo	Late Sec	No	No	4	41		45
Heteropterys byrsonimifolia A.Juss.	Malpighiaceae	Anem	_	No	No	45			45
Myrceugenia scutellata D.Legrand	Myrtaceae	Zoo	_	No	No		45		45
Myrciaria glomerata O.Berg	Myrtaceae	Zoo	In Sec	No	No	45			45
Pseudopiptadenia warmingii (Benth.) G.P.Lewis & M.P.Lima	Fabaceae	Anem	Late Sec	Yes	No	30	15		45
Randia armata (Sw.) DC.	Rubiaceae	Zoo	In Sec	No	No	23	21	1	45
Swartzia flaemingii Raddi	Fabaceae	Zoo	Late Sec	Yes	No	2	43		45
Cinnamomum triplinerve (Ruiz & Pav.) Kosterm.	Lauraceae	Zoo	Late Sec	No	No	5	39		44
Pachira endecaphylla (Vell.) Carv.-Sobr.	Malvaceae	Zoo	In Sec	No	No	20	24		44
Tetrorchidium parvulum Müll. Arg.	Euphorbiaceae	Zoo	_	No	No		44		44
Eugenia brasiliensis Lam.	Myrtaceae	Zoo	Late Sec	No	No	15	22	6	43
Ficus obtusiuscula (Miq.) Miq.	Moraceae	Zoo	In Sec	No	No	42	1		43
Neoraputia magnifica (Engl.) Emmerich ex Kallunki	Rutaceae	Auto	Climax	No	No		43		43
Posoqueria acutifolia Mart.	Rubiaceae	Zoo	Late Sec	No	No	9	34		43
Pouteria psammophila (Mart.) Radlk.	Sapotaceae	Zoo	Late Sec	No	EN		43		43
Qualea parviflora Mart.	Vochysiaceae	Anem	In Sec	No	No	43			43

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Senna multijuga (Rich.) H.S.Irwin & Barneby	Fabaceae	Auto	Pioneer	No	No	34	9		43
Tovomitopsis paniculata (Spreng.) Planch. & Triana	Clusiaceae	Zoo	Late Sec	No	No		43		43
Lafoensia glyptocarpa Koehne	Lythraceae	Anem	In Sec	No	No	24	18		42
Myrcia obovata (O.Berg) Nied.	Myrtaceae	Zoo	In Sec	No	No	2	40		42
Ocotea beulahiae J.B. Baitello	Lauraceae	Zoo	Late Sec	No	EN	42			42
Sloanea lasiocoma K.Schum.	Elaeocarpaceae	Zoo	Late Sec	No	No	16	3	23	42
Eugenia fusca O.Berg	Myrtaceae	Zoo	_	No	No	1	40		41
Hortia brasiliana Vand. ex DC.	Rutaceae	Zoo	In Sec	No	No	40	1		41
Myrcia anceps (Spreng.) O.Berg	Myrtaceae	Zoo	In Sec	No	No	5	36		41
Pseudopiptadenia inaequalis (Benth.) Rauschert	Fabaceae	Anem	_	Yes	No	6	35		41
Psychotria alegre Govaerts	Rubiaceae	Zoo	_	No	No		41		41
Guatteria villosissima A.St.-Hil.	Annonaceae	Zoo	_	No	No	40			40
Handroanthus albus (Cham.) Mattos	Bignoniaceae	Anem	In Sec	No	No	18	11	11	40
Hebeclinium macrophyllum (L.) DC.	Asteraceae	Anem	_	No	No	40			40
Lacistema lucidum Schnizl.	Lacistemataceae	Zoo	_	No	No		40		40
Macrothumia kuhlmannii (Sleumer) M.H.Alford	Salicaceae	Zoo	Climax	No	No	40			40
Marlierea suaveolens Cambess.	Myrtaceae	Zoo	Late Sec	No	No		40		40
Melantxylon brauna Schott	Fabaceae	Anem	Late Sec	Yes	VU	33	7		40
Miconia dodecandra Cogn.	Melastomataceae	Zoo	Pioneer	No	No		40		40
Phyllostemontdaphne geminiflora (Mez) Kosterm.	Lauraceae	Zoo	In Sec	No	No	11	29		40
Plinia martinellii G.M.Barroso & M.Peron	Myrtaceae	Zoo	_	No	No		40		40
Pogontphora schomburgkiana Miers ex Benth.	Peraceae	Zoo	Late Sec	No	No	13	27		40
Ramisia brasiliensis Oliv.	Nyctaginaceae	Anem	Pioneer	No	No	40			40
Rhamnus sphaerosperma Sw.	Rhamnaceae	Zoo	In Sec	No	No	3	18	19	40
Seguieria americana L.	Phytolaccaceae	Anem	In Sec	No	No	38	2		40
Spondias venulosa (Engl.) Engl.	Anacardiaceae	Zoo	In Sec	No	No	12	28		40

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Vitex sellowiana Cham.	Lamiaceae	Zoo	In Sec	No	No	29	11		40
Aegiphila mediterranea Vell.	Lamiaceae	Zoo	In Sec	No	No	38		1	39
Dalbergia brasiliensis Vogel	Fabaceae	Anem	In Sec	Yes	No	8	11	20	39
Geissanthus ambiguus (Mart.) G.Agostini	Primulaceae	Zoo	Late Sec	No	No	39			39
Inga lentiscifolius Benth.	Fabaceae	Zoo	In Sec	Yes	No		3	36	39
Myrciaria delicatula (DC.) O.Berg	Myrtaceae	Zoo	Late Sec	No	No	19	3	17	39
Pleroma stentcarpum (Schrank et Mart. ex DC.) Triana	Melastomataceae	Anem	_	No	No	38	1		39
Pterygota brasiliensis Allemão	Malvaceae	Anem	In Sec	No	No	36	3		39
Tabebuia obtusifolia (Cham.) Bureau	Bignoniaceae	Anem	Late Sec	No	No		39		39
Citharexylum myrianthum Cham.	Verbenaceae	Zoo	Pioneer	No	No	37	1		38
Ficus insipida Willd.	Moraceae	Zoo	Pioneer	No	No	29	9		38
Guatteria latifolia R.E.Fr.	Annonaceae	Zoo	_	No	No	31	7		38
Miconia inconspicua Miq.	Melastomataceae	Zoo	Pioneer	No	No	6	32		38
Myrsine lineata (Mez) Imkhan.	Primulaceae	Zoo	Pioneer	No	No		38		38
Parinari brasiliensis (Schott) Hook.f.	Chrysobalanaceae	Zoo	Late Sec	No	EN	2	36		38
Solanum granulosoleprosum Dunal	Solanaceae	Zoo	Pioneer	No	No	34		4	38
Symphyopappus itatiayensis (Hieron.) R.M.King & H.Rob.	Asteraceae	Anem	Pioneer	No	No			38	38
Vitex mexiae Moldenke	Lamiaceae	Zoo	_	No	No		38		38
Copaifera lucens Dwyer	Fabaceae	Zoo	Late Sec	No	No	19	18		37
Cyntphalla hastata (Jacq.) J.Presl	Capparaceae	Zoo	In Sec	No	No		37		37
Galipea laxiflora Engl.	Rutaceae	Auto	Late Sec	No	No		37		37
Myrcia lonchophylla A.R.Lourenço & E.Lucas	Myrtaceae	Zoo	Climax	No	No		37		37
Myrsine hermogenesii (Jung-Mend. & Bernacci) M.F.Freitas & Kin.-Gouv.	Primulaceae	Zoo	Late Sec	No	No		31	6	37
Simira glaziovii (K.Schum.) Steyerm.	Rubiaceae	Anem	Late Sec	No	No	1	36		37

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Trichilia pseudostipularis (A.Juss.) C.DC.	Meliaceae	Zoo	Climax	No	No	28	9		37
Eugenia melantgyna (D.Legrand) Sobral	Myrtaceae	Zoo	Late Sec	No	No		36		36
Hymenaea stigontcarpa Mart. ex Hayne	Fabaceae	Zoo	In Sec	No	No	36			36
Miconia holosericea (L.) DC.	Melastomataceae	Zoo	In Sec	No	No	1	35		36
Miconia willdentwii Klotzsch ex Naudin	Melastomataceae	Zoo	Sec	No	No	24	12		36
Myrcia tenuiventsa Kiaersk.	Myrtaceae	Zoo	Late Sec	No	No	1	35		36
Stryphntdendron polyphyllum Mart.	Fabaceae	Auto	In Sec	Yes	No	21	15		36
Vasconcellea quercifolia A.St.-Hil.	Caricaceae	Zoo	Pioneer	No	No	36			36
Dahlstedtia pinnata (Benth.) Malme	Fabaceae	Anem	In Sec	Yes	No	5	30		35
Deguelia costata (Benth.) A.M.G.Azevedo & R.A.Camargo	Fabaceae	Auto	In Sec	Yes	No	35			35
Escallonia bifida Link & Otto	Escalloniaceae	Auto	Pioneer	No	No		25	10	35
Myrcia lenheirensis Kiaersk.	Myrtaceae	Zoo	_	No	No		35		35
Myrciaria cuspidata O.Berg	Myrtaceae	Zoo	In Sec	No	No			35	35
Pseudolmedia laevigata Trécul	Moraceae	Zoo	In Sec	No	No	35			35
Xylopia emarginata Mart.	Annonaceae	Zoo	In Sec	No	No	34	1		35
Citronella gongonha (Mart.) R.A.Howard	Cardiopteridaceae	Zoo	Late Sec	No	No	10		24	34
Jacaranda cuspidifolia Mart.	Bignoniaceae	Anem	Pioneer	No	No	34			34
Nectandra puberula (Schott) Nees	Lauraceae	Zoo	Late Sec	No	No		34		34
Pouteria gardneriana (A.DC.) Radlk.	Sapotaceae	Zoo	In Sec	No	No	28	5	1	34
Quararibea turbinata (Sw.) Poir.	Malvaceae	Zoo	Late Sec	No	No	7	27		34
Schoepfia brasiliensis A.DC.	Schoepfiaceae	Zoo	Late Sec	No	No	31	3		34
Symplocos estrellensis Casar.	Symplocaceae	Zoo	Late Sec	No	No	4	30		34
Castela tweedii Planch.	Simaroubaceae	Zoo	_	No	EN			33	33
Eugenia arenaria Cambess.	Myrtaceae	Zoo	_	No	No	8	25		33
Miconia calvescens DC.	Melastomataceae	Zoo	In Sec	No	No	1	32		33

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Myrcia rupicola D.Legrand	Myrtaceae	Zoo	In Sec	No	EN		33		33
Oreopanax fulvus Marchal	Araliaceae	Zoo	In Sec	No	No			33	33
Persea rufotomentosa Nees & Mart.	Lauraceae	Zoo	Late Sec	No	No	15	18		33
Schinus lentiscifolius Marchand	Anacardiaceae	Zoo	Pioneer	No	No			33	33
Tabebuia cassintides (Lam.) DC.	Bignoniaceae	Anem	In Sec	No	EN		33		33
Colletia paradoxa (Spreng.) Escal.	Rhamnaceae	Zoo	In Sec	Yes	EN			32	32
Cordiera myrciifolia (K.Schum.) C.H.Perss. & Delprete	Rubiaceae	Zoo	Late Sec	No	No	1	28	3	32
Eugenia montsperma Vell.	Myrtaceae	Zoo	Climax	No	No	4	28		32
Eugenia repanda O.Berg	Myrtaceae	Zoo	Late Sec	No	No	29	1	2	32
Ficus gomelleira Kunth	Moraceae	Zoo	In Sec	No	No	10	22		32
Ilex sapotifolia Reissek	Aquifoliaceae	Zoo	Late Sec	No	No	14	18		32
Ocotea venulosa (Nees) Baitello	Lauraceae	Zoo	Late Sec	No	No		32		32
Pouteria guianensis Aubl.	Sapotaceae	Zoo	Late Sec	No	No	12	20		32
Schinus polygama (Cav.) Cabrera	Anacardiaceae	Zoo	Pioneer	No	No		24	8	32
Siparuna brasiliensis (Spreng.) A.DC.	Siparunaceae	Zoo	Late Sec	No	No	5	27		32
Tibouchina estrellensis (Raddi) Cogn.	Melastomataceae	Anem	_	No	No	2	30		32
Cestrum strigilatum Ruiz & Pav.	Solanaceae	Zoo	Pioneer	No	No	20	10	1	31
Chrysophyllum lucentifolium Cronquist	Sapotaceae	Zoo	Late Sec	No	No	20	11		31
Hennecartia omphalandra J.Poiss.	Monimiaceae	Zoo	Climax	No	No	31			31
Lacistema hasslerianum Chodat	Lacistemataceae	Zoo	In Sec	No	No	30	1		31
Mollinedia elegans Tul.	Monimiaceae	Zoo	Climax	No	No	4	9	18	31
Myrcia rufipes DC.	Myrtaceae	Zoo	In Sec	No	No	31			31
Peltogyne discolor Vogel	Fabaceae	Anem	_	No	No		31		31
Persea major (Meisn.) L.E.Kopp	Lauraceae	Zoo	Late Sec	No	No	17	3	11	31
Abarema langsdorffii (Benth.) Barneby & J.W.Grimes	Fabaceae	Zoo	In Sec	Yes	No	6	24		30

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Acosmium lentiscifolius Schott	Fabaceae	Anem	In Sec	Yes	No	16	14		30
Aniba viridis Mez	Lauraceae	Zoo	Late Sec	No	No	3	27		30
Austrocritonia velutina (Gardner) R.M.King & H.Rob.	Asteraceae	Anem	_	No	No	28	2		30
Chomelia pohliana Müll.Arg.	Rubiaceae	Zoo	In Sec	No	No	30			30
Couepia ventsa Prance	Chrysobalanaceae	Zoo	_	No	No		30		30
Eugenia astringens Cambess.	Myrtaceae	Zoo	Late Sec	No	No		30		30
Guatteria candolleana Schltdl.	Annonaceae	Zoo	_	No	No		30		30
Hyptidendron asperrimum (Spreng.) Harley	Lamiaceae	Auto	In Sec	No	No	30			30
Mollinedia glabra (Spreng.) Perkins	Monimiaceae	Zoo	_	No	No		30		30
Piper tuberculatum Jacq.	Piperaceae	Zoo	Climax	No	No	30			30
Styrax acuminatus Pohl	Styracaceae	Zoo	In Sec	No	No	20	5	5	30
Cordia silvestris Fresen.	Boraginaceae	Zoo	Pioneer	No	No	10	19		29
Cordia superba Cham.	Boraginaceae	Zoo	Late Sec	No	No	26	3		29
Coussarea friburgensis M.Gomes	Rubiaceae	Zoo	_	No	No		29		29
Eugenia catharinae O.Berg	Myrtaceae	Zoo	In Sec	No	No			29	29
Ficus entrmis Mart. ex Miq.	Moraceae	Zoo	Late Sec	No	No	16	9	4	29
Ficus pertusa L.f.	Moraceae	Zoo	In Sec	No	No	29			29
Leandra aurea (Cham.) Cogn.	Melastomataceae	Zoo	In Sec	No	No		29		29
Myrcia anacardiifolia Gardner	Myrtaceae	Zoo	In Sec	No	No		29		29
Myrcia eugenioides Cambess.	Myrtaceae	Zoo	In Sec	No	EN		29		29
Ocotea aniboides (Meisn.) Mez	Lauraceae	Zoo	Climax	No	No	19	10		29
Palicourea guianensis Aubl.	Rubiaceae	Zoo	Late Sec	No	No	20	1	8	29
Phytolacca dioica L.	Phytolaccaceae	Zoo	In Sec	No	No	18	11		29
Pseudopiptadenia leptostachya (Benth.) Rauschert	Fabaceae	Anem	_	Yes	No		29		29
Sloanea obtusifolia (Moric.) Schum.	Elaeocarpaceae	Zoo	Late Sec	No	EN	1	28		29

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Vochysia bifalcata Warm.	Vochysiaceae	Anem	In Sec	No	No	22	7		29
Vochysia schwackeana Warm.	Vochysiaceae	Anem	Late Sec	No	No	22	7		29
Aspidosperma pyricollum Müll.Arg.	Apocynaceae	Anem	Climax	No	No	25	3		28
Calliandra brevipes Benth.	Fabaceae	Auto	Pioneer	Yes	No	16		12	28
Gymnanthes schottiana Müll.Arg.	Euphorbiaceae	Auto	Pioneer	No	No			28	28
Lecythis lanceolata Poir.	Lecythidaceae	Zoo	In Sec	No	No	1	27		28
Machaerium hatschbachii Rudd	Fabaceae	Anem	In Sec	Yes	No	27		1	28
Micropholis gardneriana (A.DC.) Pierre	Sapotaceae	Zoo	Late Sec	No	No	28			28
Mollinedia puberula Perkins	Monimiaceae	Zoo	_	No	No		28		28
Myrcia racemosa (O.Berg) Kiaersk.	Myrtaceae	Zoo	Late Sec	No	No		28		28
Connarus suberosus Planch.	Connaraceae	Zoo	In Sec	No	No	27			27
Euplassa legalis (Vell.) I.M.Johnst.	Proteaceae	Zoo	Late Sec	No	No	4	23		27
Machaerium pedicellatum Vogel	Fabaceae	Anem	In Sec	Yes	No	19	8		27
Pleroma arboreum Gardner	Melastomataceae	Anem	Pioneer	No	No		27		27
Plinia edulis (Vell.) Sobral	Myrtaceae	Zoo	Late Sec	No	VU		27		27
Syagrus oleracea (Mart.) Becc.	Arecaceae	Zoo	In Sec	No	No	27			27
Xylosma pseudosalzmannii Sleumer	Salicaceae	Zoo	In Sec	No	No	19	1	7	27
Beilschmiedia rigida (Mez) Kosterm.	Lauraceae	Zoo	_	No	EN		26		26
Cinnamomum sellowianum (Nees & Mart.) Kosterm.	Lauraceae	Zoo	Climax	No	No	3	8	15	26
Dalbergia miscolobium Benth.	Fabaceae	Anem	In Sec	Yes	No	26			26
Eugenia zuccarinii O.Berg	Myrtaceae	Zoo	_	No	No		26		26
Myrcia brasiliensis Kiaersk.	Myrtaceae	Zoo	Late Sec	No	No		26		26
Myrsine balansae (Mez) Otegui	Primulaceae	Zoo	In Sec	No	No	16		10	26
Naucleopsis oblongifolia (Kuhlm.) Carauta	Moraceae	Zoo	Late Sec	No	No	20	6		26
Ocotea lanata (Nees & Mart.) Mez	Lauraceae	Zoo	Climax	No	No	13	12	1	26
Picramnia parvifolia Engl.	Picramniaceae	Zoo	Late Sec	No	No	8	8	10	26

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Cestrum schlechtendalii G.Don	Solanaceae	Zoo	Pioneer	No	No	24	1		25
Coffea arabica L.*	Rubiaceae	Zoo	_	No	No	24	1		25
Daphntpsis schwackeana Taub.	Thymelaeaceae	Zoo	Late Sec	No	No		25		25
Discocarpus spruceanus Müll.Arg.	PhyllaNohaceae	Zoo	_	No	No	25			25
Eugenia candolleana DC.	Myrtaceae	Zoo	In Sec	No	No		25		25
Eugenia uruguayensis Cambess.	Myrtaceae	Zoo	Late Sec	No	No			25	25
Eumachia cymuligera (Müll. Arg.) C.M. Taylor & Razafim.	Rubiaceae	Zoo	_	No	No		25		25
Luehea conwentzii K. Schum.	Malvaceae	Anem	_	No	No	13	12		25
Machaerium oblongifolium Vogel	Fabaceae	Anem	_	Yes	No	25			25
Matayba obovata R. L. G. Coelho, V. C. Souza & Ferrucci	Sapindaceae	Zoo	Late Sec	No	No		25		25
Myrcia fenzliana O.Berg	Myrtaceae	Zoo	Pioneer	No	No	17	8		25
Myrcia multipunctata Mazine	Myrtaceae	Zoo	Climax	No	No	4	21		25
Ouratea polygyna Engl.	Ochnaceae	Zoo	_	No	No	25			25
Qualea dichotoma (Mart.) Warm.	Vochysiaceae	Anem	Late Sec	No	No	16	9		25
Acrocomia aculeata (Jacq.) Lodd. ex Mart.	Arecaceae	Zoo	Pioneer	No	No	24			24
Allophylus semidentatus (Miq.) Radlk.	Sapindaceae	Zoo	In Sec	No	No	4	20		24
Callisthene mintr Mart.	Vochysiaceae	Anem	Late Sec	No	No	24			24
Eugenia modesta DC.	Myrtaceae	Zoo	_	No	No	13	11		24
Eugenia piresiana Cambess.	Myrtaceae	Zoo	_	No	No	24			24
Eugenia sulcata Spring ex Mart.	Myrtaceae	Zoo	Late Sec	No	No	5	19		24
Luehea paniculata Mart. & Zucc.	Malvaceae	Anem	In Sec	No	No	24			24
Myrceugenia campestris (DC.) D.Legrand & Kausel	Myrtaceae	Zoo	Late Sec	No	No	2	22		24
Myrcia dichrophylla D.Legrand	Myrtaceae	Zoo	Late Sec	No	No		24		24
Myrcia eugeniopsoides (D.Legrand & Kausel) Mazine	Myrtaceae	Zoo	Climax	No	No		24		24
Psychotria nemorosa Gardner	Rubiaceae	Zoo	Climax	No	No		24		24

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Qualea lundii (Warm.) Warm.	Vochysiaceae	Anem	_	No	No	11	13		24
Solanum rufescens Sendtn.	Solanaceae	Zoo	Pioneer	No	No	1	23		24
Swartzia apetala Raddi	Fabaceae	Zoo	In Sec	Yes	No	22	2		24
Terminalia januariensis DC.	Combretaceae	Anem	In Sec	No	No	2	22		24
Terminalia kleinii (Exell) Gere & Boatwr.	Combretaceae	Zoo	Climax	No	No		24		24
Verntnanthura puberula (Less.) H.Rob.	Asteraceae	Anem	Pioneer	No	No		23	1	24
Algerntnia riedelii (Müll.Arg.) G.L.Webster	Euphorbiaceae	Auto	_	No	No		23		23
Boehmeria caudata Sw.	Urticaceae	Zoo	Pioneer	No	No	22		1	23
Casearia aculeata Jacq.	Salicaceae	Zoo	Pioneer	No	No	23			23
Celtis brasiliensis (Gardner) Planch.	Cannabaceae	Zoo	Pioneer	No	No	14		9	23
Cestrum axillare Vell.	Solanaceae	Zoo	Pioneer	No	No	9	14		23
Citrus ×limon (L.) Osbeck*	Rutaceae	Zoo	_	No	No	21	2		23
Cryptocarya subcorymbosa Mez	Lauraceae	Zoo	_	No	No		23		23
Eugenia kleinii D.Legrand	Myrtaceae	Zoo	Climax	No	No	1	22		23
Eugenia speciosa Cambess.	Myrtaceae	Zoo	Late Sec	No	No	14	9		23
Myrcia crocea Kiaersk.	Myrtaceae	Zoo	In Sec	No	No	1	22		23
Ocotea urbaniana Mez	Lauraceae	Zoo	Climax	No	No		23		23
Simira corumbensis (Standl.) Steyerm.	Rubiaceae	Anem	In Sec	No	No	23			23
Syagrus hoehnei Burret	Arecaceae	Zoo	Climax	No	No		23		23
Albizia pedicellaris (DC.) L.Rico	Fabaceae	Zoo	Late Sec	Yes	No	1	21		22
Carica papaya L.*	Caricaceae	Zoo	Pioneer	No	No	22			22
Chionanthus trichotomus (Vell.) P.S.Green	Oleaceae	Zoo	Climax	No	No	15	4	3	22
Coussarea graciliflora (Mart.) Müll.Arg.	Rubiaceae	Zoo	_	No	No		22		22
Dimorphandra mollis Benth.	Fabaceae	Zoo	In Sec	Yes	No	22			22
Eugenia brunneopubescens Mazine	Myrtaceae	Zoo	_	No	No		22		22
Faramea multiflora A.Rich. ex DC.	Rubiaceae	Zoo	Late Sec	No	No	5	17		22

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Jacaratia heptaphylla (Vell.) A.DC.	Caricaceae	Zoo	In Sec	No	No		22		22
Ouratea acuminata (A.DC.) Engl.	Ochnaceae	Zoo	In Sec	No	No	22			22
Persea americana Mill.*	Lauraceae	Zoo	Late Sec	No	No		22		22
Poecilanthe parviflora Benth.	Fabaceae	Auto	Late Sec	Yes	No	21		1	22
Richeria grandis Vahl	PhyllaNohaceae	Zoo	In Sec	No	No		22		22
Senegalia kallunkiae (J.W.Grimes & Barneby) Seigler & Ebinger	Fabaceae	Anem	In Sec	Yes	No	22			22
Stylogyne lhotzkyana (A.DC.) Mez	Primulaceae	Zoo	Climax	No	No	5	17		22
Vitex cymosa Bertero ex Spreng.	Lamiaceae	Zoo	In Sec	No	No	20	2		22
Xylosma tweediana (Clos) Eichler	Salicaceae	Zoo	In Sec	No	No	5	2	15	22
Cereus hildmannianus K.Schum.	Cactaceae	Zoo	Pioneer	No	No	14		7	21
Clarisia racemosa Ruiz & Pav.	Moraceae	Zoo	Late Sec	No	No	21			21
Coussarea verticillata Müll.Arg.	Rubiaceae	Zoo	Late Sec	No	No	21			21
Cyathea hirsuta C.Presl	Cyatheaceae	Anem	Climax	No	No		21		21
Erythroxylum cuneifolium (Mart.) O.E.Schulz	Erythroxylaceae	Zoo	Late Sec	No	No	10		11	21
Eugenia capparidifolia DC.	Myrtaceae	Zoo	_	No	No	6	15		21
Eugenia tenuipedunculata Kiaersk.	Myrtaceae	Zoo	_	No	No	21			21
Mimosa bimucronata (DC.) Kuntze	Fabaceae	Anem	Pioneer	Yes	No	15	6		21
Muellera filipes (Benth.) M.J. Silva & A.M.G. Azevedo	Fabaceae	Anem	_	Yes	No		21		21
Myrcia springiana (O.Berg) Kiaersk.	Myrtaceae	Zoo	_	No	No		21		21
Pouteria glomerata (Miq.) Radlk.	Sapotaceae	Zoo	In Sec	No	No	19	2		21
Rhodostemonodaphne macrocalyx (Meisn.) Rohwer ex Madriñán	Lauraceae	Zoo	Late Sec	No	No	5	16		21
Vismia micrantha A.St.-Hil.	Hypericaceae	Zoo	Pioneer	No	No	14	7		21
Zollernia glabra (Spreng.) Yakovlev	Fabaceae	Zoo	Late Sec	No	No	12	9		21
Brasiliopuntia brasiliensis (Willd.) A.Berger	Cactaceae	Zoo	In Sec	No	No	8	12		20

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Croton hemiargyreus Müll.Arg.	Euphorbiaceae	Auto	_	No	No	20			20
Cupania tenuivalvis Radlk.	Sapindaceae	Zoo	In Sec	No	No	20			20
Dalbergia foliolosa Benth.	Fabaceae	Anem	Late Sec	Yes	No	5	15		20
Erythroxylum gontclados (Mart.) O.E.Schulz	Erythroxylaceae	Zoo	Late Sec	No	No		20		20
Eugenia umbellata Spreng.	Myrtaceae	Zoo	Late Sec	No	No	2	18		20
Faramea latifolia (Cham. & Schltdl.) DC.	Rubiaceae	Zoo	Late Sec	No	No	19	1		20
Guapira graciliflora (Mart. ex Schmidt) Lundell	Nyctaginaceae	Zoo	In Sec	No	No	20			20
Leandra variabilis Raddi	Melastomataceae	Zoo	In Sec	No	No		20		20
Lecythis lurida (Miers) S.A.Mori	Lecythidaceae	Zoo	Late Sec	No	No	20			20
Licaria bahiana Kurz	Lauraceae	Zoo	Late Sec	No	No	1	19		20
Miconia brasiliensis (Spreng.) Triana	Melastomataceae	Zoo	Pioneer	No	No	1	19		20
Mollinedia salicifolia Perkins	Monimiaceae	Zoo	_	No	No		20		20
Myrcia hartwegiana (O.Berg) Kiaersk.	Myrtaceae	Zoo	In Sec	No	No		12	8	20
Myrcia undulata O.Berg	Myrtaceae	Zoo	Climax	No	No	2		18	20
Nectandra leucantha Nees	Lauraceae	Zoo	Late Sec	No	No	9	11		20
Neomitranthes capivariensis (Mattos) Mattos	Myrtaceae	Zoo	Late Sec	No	No		20		20
Persea ventsa Nees & Mart.	Lauraceae	Zoo	Late Sec	No	No	15	3	2	20
Pleroma mutabile (Vell.) Triana	Melastomataceae	Anem	Pioneer	No	No	2	18		20
Podocarpus sellowii Klotzsch ex Endl.	Podocarpaceae	Zoo	Late Sec	No	No	2	18		20
Pouteria beaurepairei (Glaz. & Raunk.) Baehni	Sapotaceae	Zoo	In Sec	No	No	18	1	1	20
Psychotria subspathacea Müll.Arg.	Rubiaceae	Zoo	_	No	No		20		20
Roupala paulensis Sleumer	Proteaceae	Anem	_	No	No	1	19		20
Salacia grandifolia (Mart.) G.Don	Celastraceae	Zoo	In Sec	No	No		20		20
Senna septemtrionalis (Viv.) H.S.Irwin & Barneby*	Fabaceae	Auto	_	No	No	20			20
Simarouba amara Aubl.	Simaroubaceae	Zoo	In Sec	No	No	2	18		20
Vochysia rectiflora Warm.	Vochysiaceae	Anem	_	No	No	5	15		20

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Achatocarpus praecox Griseb.	Achatocarpaceae	Zoo	Late Sec	No	No	19			19
Aegiphila verticillata Vell.	Lamiaceae	Zoo	Pioneer	No	No	19			19
Anntna mucosa Jacq.	Annonaceae	Zoo	In Sec	No	No	10	9		19
*Aspidosperma tom*entos*um* Mart. & Zucc.	Apocynaceae	Anem	In Sec	No	No	5	14		19
Baccharis oblongifolia (Ruiz & Pav.) Pers.	Asteraceae	Anem	Pioneer	No	No		16	3	19
Chomelia obtusa Cham. & Schltdl.	Rubiaceae	Zoo	In Sec	No	No	10		9	19
Daphntpsis martii Meisn.	Thymelaeaceae	Zoo	Climax	No	No		19		19
Helicteres brevispira A.St.-Hil.	Malvaceae	Auto	_	No	No	19			19
Myrsine parvula (Mez) Otegui	Primulaceae	Zoo	Pioneer	No	No		15	4	19
Protium atlanticum (Daly) Byng & Christenh.	Burseraceae	Zoo	_	No	No	19			19
Protium tenuifolium (Engl.) Engl.	Burseraceae	Zoo	_	No	No	19			19
Chrysophyllum splendens Spreng.	Sapotaceae	Zoo	Late Sec	No	No	5	13		18
Coccoloba glaziovii Lindau	Polygonaceae	Zoo	In Sec	No	No	1	17		18
Connarus beyrichii Planch.	Connaraceae	Zoo	_	No	No	18			18
Cordia trichoclada DC.	Boraginaceae	Zoo	In Sec	No	No		18		18
Croton organensis Baill.	Euphorbiaceae	Auto	Pioneer	No	No	4	14		18
Diospyros sericea A.DC.	Ebenaceae	Zoo	_	No	No	18			18
Eugenia aurata O.Berg	Myrtaceae	Zoo	Late Sec	No	No	17	1		18
Eugenia bacopari D.Legrand	Myrtaceae	Zoo	Late Sec	No	No		10	8	18
Inga bullata Benth.	Fabaceae	Zoo	_	Yes	No		18		18
Inga ingoides (Rich.) Willd.	Fabaceae	Zoo	In Sec	Yes	No	16	2		18
Inga subnuda Salzm. ex Benth.	Fabaceae	Zoo	In Sec	Yes	No	13	5		18
Mollinedia blumenaviana Perkins	Monimiaceae	Zoo	Late Sec	No	No	2	3	13	18
Myrcia solitaria (Sobral, Aguiar & ANtunes) A.R.Lourenço & E.Lucas	Myrtaceae	Zoo	_	No	No		18		18
Quillaja lancifolia D.Don	Quillajaceae	Anem	In Sec	No	EN	1		17	18

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Rauvolfia sellowii Müll.Arg.	Apocynaceae	Zoo	In Sec	No	No	18			18
Senegalia tenuifolia (L.) Britton & Rose	Fabaceae	Auto	In Sec	Yes	No	17		1	18
Toulicia laevigata Radlk.	Sapindaceae	Anem	In Sec	No	No	18			18
Alseis pickelii Pilg. & Schmale	Rubiaceae	Anem	In Sec	No	No	17			17
Anaxagorea dolichocarpa Sprague & Sandwith	Annonaceae	Zoo	Late Sec	No	No	12	5		17
Andira ormosioides Benth.	Fabaceae	Zoo	In Sec	Yes	No	5	12		17
Couratari macrosperma A.C.Sm.	Lecythidaceae	Anem	Late Sec	No	No	17			17
Cryptocarya micrantha Meisn.	Lauraceae	Zoo	_	No	No	1	16		17
Dendropanax langsdorfii (Marchal) Frodin	Araliaceae	Zoo	_	No	No		17		17
Ephedranthus dimerus J.C. Lopes, Chatrou & Mello-Silva	Annonaceae	Zoo	Climax	No	No	17			17
Faramea pachyantha Müll.Arg.	Rubiaceae	Zoo	Climax	No	No		17		17
Guapira tomentosa (Casar.) Lundell	Nyctaginaceae	Zoo	In Sec	No	No	6	11		17
Melia azedarach L.*	Meliaceae	Zoo	_	No	No	17			17
Myrcia eriocalyx DC.	Myrtaceae	Zoo	Climax	No	No	17			17
Myrcia glabra (O.Berg) D.Legrand	Myrtaceae	Zoo	Late Sec	No	No	6	5	6	17
Myrcia heringii D.Legrand	Myrtaceae	Zoo	Late Sec	No	No		17		17
Piptocarpha organensis Cabrera	Asteraceae	Anem	In Sec	No	No		17		17
Pouteria bullata (S.Moore) Baehni	Sapotaceae	Zoo	Late Sec	No	EN		17		17
Rudgea gardenioides (Cham.) Müll.Arg.	Rubiaceae	Zoo	Sec	No	No	6	11		17
Rudgea vellerea Müll.Arg.	Rubiaceae	Zoo	Late Sec	No	No		17		17
Sapindus saponaria L.	Sapindaceae	Zoo	In Sec	No	No	17			17
Syagrus insignis (Rob.) Becc.	Arecaceae	Zoo	_	No	No		17		17
Campomanesia neriiflora (O.Berg) Nied.	Myrtaceae	Zoo	Late Sec	No	No	7	9		16
Celtis orthacanthos Planch.	Cannabaceae	Zoo	_	No	No	16			16
Coccoloba alnifolia Casar.	Polygonaceae	Zoo	Pioneer	No	No	12	4		16

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Croton macrobothrys Baill.	Euphorbiaceae	Auto	Pioneer	No	No	4	12		16
Dahlstedtia pentaphylla (Taub.) Burkart	Fabaceae	Anem	In Sec	Yes	No		16		16
Duguetia microphylla (R.E.Fr.) R.E.Fr.	Annonaceae	Zoo	_	No	No		16		16
Erythroxylum argentinum O.E.Schulz	Erythroxylaceae	Zoo	In Sec	No	No	8		8	16
Erythroxylum daphnites Mart.	Erythroxylaceae	Zoo	In Sec	No	No	16			16
Eschweilera compressa (Vell.) Miers	Lecythidaceae	Zoo	_	No	EN		16		16
Eugenia magnifica Spring ex Mart.	Myrtaceae	Zoo	_	No	No		16		16
Eugenia neomyrtifolia Sobral	Myrtaceae	Zoo	Late Sec	No	No	13	2	1	16
Eugenia peruibensis Mattos	Myrtaceae	Zoo	_	No	EN		16		16
Ficus mexiae Standl.	Moraceae	Zoo	In Sec	No	No	14	2		16
Guatteria macropus Mart.	Annonaceae	Zoo	In Sec	No	No	16			16
Inga sellowiana Benth.	Fabaceae	Zoo	In Sec	Yes	No		16		16
Machaerium leucopterum Vogel	Fabaceae	Anem	In Sec	Yes	No	4	12		16
Miconia collatata Wurdack	Melastomataceae	Zoo	_	No	No	16			16
Miconia cuspidata Naudin	Melastomataceae	Zoo	In Sec	No	No	8	8		16
Myrcia flagellaris (D.Legrand) Sobral	Myrtaceae	Zoo	Late Sec	No	No		16		16
Ocotea frondosa (Meisn.) Mez	Lauraceae	Zoo	_	No	No		16		16
Plinia silvestris (Vellozo) Mazine & Sobral	Myrtaceae	Zoo	Climax	No	EN		16		16
Pradosia lactescens (Vell.) Radlk.	Sapotaceae	Zoo	Late Sec	No	No	8	8		16
Psychotria trichophora Müll.Arg.	Rubiaceae	Zoo	_	No	No		16		16
Ruprechtia lundii Meisn.	Polygonaceae	Anem	Late Sec	No	No		16		16
Solanum cinnamomeum Sendtn.	Solanaceae	Zoo	Pioneer	No	No	4	12		16
Sorocea hilarii Gaudich.	Moraceae	Zoo	Late Sec	No	No	2	14		16
Spirotheca rivieri (Decne.) Ulbr.	Malvaceae	Anem	In Sec	No	No	5	11		16
Swartzia oblata R.S.Cowan	Fabaceae	Zoo	Late Sec	Yes	No	15	1		16
Symplocos insignis Brand	Symplocaceae	Zoo	_	No	No		16		16

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
ToNtelea leptophylla A.C. Sm.	Celastraceae	Zoo	_	No	No		16		16
Brosimum gaudichaudii Trécul	Moraceae	Zoo	In Sec	No	No	14	1		15
Casearia guianensis (Aubl.) Urb.	Salicaceae	Zoo	In Sec	No	No	15			15
Cestrum bracteatum Link & Otto	Solanaceae	Zoo	In Sec	No	No	8	6	1	15
Coccoloba arborescens (Vell.) R.A.Howard	Polygonaceae	Zoo	Pioneer	No	No		15		15
Conchocarpus pentandrus (A. St.-Hil.) Kallunki & Pirani	Rutaceae	_	Late Sec	No	No	15			15
Eugenia cereja D.Legrand	Myrtaceae	Zoo	Climax	No	No		15		15
Eugenia rostrifolia D.Legrand	Myrtaceae	Zoo	Late Sec	No	No	15			15
Eugenia stigmatosa DC.	Myrtaceae	Zoo	In Sec	No	No		15		15
Handroanthus vellosoi (Toledo) Mattos	Bignoniaceae	Anem	In Sec	No	No	13	2		15
Hymentlobium janeirense Kuhlm.	Fabaceae	Anem	Late Sec	Yes	No	3	12		15
Inga hispida Schott ex Benth.	Fabaceae	Zoo	Late Sec	Yes	No	3	12		15
Meriania glabra (DC.) Triana	Melastomataceae	Zoo	_	No	No		15		15
Miconia eichleri Cogn.	Melastomataceae	Zoo	Pioneer	No	No		15		15
Moquiniastrum paniculatum (Less.) G. Sancho	Asteraceae	Anem	_	No	No	15			15
Ocotea mandioccana A.Quinet	Lauraceae	Zoo	Climax	No	No		11	4	15
Ormosia fastigiata Tul.	Fabaceae	Zoo	In Sec	Yes	No	4	11		15
Palicourea croceoides Ham.	Rubiaceae	Zoo	_	No	No		15		15
Piper cernuum Vell.	Piperaceae	Zoo	In Sec	No	No	4	11		15
Qualea gestasiana A.St.-Hil.	Vochysiaceae	Anem	Late Sec	No	No	7	8		15
Solanum pabstii L.B.Sm. & Downs	Solanaceae	Zoo	In Sec	No	No		1	14	15
Tabebuia stentcalyx Sprague & Stapf	Bignoniaceae	Anem	_	No	No		15		15
Trattinnickia ferruginea Kuhlm.	Burseraceae	Zoo	_	No	EN	15			15
Trigoniodendron spiritusanctense E.F.Guim. & Miguel	Trigoniaceae	Zoo	Late Sec	No	VU	15			15
Zanthoxylum rigidum Humb. & Bonpl. ex Willd.	Rutaceae	Zoo	In Sec	No	No	15			15

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Andira anthelmia (Vell.) Benth.	Fabaceae	Zoo	In Sec	Yes	No	7	7		14
Chomelia sericea Müll.Arg.	Rubiaceae	Zoo	Late Sec	No	No	14			14
Endlicheria glomerata Mez	Lauraceae	Zoo	Late Sec	No	No	5	9		14
Eugenia subundulata Kiaersk.	Myrtaceae	Zoo	_	No	No	14			14
Machaerium incorruptibile (Vell.) Benth.	Fabaceae	Anem	In Sec	Yes	No	4	10		14
Mahurea exstipulata Benth.	Calophyllaceae	Anem	_	No	No	14			14
Molopanthera paniculata Turcz.	Rubiaceae	Anem	Pioneer	No	No	14			14
MoNteverdia schummaniana (Loes.) Biral	Celastraceae	Zoo	Climax	No	No	4	10		14
Myrcia oligantha O.Berg	Myrtaceae	Zoo	Late Sec	No	No			14	14
Myrcianthes gigaNtea (D.Legrand) D.Legrand	Myrtaceae	Zoo	Late Sec	No	No			14	14
Neea hermaphrodita S.Moore	Nyctaginaceae	Zoo	In Sec	No	No	14			14
Ocotea nectandrifolia Mez	Lauraceae	Zoo	Late Sec	No	No	1	13		14
Picramnia gardneri Planch.	Picramniaceae	Zoo	Late Sec	No	No		14		14
Pouteria grandiflora (A.DC.) Baehni	Sapotaceae	Zoo	In Sec	No	No	10	4		14
Psidium ovale (Spreng.) Burret	Myrtaceae	Zoo	In Sec	No	No			14	14
Psychotria fluminensis Vell.	Rubiaceae	Zoo	Late Sec	No	No		14		14
Sloanea garckeana K.Schum.	Elaeocarpaceae	Zoo	Late Sec	No	No	8	5	1	14
Tovomita glazioviana Engl.	Clusiaceae	Zoo	In Sec	No	No	6	8		14
Urera caracasana (Jacq.) Griseb.	Urticaceae	Zoo	Pioneer	No	No	14			14
Vochysia saldanhana Warm.	Vochysiaceae	Anem	_	No	No		14		14
Alseis involuta K.Schum.	Rubiaceae	Anem	In Sec	No	VU		13		13
Apeiba tibourbou Aubl.	Malvaceae	Auto	Pioneer	No	No	13			13
Bauhinia rufa (Bong.) Steud.	Fabaceae	Auto	In Sec	No	No	13			13
Byrsonima japurensis A.Juss.	Malpighiaceae	Zoo	Late Sec	No	No		13		13
Casearia rupestris Eichler	Salicaceae	Zoo	In Sec	No	No	13			13
Cordia taguahyensis Vell.	Boraginaceae	Zoo	Climax	No	No		13		13

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Critoniopsis stellata (Spreng.) H.Rob.	Asteraceae	Anem	_	No	No		13		13
Cyathea dichromatolepis (Fée) Domin	Cyatheaceae	Anem	Late Sec	No	No		13		13
Eugenia gemmiflora O.Berg	Myrtaceae	Zoo	Late Sec	No	No	13			13
Eugenia macahensis O.Berg	Myrtaceae	Zoo	_	No	No		13		13
Eugenia pruniformis Cambess.	Myrtaceae	Zoo	Climax	No	No	7	6		13
Faramea occideNtalis (L.) A.Rich.	Rubiaceae	Zoo	In Sec	No	No		13		13
Ficus punthella Schott	Moraceae	Zoo	Late Sec	No	No		13		13
Gonatogyne brasiliensis (Baill.) Müll.Arg.	PhyllaNohaceae	_	Late Sec	No	No		13		13
Gymnanthes discolor (Spreng.) Müll.Arg.	Euphorbiaceae	Auto	_	No	No			13	13
Inga organensis Pittier	Fabaceae	Zoo	_	Yes	No		13		13
Manihot antmala Pohl	Euphorbiaceae	Auto	_	No	No	13			13
Miconia minutiflora (Bonpl.) DC.	Melastomataceae	Zoo	In Sec	No	No	13			13
Miconia theaezans (Bonpl.) Cogn.	Melastomataceae	Zoo	_	No	No	10	3		13
Myrcia laxiflora Cambess.	Myrtaceae	Zoo	Late Sec	No	No		13		13
Ocotea velloziana (Meisn.) Mez	Lauraceae	Zoo	In Sec	No	No	12	1		13
Piptadenia adiantoides (Spreng.) J.F.Macbr.	Fabaceae	Auto	In Sec	Yes	No	13			13
Senegalia recurva (Benth.) Seigler & Ebinger	Fabaceae	Auto	In Sec	Yes	No	13			13
Solanum compressum L.B.Sm. & Downs	Solanaceae	Zoo	In Sec	No	No			13	13
Stephantpodium organense (Rizzini) Prance	Dichapetalaceae	Zoo	_	No	No		13		13
Toulicia subsquamulata Radlk.	Sapindaceae	Anem	In Sec	No	No	13			13
Albizia edwallii (Hoehne) Barneby & J.W.Grimes	Fabaceae	Anem	In Sec	Yes	No	12			12
Ampelocera glabra Kuhlm.	Ulmaceae	Zoo	In Sec	No	No	12			12
Berberis laurina Billb.	Berberidaceae	Zoo	Pioneer	No	No		2	10	12
Byrsonima verbascifolia (L.) DC.	Malpighiaceae	Zoo	In Sec	No	No	12			12
Cardiopetalum calophyllum Schltdl.	Annonaceae	Zoo	In Sec	No	No	12			12
Daphntpsis racemosa Griseb.	Thymelaeaceae	Zoo	In Sec	No	No	4		8	12

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Eugenia bunchosiifolia Nied.	Myrtaceae	Zoo	In Sec	No	VU		12		12
*Eugenia punicifolia (*Kunth) DC.	Myrtaceae	Zoo	In Sec	No	No	9	3		12
Eugenia villaentvae Kiaersk.	Myrtaceae	Zoo	_	No	EN		12		12
Euplassa incana (Klotzsch) I.M.Johnst.	Proteaceae	Zoo	In Sec	No	VU	9	3		12
Ficus trigona L.f.	Moraceae	Zoo	In Sec	No	No	10	2		12
Geontma pohliana Mart.	Arecaceae	Zoo	_	No	No		12		12
Handroanthus catarinensis (A.H.Gentry) S.Grose	Bignoniaceae	Anem	In Sec	No	No		12		12
Lacistema aggregatum (P.J.Bergius) Rusby	Lacistemataceae	Zoo	In Sec	No	No	12			12
Leandra sericea DC.	Melastomataceae	Zoo	_	No	No			12	12
Lecythis pisonis Cambess.	Lecythidaceae	Zoo	Late Sec	No	No	10	2		12
Magonia pubescens A.St.-Hil.	Sapindaceae	Anem	In Sec	No	No	12			12
Manihot grahamii Hook.	Euphorbiaceae	Auto	Pioneer	No	No	2		10	12
Marlierea obscura O.Berg	Myrtaceae	Zoo	Late Sec	No	No	11	1		12
Miconia brunnea DC.	Melastomataceae	Zoo	Climax	No	No	6	6		12
Ouratea sellowii (Planch.) Engl.	Ochnaceae	Zoo	Climax	No	No		12		12
Piper glabratum Kunth	Piperaceae	Zoo	Late Sec	No	No	11	1		12
Piptocarpha sellowii (Sch.Bip.) Baker	Asteraceae	Anem	In Sec	No	No	11		1	12
Pleroma fissinervium Schrank et Mart. ex DC.	Melastomataceae	Anem	_	No	No	1	11		12
Simira pikia (K.Schum.) Steyerm.	Rubiaceae	Anem	Late Sec	No	No	1	11		12
Terminalia mameluco Pickel	Combretaceae	Anem	In Sec	No	No	12			12
Aniba heringeri Vattimo-Gil	Lauraceae	Zoo	_	No	No	4	7		11
Anntna neosalicifolia H.Rainer	Annonaceae	Zoo	In Sec	No	No	11			11
Banara parviflora (A.Gray) Benth.	Salicaceae	Zoo	In Sec	No	No	10		1	11
Eugenia umbrosa O.Berg	Myrtaceae	Zoo	_	No	No	3	8		11
Guapira noxia (Netto) Lundell	Nyctaginaceae	Zoo	In Sec	No	No	11			11
Hirtella racemosa Lam.	Chrysobalanaceae	Zoo	In Sec	No	No	11			11

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Inga flagelliformis (Vell.) Mart.	Fabaceae	Zoo	Late Sec	Yes	No	11			11
Jacaranda subalpina Morawetz	Bignoniaceae	Anem	_	No	No	11			11
Meriania paniculata (DC.) Triana	Melastomataceae	Zoo	_	No	No		11		11
Miconia inaequidens (DC.) Naudin	Melastomataceae	Zoo	In Sec	No	No		11		11
Myrcia isaiana G.M.Barroso & Peixoto	Myrtaceae	Zoo	Late Sec	No	EN		11		11
Myrsine loefgrenii (Mez) Imkhan.	Primulaceae	Zoo	In Sec	No	No	7		4	11
Ouratea spectabilis (Mart.) Engl.	Ochnaceae	Zoo	In Sec	No	No	9	2		11
Piper gaudichaudianum Kunth	Piperaceae	Zoo	In Sec	No	No	7	4		11
Platymiscium pubescens Micheli	Fabaceae	Anem	In Sec	Yes	No	11			11
Psidium myrtoides O.Berg	Myrtaceae	Zoo	Late Sec	No	No	10	1		11
Psychotria alba Ruiz & Pav.	Rubiaceae	Zoo	In Sec	No	No		11		11
Ricinus communis L.*	Euphorbiaceae	Zoo	Pioneer	No	No	11			11
Rintrea laevigata (Sol. ex Ging.) Hekking	Violaceae	Auto	_	No	No		11		11
Senegalia tucumanensis (Griseb.) Seigler & Ebinger	Fabaceae	Auto	Pioneer	Yes	No	11			11
Solanum campaniforme Roem. & Schult.	Solanaceae	Zoo	Pioneer	No	No	2	9		11
Tachigali paratyensis (Vell.) H.C.Lima	Fabaceae	Anem	In Sec	Yes	No		11		11
Acalypha gracilis Spreng.	Euphorbiaceae	Auto	In Sec	No	No	10			10
Cedrela angustifolia Sessé & Moc. ex DC.	Meliaceae	Anem	_	No	EN			10	10
Celtis ehrenbergiana (Klotzsch) Liebm.	Cannabaceae	Zoo	Pioneer	No	No		10		10
Chomelia brasiliana A.Rich.	Rubiaceae	Zoo	Climax	No	No		10		10
Dendropanax trilobus (Gardner) Seem.	Araliaceae	Zoo	_	No	No		10		10
Eugenia catharinensis D.Legrand	Myrtaceae	Zoo	In Sec	No	No		10		10
Eugenia gracillima Kiaersk.	Myrtaceae	Zoo	Late Sec	No	No	5	5		10
Guatteria pogontpus Mart.	Annonaceae	Zoo	In Sec	No	No	2	8		10
Guettarda pohliana Müll.Arg.	Rubiaceae	Zoo	In Sec	No	No	8	2		10

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Henriettea glabra (Vell.) Penneys, F.A. Michelangeli, Judd et Almeda	Melastomataceae	Zoo	Late Sec	No	No		10		10
Hovenia duntis Thunb.*	Rhamnaceae	Zoo	Pioneer	No	No	4		6	10
Humiriastrum glaziovii (Urb.) Cuatrec.	Humiriaceae	Zoo	Late Sec	No	No	10			10
Ilex brasiliensis (Spreng.) Loes.	Aquifoliaceae	Zoo	Late Sec	No	No	4		6	10
Machaerium lanceolatum (Vell.) J.F.Macbr.	Fabaceae	Anem	In Sec	Yes	No	10			10
Mangifera indica L.*	Anacardiaceae	Zoo	In Sec	No	No	10			10
Manihot pilosa Pohl	Euphorbiaceae	Auto	Pioneer	No	No	10			10
Meliosma itatiaiae Urb.	Sabiaceae	Zoo	Late Sec	No	No	4	6		10
Morithamnus gantphyllus (Mattf.) R.M.King & H.Rob.	Asteraceae	Anem	_	No	No		10		10
Myrcia macrocarpa DC.	Myrtaceae	Zoo	_	No	No		10		10
Myrcia ovata Cambess.	Myrtaceae	Zoo	Climax	No	VU		10		10
Myrcia variabilis DC.	Myrtaceae	Zoo	Late Sec	No	No	10			10
Ocotea villosa Kosterm.	Lauraceae	Zoo	Late Sec	No	No	8	2		10
Plinia cauliflora (Mart.) Kausel	Myrtaceae	Zoo	Late Sec	No	No	10			10
Poecilanthe fantata (Vell.) Heringer	Fabaceae	Anem	Late Sec	Yes	No		10		10
Pouteria reticulata (Engl.) Eyma	Sapotaceae	Zoo	Late Sec	No	No		10		10
Solanum sellowianum Sendtn.	Solanaceae	Zoo	_	No	No		10		10
Stifftia chrysantha J.C.Mikan	Asteraceae	Anem	Late Sec	No	No		10		10
Stryphntdendron guianense (Aubl.) Benth.	Fabaceae	Zoo	_	Yes	No	10			10
Trichilia ramalhoi Rizzini	Meliaceae	Zoo	_	No	No	10			10
Vochysia glazioviana Warm.	Vochysiaceae	Anem	_	No	No		10		10
Vochysia oppugnata (Vell.) Warm.	Vochysiaceae	Anem	_	No	No	9	1		10
Baccharis oreophila Malme	Asteraceae	Anem	Pioneer	No	No	1	8		9
Baccharis serrulata (Lam.) Pers.	Asteraceae	Anem	Pioneer	No	No		9		9
Baccharis subdeNtata DC.	Asteraceae	Anem	In Sec	No	No			9	9

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Beilschmiedia angustifolia Kosterm.	Lauraceae	Zoo	_	No	No	2	7		9
Caryocar brasiliense Cambess.	Caryocaraceae	Zoo	In Sec	No	No	9			9
Citrus reticulata Blanco*	Rutaceae	Zoo	_	No	No	1	8		9
Couratari asterotricha Prance	Lecythidaceae	Anem	Late Sec	No	EN	9			9
Couratari pyramidata (Vell.) Kunth	Lecythidaceae	Anem	Late Sec	No	EN		9		9
CybiaNthus peruvianus (A.DC.) Miq.	Primulaceae	Zoo	Late Sec	No	No	2	7		9
Diospyros brasiliensis Mart. ex Miq.	Ebenaceae	Zoo	Late Sec	No	No		9		9
Eriobotrya japonica (Thunb.) Lindl.*	Rosaceae	Zoo	In Sec	No	No	3	1	5	9
Erythroxylum ambiguum Peyr.	Erythroxylaceae	Zoo	Late Sec	No	No	5	4		9
Ficus citrifolia Mill.	Moraceae	Zoo	In Sec	No	No	9			9
Grazielodendron rio-docensis H.C.Lima	Fabaceae	Anem	Late Sec	Yes	No	9			9
Inga barbata Benth.	Fabaceae	Zoo	In Sec	Yes	No		9		9
Justicia brasiliana Roth	AcaNohaceae	Auto	_	No	No	9			9
Kielmeyera albopunctata Santi	Calophyllaceae	Anem	In Sec	No	No	9			9
Marlierea regeliana O.Berg	Myrtaceae	Zoo	Late Sec	No	No	6	3		9
Melicoccus oliviformis Kunth	Sapindaceae	Zoo	In Sec	No	No		9		9
Meriania claussenii (Naudin) Triana	Melastomataceae	Zoo	In Sec	No	No		9		9
Miconia pyrifolia Naudin	Melastomataceae	Zoo	In Sec	No	No	4	5		9
Myrceugenia pilotantha (Kiaersk.) Landrum	Myrtaceae	Zoo	In Sec	No	No		9		9
Myrcia bipennis (O.Berg) McVaugh	Myrtaceae	Zoo	_	No	No		9		9
Myrcia eriopus DC.	Myrtaceae	Zoo	In Sec	No	No	3	6		9
Myrcia montana Cambess.	Myrtaceae	Zoo	_	No	No		9		9
Ocotea acutifolia (Nees) Mez	Lauraceae	Zoo	Pioneer	No	No	8	1		9
Ormosia mintr Vogel	Fabaceae	Zoo	Late Sec	Yes	No		9		9
Peltogyne angustiflora Ducke	Fabaceae	Anem	Late Sec	No	No	4	5		9
Pittosporum undulatum Vent.*	Pittosporaceae	Zoo	_	No	No		9		9

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Pseudobombax tomentosum (Mart.) A.Robyns	Malvaceae	Anem	In Sec	No	No	9			9
Psidium longipetiolatum D.Legrand	Myrtaceae	Zoo	Late Sec	No	No		6	3	9
Psychotria rhytidocarpa Müll.Arg.	Rubiaceae	Zoo	_	No	No	9			9
Qualea glaziovii Warm.	Vochysiaceae	Anem	_	No	No		9		9
Senna silvestris (Vell.) H.S.Irwin & Barneby	Fabaceae	Auto	Pioneer	No	No	8	1		9
Solanum stipulatum Vell.	Solanaceae	Zoo	In Sec	No	No	9			9
Stryphntdendron rotundifolium Mart.	Fabaceae	Auto	_	Yes	No	9			9
Swartzia langsdorffii Raddi	Fabaceae	Zoo	Late Sec	Yes	No	1	8		9
Swartzia macrostachya Benth.	Fabaceae	Zoo	Late Sec	Yes	No	9			9
Vismia parviflora Cham. & Schltdl.	Hypericaceae	Zoo	_	No	No	9			9
Ximenia americana L.	Olacaceae	Zoo	_	No	No	9			9
Alibertia edulis (Rich.) A.Rich.	Rubiaceae	Zoo	In Sec	No	No	8			8
Angostura bracteata (Nees & Mart.) Kallunki	Rutaceae	Auto	Climax	No	No	8			8
Aptandra tubicina (Poepp.) Benth. ex Miers	Olacaceae	Zoo	In Sec	No	No	8			8
Byrsonima crassifolia (L.) Kunth	Malpighiaceae	Zoo	Pioneer	No	No	8			8
Casearia mariquitensis Kunth	Salicaceae	Zoo	Late Sec	No	No	8			8
Christiana macrodon Toledo	Malvaceae	Anem	Climax	No	No	8			8
Cinnamomum stentphyllum (Meisn.) Vattimo-Gil	Lauraceae	Zoo	In Sec	No	No	7	1		8
Cordia rufescens A.DC.	Boraginaceae	Zoo	_	No	No	8			8
Cupania paniculata Cambess.	Sapindaceae	Zoo	_	No	No	6	2		8
Duguetia riedeliana R.E.Fr.	Annonaceae	Zoo	_	No	No		8		8
Dulacia singularis Vell.	Olacaceae	Zoo	_	No	No		8		8
Eugenia plicata Nied.	Myrtaceae	Zoo	_	No	No		8		8
Heterocondylus alatus (Vell.) R.M.King & H.Rob.	Asteraceae	Anem	_	No	No	1	7		8
Ixora schottiana Müll.Arg.	Rubiaceae	Zoo	_	No	No		8		8
Manilkara subsericea (Mart.) Dubard	Sapotaceae	Zoo	Late Sec	No	No		8		8

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Miconia elegans Cogn.	Melastomataceae	Zoo	_	No	No		8		8
Monteverdia brasiliensis (Mart.) Biral	Celastraceae	Zoo	_	No	No	5	3		8
Myrceugenia bracteosa (DC.) D.Legrand & Kausel	Myrtaceae	Zoo	Late Sec	No	EN		8		8
Myrcia squamata (Mattos & D.Legrand) Mattos	Myrtaceae	Zoo	_	No	No		8		8
Myrciaria pallida O.Berg	Myrtaceae	Zoo	_	No	No		8		8
Myriocarpa stipitata Benth.	Urticaceae	_	_	No	No		8		8
Ocotea fasciculata (Nees) Mez	Lauraceae	Zoo	Late Sec	No	No		8		8
Ouratea multiflora (Pohl) Engl.	Ochnaceae	Zoo	_	No	No		8		8
Paradrypetes ilicifolia Kuhlm.	Rhizophoraceae	Zoo	_	No	No	8			8
Pereskia grandifolia Haw.	Cactaceae	Zoo	_	No	No	4	4		8
Picramnia ciliata Mart.	Picramniaceae	Zoo	Late Sec	No	No	6	2		8
Plinia pseudodichasiantha (Kiaersk.) G.M.Barroso ex Sobral	Myrtaceae	Zoo	Climax	No	No		8		8
Pouteria durlandii (Standl.) Baehni	Sapotaceae	Zoo	Late Sec	No	No	2	6		8
Pseudolmedia laevis (Ruiz & Pav.) J.F.Macbr.	Moraceae	Zoo	Late Sec	No	No	8			8
Psychotria poeppigiana Müll. Arg.	Rubiaceae	Zoo	_	No	No	8			8
Salacia mosenii A.C. Sm.	Celastraceae	Zoo	_	No	CR		8		8
Sorocea jureiana Romaniuc	Moraceae	Zoo	_	No	No		8		8
Spondias mombin L.	Anacardiaceae	Zoo	In Sec	No	No	6	2		8
Tachigali aurea Tul.	Fabaceae	Anem	Pioneer	Yes	No	5	3		8
Talisia coriacea Radlk.	Sapindaceae	Zoo	Late Sec	No	No	8			8
Tocoyena sellowiana (Cham. & Schltdl.) K.Schum.	Rubiaceae	Zoo	Climax	No	No	3	5		8
Ziziphus glaziovii Warm.	Rhamnaceae	Zoo	Late Sec	No	No	8			8
Aegiphila obducta Vell.	Lamiaceae	Zoo	Pioneer	No	No		7		7
Aiouea bracteata Kosterm.	Lauraceae	Zoo	Late Sec	No	VU		7		7
Anntna acutiflora Mart.	Annonaceae	Zoo	In Sec	No	No	7			7

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Anntna xylopiifolia A.St.-Hil. & Tul.	Annonaceae	Zoo	_	No	No		7		7
Antonia ovata Pohl	Loganiaceae	Anem	In Sec	No	No	7			7
Aspidosperma compactinervium Kuhlm.	Apocynaceae	Anem	_	No	No		7		7
Campomanesia laurifolia Gardner	Myrtaceae	Zoo	Late Sec	No	No	5	2		7
Ceiba crispiflora (Kunth) Ravenna	Malvaceae	Anem	In Sec	No	No	6	1		7
Centrolobium robustum (Vell.) Mart. ex Benth.	Fabaceae	Anem	In Sec	Yes	No	3	4		7
Colubrina retusa (Pittier) Cowan	Rhamnaceae	Zoo	In Sec	No	No	7			7
Cordia gardneri I.M.Johnst.	Boraginaceae	_	_	No	No	7			7
Cordia magntliifolia Cham.	Boraginaceae	Zoo	In Sec	No	No	7			7
Cupania concolor Radlk.	Sapindaceae	Zoo	_	No	VU		7		7
Cupania schizoneura Radlk.	Sapindaceae	Zoo	_	No	No		7		7
Dimorphandra exaltata Schott	Fabaceae	Anem	In Sec	Yes	No	7			7
Eremanthus incanus (Less.) Less.	Asteraceae	Anem	_	No	No	7			7
Euplassa cantareirae Sleumer	Proteaceae	Zoo	Late Sec	No	EN		6	1	7
Euplassa organensis (Gardner) I.M.Johnst.	Proteaceae	Zoo	_	No	No	4	3		7
Humiriastrum dentatum (Casar.) Cuatrec.	Humiriaceae	Zoo	Late Sec	No	No	3	4		7
Ilex integerrima (Vell.) Reissek	Aquifoliaceae	Zoo	_	No	No		7		7
Inga lenticellata Benth.	Fabaceae	Zoo	In Sec	Yes	No		7		7
Inga mendoncaei Harms	Fabaceae	Zoo	_	Yes	VU		7		7
Leandra melastomoides Raddi	Melastomataceae	Zoo	In Sec	No	No	5	2		7
Monteverdia longifolia (Reissek ex Loes.) Biral	Celastraceae	Zoo	_	No	No		7		7
Myrcia hexasticha Kiaersk.	Myrtaceae	Zoo	_	No	EN		7		7
Neomitranthes amblymitra (Burret) Mattos	Myrtaceae	Zoo	_	No	VU		7		7
Pachira glabra Pasq.*	Malvaceae	Zoo	In Sec	No	No		7		7
Pisonia aculeata L.	Nyctaginaceae	Zoo	In Sec	No	No	7			7
Pterodon pubescens (Benth.) Benth.	Fabaceae	Anem	_	No	No	7			7

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Roupala sculpta Sleumer	Proteaceae	Anem	_	No	VU		7		7
Solanum paranense Dusén	Solanaceae	Zoo	Pioneer	No	No			7	7
Solanum schizandrum Sendtn.	Solanaceae	Zoo	_	No	No		7		7
Symplocos trachycarpos Brand	Symplocaceae	Zoo	Pioneer	No	No		7		7
Tachigali multijuga Benth.	Fabaceae	Anem	In Sec	Yes	No	2	5		7
Urbantdendron bahiense (Meisn.) Rohwer	Lauraceae	Zoo	_	No	VU		7		7
Urbantdendron verrucosum (Nees) Mez	Lauraceae	Zoo	In Sec	No	No	6	1		7
Verntnanthura polyanth es (Sprengel) Vega & Dematteis	Asteraceae	Anem	Pioneer	No	No	7			7
Vochysia thyrsoidea Pohl	Vochysiaceae	Anem	In Sec	No	No	7			7
ANthodon decussatus Ruiz & Pav.	Celastraceae	_	_	No	No	2	4		6
Baccharis uncinella DC.	Asteraceae	Anem	Pioneer	No	No			6	6
Bunchosia pallescens Skottsb.	Malpighiaceae	Zoo	Late Sec	No	No	6			6
Callisthene dryadum Duarte	Vochysiaceae	Anem	_	No	No		6		6
Coussapoa curranii S.F.Blake	Urticaceae	Zoo	In Sec	No	No	6			6
Crateva tapia L.	Capparaceae	Zoo	In Sec	No	No	6			6
Daphntpsis coriacea Taub.	Thymelaeaceae	Zoo	_	No	No		6		6
Dipteryx alata Vogel	Fabaceae	Zoo	In Sec	No	No	6			6
Eriotheca macrophylla (K.Schum.) A.Robyns	Malvaceae	Anem	In Sec	No	No	6			6
Eugenia bahiensis DC.	Myrtaceae	Zoo	Climax	No	No		6		6
Eugenia platysema O.Berg	Myrtaceae	Zoo	Late Sec	No	No		6		6
Hirtella angustifolia Schott ex Spreng.	Chrysobalanaceae	Zoo	Late Sec	No	No	4	2		6
Kielmeyera excelsa Cambess.	Calophyllaceae	Anem	_	No	No	4	2		6
Ladenbergia hexandra (Pohl) Klotzsch	Rubiaceae	Anem	Climax	No	No	6			6
Marlierea martinellii G.M.Barroso & Peixoto	Myrtaceae	Zoo	_	No	No		6		6
Melantpsidium nigrum Colla	Rubiaceae	Zoo	Late Sec	No	VU	3	3		6

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Miconia corallina Spring	Melastomataceae	Zoo	Climax	No	No	3	3		6
Miconia petropolitana Cogn.	Melastomataceae	Zoo	Pioneer	No	No	3		3	6
Moldenhawera polysperma (Vell.) Stellfeld	Fabaceae	Auto	_	Yes	No		6		6
Mollinedia glaziovii Perkins	Monimiaceae	Zoo	_	No	No		6		6
Myrceugenia acutiflora (Kiaersk.) D.Legrand & Kausel	Myrtaceae	Zoo	Climax	No	No		6		6
Myrcia albotomentosa DC.	Myrtaceae	Zoo	Late Sec	No	No	6			6
Myrcia reitzii (D.Legrand) Mazine	Myrtaceae	Zoo	Climax	No	No		6		6
Nectandra psammophila Nees	Lauraceae	Zoo	Late Sec	No	No		6		6
Ouratea floribunda (A.St.-Hil.) Engl.	Ochnaceae	Zoo	_	No	No		6		6
Poeppigia procera C.Presl	Fabaceae	Auto	In Sec	No	No	6			6
Rinorea bahiensis (Moric.) Kuntze	Violaceae	Auto	Climax	No	No	6			6
Sarcaulus brasiliensis (A.DC.) Eyma	Sapotaceae	Zoo	Sec	No	No	1	5		6
Simira rubra (Mart.) Steyerm.	Rubiaceae	Anem	In Sec	No	No	6			6
Solanum cernuum Vell.	Solanaceae	Zoo	Pioneer	No	No	6			6
Solanum intermedium Sendtn.	Solanaceae	Zoo	_	No	No	6			6
Symplocos itatiaiae Wawra	Symplocaceae	Zoo	_	No	EN		6		6
Symplocos laxiflora Benth.	Symplocaceae	Zoo	In Sec	No	No		6		6
Symplocos nitidiflora Brand	Symplocaceae	Zoo	Late Sec	No	No		6		6
Tabebuia aurea (Silva Manso) Benth. & Hook.f. ex S.Moore	Bignoniaceae	Anem	In Sec	No	No	6			6
Tovomita leucantha (Schltdl.) Planch. & Triana	Clusiaceae	Zoo	Late Sec	No	No	6			6
Trembleya parviflora (D.Don) Cogn.	Melastomataceae	Zoo	_	No	No	6			6
Aiouea hirsuta Lorea-Hern.	Lauraceae	Zoo	Late Sec	No	No	4	1		5
Austroeupatorium inulaefolium (Kunth) R.M.King & H.Rob.	Asteraceae	Anem	Pioneer	No	No	5			5
Barnebya dispar (Griseb.) W.R.Anderson & B.Gates	Malpighiaceae	Anem	In Sec	No	No		5		5

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Brunfelsia uniflora (Pohl) D.Don	Solanaceae	Zoo	Late Sec	No	No	5			5
Callisthene hassleri Briq.	Vochysiaceae	Anem	_	No	No			5	5
Capsicum villosum Sendtn.	Solanaceae	Zoo	In Sec	No	No			5	5
Casearia commersoniana Cambess.	Salicaceae	Zoo	Late Sec	No	No	1	4		5
Chomelia ribesioides Benth. ex A.Gray	Rubiaceae	Zoo	In Sec	No	No	5			5
Cinnamodendron axillare Endl. ex Walp.	Canellaceae	Zoo	Climax	No	No		5		5
Coccoloba cordata Cham.	Polygonaceae	Zoo	In Sec	No	No	5			5
Cordia aberrans I.M.Johnst.	Boraginaceae	Zoo	_	No	No	2	3		5
Dracaena fragrans (L.) Ker Gawl.*	Asparagaceae	_	_	No	No	5			5
Enterolobium monjollo (Vell.) Mart.	Fabaceae	Zoo	_	Yes	No	5			5
Erythrina verna Vell.	Fabaceae	Auto	In Sec	Yes	No	5			5
Eugenia capitulifera O.Berg	Myrtaceae	Zoo	Climax	No	No		5		5
Eugenia copacabanensis Kiaersk.	Myrtaceae	Zoo	In Sec	No	No		5		5
Eugenia lambertiana DC.	Myrtaceae	Zoo	In Sec	No	No	5			5
Eugenia paracatuana O.Berg	Myrtaceae	Zoo	Late Sec	No	No	5			5
Ficus clusiifolia Schott	Moraceae	Zoo	In Sec	No	No	2	3		5
Geissospermum laeve (Vell.) Miers	Apocynaceae	Zoo	Late Sec	No	No		5		5
Genipa infundibuliformis Zappi & Semir	Rubiaceae	Zoo	In Sec	No	No	4	1		5
Heisteria perianthomega (Vell.) Sleumer	Olacaceae	Zoo	Late Sec	No	No		5		5
Helicteres ovata Lam.	Malvaceae	Auto	_	No	No	5			5
Inga schinifolia Benth.	Fabaceae	Zoo	_	Yes	No		5		5
Jacaranda bracteata Bureau & K.Schum.	Bignoniaceae	Anem	_	No	No		5		5
Macrotorus utriculatus (Mart.) Perkins	Monimiaceae	Zoo	In Sec	No	No		5		5
Manihot jolyana Cruz	Euphorbiaceae	Auto	_	No	No	5			5
Maprounea brasiliensis A.St.-Hil.	Euphorbiaceae	Zoo	Sec	No	No		5		5
Matayba leucodictya Radlk.	Sapindaceae	Zoo	_	No	No	5			5

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Miconia ibaguensis (Bonpl.) Triana	Melastomataceae	Zoo	Pioneer	No	No		5		5
Miconia tentaculifera Naudin	Melastomataceae	Zoo	_	No	No		5		5
Miconia warmingiana Cogn.	Melastomataceae	Zoo	_	No	No		5		5
MoNoeverdia cestrifolia (Reissek) Biral	Celastraceae	Zoo	Late Sec	No	No	1	4		5
Myrceugenia reitzii D.Legrand	Myrtaceae	Zoo	Late Sec	No	No		5		5
Myrciaria plinioides D.Legrand	Myrtaceae	Zoo	Climax	No	VU		5		5
Neea parviflora Poepp. & Endl.	Nyctaginaceae	Zoo	_	No	No	5			5
Ocotea glauca (Nees & Mart.) Mez	Lauraceae	Zoo	Late Sec	No	No		5		5
Paratecoma peroba (Record) Kuhlm.	Bignoniaceae	Anem	In Sec	No	EN	5			5
Piper aduncum L.	Piperaceae	Zoo	In Sec	No	No	4	1		5
Plinia grandifolia (Mattos) Sobral	Myrtaceae	Zoo	Climax	No	No	5			5
Porcelia macrocarpa (Warm.) R.E.Fr.	Annonaceae	Zoo	In Sec	No	No	3	2		5
Psidium grandifolium Mart. ex DC.	Myrtaceae	Zoo	_	No	No	5			5
Psychotria pubigera Schltdl.	Rubiaceae	Zoo	Sec	No	No		5		5
Rudgea nobilis Müll.Arg.	Rubiaceae	Zoo	_	No	No		5		5
Schefflera macrocarpa (Cham. & Schltdl.) Frodin	Araliaceae	Zoo	In Sec	No	No	5			5
Sessea regnellii Taub.	Solanaceae	Zoo	In Sec	No	No			5	5
Siphoneugena kuhlmannii Mattos	Myrtaceae	Zoo	Late Sec	No	VU	5			5
Solanum asperum Rich.	Solanaceae	Zoo	Pioneer	No	No		5		5
Solanum vellozianum Dunal	Solanaceae	Zoo	Pioneer	No	No		5		5
Strychnos acuta Progel	Loganiaceae	Zoo	_	No	No		5		5
Swartzia submarginata (Benth.) Mansano	Fabaceae	Zoo	_	Yes	No		5		5
Talisia esculenta (Cambess.) Radlk.	Sapindaceae	Zoo	In Sec	No	No	5			5
Tocoyena formosa (Cham. & Schltdl.) K.Schum.	Rubiaceae	Zoo	In Sec	No	No	5			5
Tripterodendron filicifolium Radlk.	Sapindaceae	_	Climax	No	No	2	3		5
Unonopsis riedeliana R.E.Fr.	Annonaceae	Zoo	_	No	EN		5		5

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Vismia guianensis (Aubl.) Choisy	Hypericaceae	Zoo	Pioneer	No	No		5		5
Abarema cochliacarpos (Gomes) Barneby & J.W.Grimes	Fabaceae	Zoo	In Sec	Yes	No	4			4
Adenocalymma subsessilifolium DC.	Bignoniaceae	Anem	In Sec	No	No	1	3		4
Agarista eucalyptoides (Cham. & Schltdl.) G.Don	Ericaceae	Auto	In Sec	No	No		4		4
Allagoptera caudescens (Mart.) Kuntze	Arecaceae	Zoo	In Sec	No	No	2	2		4
Annona coriacea Mart.	Annonaceae	Zoo	In Sec	No	No	4			4
Aspidosperma illustre (Vell.) Kuhlm. & Pirajá	Apocynaceae	Anem	Late Sec	No	No	4			4
Baccharis dracunculifolia DC.	Asteraceae	Anem	Pioneer	No	No	4			4
Campomanesia adamantium (Cambess.) O.Berg	Myrtaceae	Zoo	Late Sec	No	No	4			4
Cassia leptophylla Vogel	Fabaceae	Auto	In Sec	No	No			4	4
Ceiba erianthos (Cav.) K.Schum.	Malvaceae	Anem	In Sec	No	No		4		4
Cenostigma pluviosum (DC.) E. Gagnon & G.P. Lewis	Fabaceae	Auto	Pioneer	No	No	4			4
Chomelia estrellana Müll.Arg.	Rubiaceae	Zoo	_	No	No		4		4
Clavija spinosa (Vell.) Mez	Primulaceae	Zoo	_	No	No	4			4
Clusia mexiae P.F.Stevens	Clusiaceae	Zoo	_	No	No	4			4
Cordia toqueve Aubl.	Boraginaceae	Zoo	_	No	No	2	2		4
Cupania crassifolia Radlk.	Sapindaceae	Zoo	_	No	No		4		4
Cyathea rufa (Fée) Lellinger	Cyatheaceae	Anem	Late Sec	No	No	4			4
Drypetes sessiliflora Allemão	Putranjivaceae	Zoo	In Sec	No	No	3	1		4
Erythroxylum campestre A.St.-Hil.	Erythroxylaceae	Zoo	Late Sec	No	No	4			4
Erythroxylum suberosum A.St.-Hil.	Erythroxylaceae	Zoo	_	No	No	4			4
Eugenia biflora (L.) DC.	Myrtaceae	Zoo	In Sec	No	No	4			4
Eugenia cambucae Mattos	Myrtaceae	Zoo	_	No	No		4		4
Eugenia chlorophylla O.Berg	Myrtaceae	Zoo	Late Sec	No	No	1	3		4
Eugenia ellipsoidea Kiaersk.	Myrtaceae	Zoo	_	No	No		4		4

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Eugenia malacantha D.Legrand	Myrtaceae	Zoo	Climax	No	EN	3	1		4
Eugenia mandioccensis O.Berg	Myrtaceae	Zoo	_	No	No		4		4
Exostyles venusta Schott	Fabaceae	Zoo	Late Sec	No	No	1	3		4
Faramea nigrescens Mart.	Rubiaceae	Zoo	In Sec	No	No	3	1		4
Helicteres lhotzkyana (Schott & Endl.) K.Schum.	Malvaceae	Auto	Pioneer	No	No	4			4
Huberia laurina DC.	Melastomataceae	Zoo	_	No	No	2	2		4
Inga tenuis (Vell.) Mart.	Fabaceae	Zoo	_	Yes	No		4		4
Jacaranda montana Morawetz	Bignoniaceae	Anem	In Sec	No	No		4		4
Libidibia ferrea (Mart. ex Tul.) L.P.Queiroz	Fabaceae	Auto	In Sec	No	No	2	2		4
Machaonia acuminata Bonpl.	Rubiaceae	Anem	In Sec	No	No	4			4
Matayba grandis Radlk.	Sapindaceae	Zoo	_	No	No		4		4
Miconia jucunda (DC.) Triana	Melastomataceae	Zoo	_	No	No		4		4
Miconia robusta Cogn.	Melastomataceae	Zoo	In Sec	No	No	2	2		4
Mollinedia lamprophylla Perkins	Monimiaceae	Zoo	_	No	No		4		4
Mollinedia pachysandra Perkins	Monimiaceae	Zoo	Climax	No	No		4		4
Monteverdia dasyclada (Mart.) Biral	Celastraceae	Zoo	Sec	No	No			4	4
Monteverdia horrida (Reissek) Biral	Celastraceae	Zoo	_	No	No		4		4
Monteverdia samydiformis (Reissek) Biral	Celastraceae	Zoo	Late Sec	No	No		4		4
Myrcia insigniflora M.F.Santos	Myrtaceae	Zoo	_	No	No	4			4
Myrciaria disticha O.Berg	Myrtaceae	Zoo	_	No	No		4		4
Ocotea schwackeana Mez	Lauraceae	Zoo	_	No	No		4		4
Palicourea forsteronioides (Müll.Arg.) C.M.Taylor	Rubiaceae	Zoo	_	No	No	4			4
Philyra brasiliensis Klotzsch	Euphorbiaceae	Zoo	_	No	No	2	2		4
Phyllostylon brasiliense Capan. ex Benth. & Hook.f.	Ulmaceae	Anem	Pioneer	No	No	4			4
Picramnia excelsa Kuhlm. ex Pirani	Picramniaceae	Zoo	Late Sec	No	No			4	4
Plenckia populnea Reissek	Celastraceae	Anem	In Sec	No	No	4			4

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Protium brasiliense (Spreng.) Engl.	Burseraceae	Zoo	_	No	No	4			4
Psychotria ararum C.M.Taylor	Rubiaceae	Zoo	_	No	No		4		4
Randia ferox (Cham. & Schltdl.) DC.	Rubiaceae	Zoo	Late Sec	No	No	2		2	4
Rinorea ramiziana Glaz. ex Hekking	Violaceae	Auto	_	No	EN	4			4
Sambucus australis Cham. & Schltdl.	Adoxaceae	Zoo	In Sec	No	No	4			4
Senegalia langsdorffii (Benth.) Seigler & Ebinger	Fabaceae	Auto	Pioneer	Yes	No	4			4
Siparuna bifida (Poepp. & Endl.) A.DC.	Siparunaceae	Zoo	In Sec	No	No	4			4
Sloanea retusa Uittien	Elaeocarpaceae	Zoo	Late Sec	No	No	4			4
Stephanopodium blanchetianum Baill.	Dichapetalaceae	Zoo	In Sec	No	No	4			4
Sterculia apetala (Jacq.) H.Karst.	Malvaceae	Zoo	Late Sec	No	No		4		4
Tachigali vulgaris L.G.Silva & H.C.Lima	Fabaceae	Anem	In Sec	Yes	No	4			4
Vernonanthura catharinensis (Cabrera) H.Rob.	Asteraceae	Anem	Pioneer	No	No			4	4
Vochysia cinnamomea Pohl	Vochysiaceae	Anem	Pioneer	No	No	4			4
Xylosma glaberrima Sleumer	Salicaceae	Zoo	In Sec	No	No		3	1	4
Acnistus arborescens (L.) Schltdl.	Solanaceae	Zoo	In Sec	No	No	1	2		3
Algernonia leandrii (Baill.) G.L.Webster	Euphorbiaceae	_	Late Sec	No	No		3		3
Allophylus membranifolius Radlk.	Sapindaceae	Zoo	In Sec	No	No	2	1		3
Andira inermis (W.Wright) DC.	Fabaceae	Zoo	In Sec	Yes	No	3			3
Annona glabra L.	Annonaceae	Zoo	Pioneer	No	No	2	1		3
Austrocritonia angulicaulis (Sch.Bip. ex Baker) R.M.King & H.Rob.	Asteraceae	Anem	_	No	No		3		3
Baccharis lateralis Baker	Asteraceae	Anem	Pioneer	No	No	3			3
Bauhinia holophylla (Bong.) Steud.	Fabaceae	Auto	Pioneer	No	No	3			3
Campomanesia eugenioides (Cambess.) D.Legrand ex Landrum	Myrtaceae	Zoo	In Sec	No	No	2	1		3
Campomanesia lundiana (Kiaersk.) Mattos	Myrtaceae	Zoo	_	No	No	3			3
Campomanesia pubescens (Mart. ex DC.) O.Berg	Myrtaceae	Zoo	Late Sec	No	No	1	2		3

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Chomelia parvifolia (Standl.) Govaerts	Rubiaceae	Zoo	Late Sec	No	No		3		3
Conchocarpus fontanesianus (A. St.-Hil.) Kallunki & Pirani	Rutaceae	_	_	No	No		3		3
Connarus detersus Planch.	Connaraceae	Zoo	Late Sec	No	No		3		3
Cordia ochnacea DC.	Boraginaceae	Zoo	_	No	No		3		3
Coussarea congestiflora Müll.Arg.	Rubiaceae	Zoo	_	No	No	3			3
Croton anthorneicarpus Croizat	Euphorbiaceae	Auto	_	No	No		3		3
Croton gracilipes Baill.	Euphorbiaceae	Auto	_	No	No	3			3
Cybianthus cuneifolius Mart.	Primulaceae	Zoo	Late Sec	No	No		3		3
Dulacia papillosa (Bastos) Sleumer	Olacaceae	Zoo	_	No	No		3		3
Eriotheca pubescens (Mart. & Zucc.) Schott & Endl.	Malvaceae	Anem	In Sec	No	No	3			3
Erythrina crista-galli L.	Fabaceae	Auto	In Sec	Yes	No	1	2		3
Erythroxylum glazioui O.E.Schulz	Erythroxylaceae	Zoo	_	No	No		3		3
Eugenia batingabranca Sobral	Myrtaceae	Zoo	In Sec	No	No	3			3
Eugenia leonorae Mattos	Myrtaceae	Zoo	_	No	EN	2	1		3
Eugenia macedoi Mattos & D.Legrand	Myrtaceae	Zoo	_	No	No	3			3
Eugenia macrosperma DC.	Myrtaceae	Zoo	In Sec	No	No		3		3
Eumachia cephalantha (Müll. Arg.) Delprete & J.H. Kirkbr.	Rubiaceae	Zoo	Climax	No	No		3		3
Euplassa itatiaiae Sleumer	Proteaceae	Zoo	_	No	No	1	2		3
Ficus arpazusa Casar.	Moraceae	Zoo	In Sec	No	No	1	2		3
Ficus organensis (Miq.) Miq.	Moraceae	Zoo	In Sec	No	No	2	1		3
Guibourtia chodatiana Hassl.	Fabaceae	Zoo	_	No	No	3			3
Gymnanthes multiramea (Klotzsch) Müll.Arg.	Euphorbiaceae	Auto	Late Sec	No	No		3		3
Homalolepis floribunda (A.St.-Hil.) Devecchi & Pirani	Simaroubaceae	_	_	No	No		3		3
Hydrogaster trinervis Kuhlm.	Malvaceae	Zoo	In Sec	No	No	3			3

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Ilex af lateis Gardner	Aquifoliaceae	Zoo	Late Sec	No	No		3		3
Inga leptantha Benth.	Fabaceae	Zoo	Late Sec	Yes	No	1	2		3
Kielmeyera insignis Saddi	Calophyllaceae	Anem	_	No	No		3		3
Kielmeyera lathrophyton Saddi	Calophyllaceae	Anem	In Sec	No	No	3			3
Leretia cordata Vell.	Icacinaceae	Zoo	Late Sec	No	No		3		3
Machaerium firmum (Vell.) Benth.	Fabaceae	Anem	_	Yes	No	3			3
Machaerium fulvovenosum H.C.Lima	Fabaceae	Anem	In Sec	Yes	No		3		3
Machaerium legale (Vell.) Benth.	Fabaceae	Anem	In Sec	Yes	No	2	1		3
Machaerium opacum Vogel	Fabaceae	Anem	Pioneer	Yes	No	3			3
Marlierea involucrata (O.Berg) Nied.	Myrtaceae	Zoo	_	No	No		3		3
Miconia altissima Cogn.	Melastomataceae	Zoo	_	No	No	3			3
Miconia chamissois Naudin	Melastomataceae	Zoo	_	No	No	3			3
Miconia formosa Cogn.	Melastomataceae	Zoo	_	No	No		3		3
Moldenhawera floribunda Schrad.	Fabaceae	Auto	Late Sec	Yes	No		3		3
Mouriri arborea Gardner	Melastomataceae	Zoo	Climax	No	No	1	2		3
Myrceugenia cucullata D.Legrand	Myrtaceae	Zoo	Climax	No	No			3	3
Myrcia amplexicaulis (Vell.) Hook.f.	Myrtaceae	Zoo	_	No	No		3		3
Myrcia neodimorpha E. Lucas & C. E. Wilson	Myrtaceae	Zoo	_	No	No	3			3
Myrcia pubiflora DC.	Myrtaceae	Zoo	Climax	No	No		3		3
Myrcia subalpestris DC.	Myrtaceae	Zoo	_	No	No	3			3
*Myrciaria glazioviana (*Kiaersk.) G.M.Barroso ex Sobral	Myrtaceae	Zoo	In Sec	No	No	1	2		3
Myrsine leuconeura Mart.	Primulaceae	Zoo	In Sec	No	No	3			3
Myrsine venosa A.DC.	Primulaceae	Zoo	In Sec	No	No		3		3
Nectandra hihua (Ruiz & Pav.) Rohwer	Lauraceae	Zoo	In Sec	No	No	3			3
Ocotea bragai Coe-Teix.	Lauraceae	Zoo	_	No	EN		3		3

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Ocotea koscinskii Baitello & Brotto	Lauraceae	Zoo	Late Sec	No	No		3		3
Ocotea mosenii Mez	Lauraceae	Zoo	Late Sec	No	VU	2	1		3
Ocotea pomaderroides (Meisn.) Mez	Lauraceae	Zoo	Late Sec	No	No		3		3
Oreopanax capitatus (Jacq.) Decne. & Planch.	Araliaceae	Zoo	_	No	No	1	2		3
Ouratea tenuifolia Engl.	Ochnaceae	Zoo	_	No	No	3			3
Phyllanthus acuminatus Vahl	PhyllaNohaceae	Auto	Late Sec	No	No	3			3
Picramnia sellowii Planch.	Picramniaceae	Zoo	In Sec	No	No	3			3
Pinus taeda L.*	Pinaceae	Anem	Pioneer	No	No			3	3
Piper permucronatum Yunck.	Piperaceae	Zoo	_	No	No		3		3
Piper richardiifolium Kunth	Piperaceae	Zoo	_	No	No		3		3
Piptadenia trisperma (Vell.) Benth.	Fabaceae	Anem	_	Yes	No		3		3
Pouteria filipes Eyma	Sapotaceae	Zoo	Late Sec	No	No		3		3
Pouteria ramiflora (Mart.) Radlk.	Sapotaceae	Zoo	Late Sec	No	No	3			3
Psidium salutare (Kunth) O.Berg	Myrtaceae	Zoo	Late Sec	No	No	3			3
Qualea selloi Warm.	Vochysiaceae	Anem	In Sec	No	No		3		3
Rauvolfia grandiflora Mart. ex A.DC.	Apocynaceae	Zoo	In Sec	No	No	2	1		3
Rudgea reticulata Benth.	Rubiaceae	Zoo	_	No	No	3			3
Sideroxylon obtusifolium (Roem. & Schult.) T.D.Penn.	Sapotaceae	Zoo	In Sec	No	No	3			3
Sloanea sinemariensis Aubl.	Elaeocarpaceae	_	_	No	No	3			3
Solanum scuticum M.Nee	Solanaceae	Zoo	_	No	No	3			3
Sorocea racemosa Gaudich.	Moraceae	Zoo	_	No	No	3			3
Stephanopodium estrellense Baill.	Dichapetalaceae	Zoo	_	No	No		3		3
Swartzia acutifolia Vogel	Fabaceae	Zoo	Late Sec	Yes	No	2	1		3
Symphyopappus lymansmithii B.L.Rob.	Asteraceae	Anem	Pioneer	No	No		2	1	3
Symplocos nitens (Pohl) Benth.	Symplocaceae	Zoo	Late Sec	No	No	2	1		3

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Pleroma bergianum (Cogn.) P.J.F.Guim. & Michelang.	Melastomataceae	Anem	_	No	EN		3		3
Weinmannia organensis Gardner	Cunoniaceae	Anem	_	No	No		3		3
Ziziphus platyphylla Reissek	Rhamnaceae	Zoo	_	No	No	3			3
Acalypha villosa Jacq.	Euphorbiaceae	Zoo	In Sec	No	No	2			2
Aegiphila brachiata Vell.	Lamiaceae	Zoo	In Sec	No	No		2		2
Aegiphila vitelliniflora Walp.	Lamiaceae	Zoo	In Sec	No	No	2			2
Aiouea acarodomatifera Kosterm.	Lauraceae	Zoo	Late Sec	No	No			2	2
Aiouea trinervis Meisn.	Lauraceae	Zoo	_	No	No	2			2
*Amaioua glomerulata (*Lam. ex Poir.) Delprete & C.Persson	Rubiaceae	Zoo	_	No	No	1	1		2
Anaxagorea silvatica R.E.Fr.	Annonaceae	Zoo	Late Sec	No	No	2			2
Aniba intermedia (Meisn.) Mez	Lauraceae	Zoo	_	No	No	2			2
Aspidosperma pyrifolium Mart. & Zucc.	Apocynaceae	Anem	In Sec	No	No	1	1		2
Astronium glaziovii Mattick	Anacardiaceae	Anem	_	No	No		2		2
Athenaea brasiliana Hunz.	Solanaceae	Zoo	_	No	No		2		2
Azara uruguayensis (Speg.) Sleumer	Salicaceae	Zoo	In Sec	No	No			2	2
Baccharis montana DC.	Asteraceae	Anem	Pioneer	No	No		2		2
Baccharis punctulata DC.	Asteraceae	Anem	Pioneer	No	No			2	2
Bauhinia fusconervis (Bong.) Steud.	Fabaceae	Auto	Pioneer	No	No	2			2
Bauhinia ovata (Bong.) Vogel	Fabaceae	Auto	_	No	No	2			2
Beilschmiedia fluminensis Kosterm.	Lauraceae	Zoo	_	No	No		2		2
Brunfelsia brasiliensis (Spreng.) L.B.Sm. & Downs	Solanaceae	Zoo	_	No	No	2			2
Bunchosia maritima (Vell.) J.F.Macbr.	Malpighiaceae	Zoo	Climax	No	No	1	1		2
Byrsonima pachyphylla A.Juss.	Malpighiaceae	Zoo	Late Sec	No	No	2			2
Byrsonima sericea DC.	Malpighiaceae	Zoo	Pioneer	No	No	2			2
Byrsonima variabilis A.Juss.	Malpighiaceae	Zoo	_	No	No	2			2

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Casearia oblongifolia Cambess.	Salicaceae	Zoo	Late Sec	No	No		2		2
Casearia pauciflora Cambess.	Salicaceae	Zoo	Climax	No	No		2		2
CeNorolobium sclerophyllum H.C.Lima	Fabaceae	Anem	Late Sec	Yes	No	2			2
Citharexylum solanaceum Cham.	Verbenaceae	Zoo	In Sec	No	No			2	2
Cleidion tricoccum (Casar.) Baill.	Euphorbiaceae	_	_	No	No		2		2
Coccoloba ovata Benth.	Polygonaceae	Zoo	_	No	No		2		2
Corymbia citriodora (Hook.) K.D.Hill & L.A.S.Johnson*	Myrtaceae	Anem	_	No	No		2		2
Couepia grandiflora (Mart. & Zucc.) Benth.	Chrysobalanaceae	Zoo	In Sec	No	No	2			2
Couepia schottii Fritsch	Chrysobalanaceae	Zoo	Late Sec	No	EN	2			2
Couma guianensis Aubl.	Apocynaceae	Zoo	_	No	No	2			2
Cyathea gardneri Hook.	Cyatheaceae	Anem	Late Sec	No	No	2			2
Cyathea leucofolis Domin	Cyatheaceae	Anem	Climax	No	No		2		2
Cynophalla flexuosa (L.) J.Presl	Capparaceae	Zoo	_	No	No		2		2
Dalbergia glaziovii Harms	Fabaceae	Anem	_	Yes	No		2		2
Duguetia pohliana Mart.	Annonaceae	Zoo	_	No	No		2		2
Duroia valesca C.H.Perss. & Delprete	Rubiaceae	Zoo	Late Sec	No	No	2			2
Enterolobium glaziovii (Benth.) Mesquita	Fabaceae	Zoo	In Sec	Yes	No	2			2
Erythroxylum anguifugum Mart.	Erythroxylaceae	Zoo	In Sec	No	No	2			2
Erythroxylum nitidum Spreng.	Erythroxylaceae	Zoo	_	No	No		2		2
Eugenia cinerascens Gardner	Myrtaceae	Zoo	_	No	No		2		2
Eugenia sphenophylla O.Berg	Myrtaceae	Zoo	Late Sec	No	No	1	1		2
Eugenia widgrenii Sond. ex O.Berg	Myrtaceae	Zoo	_	No	No	1	1		2
Euplassa hoehnei Sleumer	Proteaceae	Zoo	Late Sec	No	No		2		2
Garcinia brasiliensis Mart.	Clusiaceae	Zoo	Late Sec	No	No		2		2
Gleditsia amorphoides (Griseb.) Taub.	Fabaceae	Zoo	In Sec	No	VU	2			2

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Grazielia serrata (Spreng.) R.M.King & H.Rob.	Asteraceae	Anem	Pioneer	No	No			2	2
Griselinia ruscifolia (Clos) Taub.	Griseliniaceae	_	_	No	No			2	2
Handroanthus bureavii (Sandwith) S.Grose	Bignoniaceae	Anem	_	No	No		2		2
Huberia glazioviana Cogn.	Melastomataceae	Zoo	_	No	No	1	1		2
Inga alba (Sw.) Willd.	Fabaceae	Zoo	In Sec	Yes	No	2			2
Inga platyptera Benth.	Fabaceae	Zoo	_	Yes	VU	1	1		2
Lacunaria crenata (Tul.) A.C.Sm.	Quiinaceae	Zoo	Late Sec	No	No	2			2
Lamanonia speciosa (Cambess.) L. B. Sm.	Cunoniaceae	Anem	_	No	No		2		2
Leandra dentata Cogn.	Melastomataceae	Zoo	_	No	No		2		2
Leandra quinquedentata (DC.) Cogn.	Melastomataceae	Zoo	_	No	No		2		2
Ligustrum vulgare L.*	Oleaceae	Zoo	Pioneer	No	No			2	2
Machaerium amplum Benth.	Fabaceae	Anem	Late Sec	Yes	No	2			2
Marlierea teuscheriana (O.Berg) D.Legrand	Myrtaceae	Zoo	_	No	No	2			2
Miconia af lateis DC.	Melastomataceae	Zoo	_	No	No	2			2
Miconia hypoleuca (Benth.) Triana	Melastomataceae	Zoo	In Sec	No	No		2		2
Miconia octopetala Cogn.	Melastomataceae	Zoo	_	No	No		2		2
Miconia paniculata (DC.) Naudin	Melastomataceae	Zoo	Pioneer	No	No		2		2
Miconia splendens (Sw.) Griseb.	Melastomataceae	Zoo	Late Sec	No	No	1	1		2
Miconia valtheri Naudin	Melastomataceae	Zoo	In Sec	No	No		2		2
Micropholis compta Pierre in Urb.	Sapotaceae	Zoo	In Sec	No	No		2		2
Mollinedia engleriana Perkins	Monimiaceae	Zoo	Late Sec	No	No		2		2
Mollinedia eugeniifolia Perkins	Monimiaceae	Zoo	Climax	No	EN		2		2
Myrcia obversa (D. Legrand) E. Lucas & C. E. Wilson	Myrtaceae	Zoo	Late Sec	No	No	2			2
Myrciaria glanduliflora (Kiaersk.) Mattos & D.Legrand	Myrtaceae	Zoo	Late Sec	No	No	2			2
Myrciaria guaquiea (Kiaersk.) Mattos & D.Legrand	Myrtaceae	Zoo	In Sec	No	No	2			2

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Myrciaria pilosa Sobral & Couto	Myrtaceae	Zoo	_	No	No	2			2
Myrocarpus fastigiatus Allemão	Fabaceae	Anem	_	UndeLateed	No		2		2
Myrsine squarrosa (Mez) M.F.Freitas & Kin.-Gouv.	Primulaceae	Zoo	_	No	No		2		2
Neomitranthes langsdorffii (O.Berg) Mattos	Myrtaceae	Zoo	Late Sec	No	EN	2			2
Ocotea citrosmoides (Nees) Mez	Lauraceae	Zoo	_	No	No	2			2
Ocotea domatiata Mez	Lauraceae	Zoo	_	No	No		2		2
Ocotea longifolia Kunth	Lauraceae	Zoo	In Sec	No	No	2			2
Palicourea brevicollis (Müll.Arg.) C.M.Taylor	Rubiaceae	Zoo	Late Sec	No	No	2			2
Peltogyne mattosiana Rizzini	Fabaceae	_	_	No	No	2			2
Peritassa campestris (Cambess.) A.C. Sm.	Celastraceae	Zoo	_	No	No	2			2
Piper obliquum Ruiz & Pav.	Piperaceae	Zoo	_	No	No		2		2
Piptocarpha regnellii (Sch.Bip.) Cabrera	Asteraceae	Anem	Pioneer	No	No		2		2
Piptocarpha rotundifolia (Less.) Baker	Asteraceae	Anem	In Sec	No	No	2			2
Pombalia bigibbosa (A.St.Hil.) Paula-Souza	Violaceae	Auto	Late Sec	No	No	2			2
Posoqueria longiflora Aubl.	Rubiaceae	Zoo	_	No	No	2			2
Prunus subcoriacea (Chodat & Hassl.) Koehne	Rosaceae	Zoo	In Sec	No	No			2	2
Pseudobombax longiflorum (Mart.) A.Robyns	Malvaceae	Anem	In Sec	No	No	2			2
Qualea cryptantha (Spreng.) Warm.	Vochysiaceae	Anem	Pioneer	No	No	1	1		2
Raulinoreitzia leptophlebia (B.L.Rob.) R.M.King & H.Rob.	Asteraceae	Anem	Pioneer	No	No			2	2
Savia sessiliflora (Sw.) Willd.	PhyllaNohaceae	Auto	_	No	No	2			2
Senna velutina (Vogel) H.S.Irwin & Barneby	Fabaceae	Auto	Pioneer	No	No		2		2
Simarouba versicolor A.St.-Hil.	Simaroubaceae	Zoo	In Sec	No	No	2			2
Solanum caavurana Vell.	Solanaceae	Zoo	Pioneer	No	No	2			2
Solanum castaneum Carvalho	Solanaceae	Zoo	_	No	No		2		2
Solanum diploconos (Mart.) Bohs	Solanaceae	Zoo	Late Sec	No	No		1	1	2

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Solanum inodorum Vell.	Solanaceae	Zoo	_	No	No		2		2
Solanum jussiaei Dunal	Solanaceae	Zoo	_	No	No		2		2
Solanum lacerdae Dusén	Solanaceae	Zoo	Pioneer	No	No			2	2
Solanum lacteum Vell.	Solanaceae	Zoo	_	No	No		2		2
Solanum martii Sendtn.	Solanaceae	Zoo	_	No	No	2			2
Solanum odoriferum Vell.	Solanaceae	Zoo	_	No	No		2		2
Solanum oxyphyllum C.V.Morton	Solanaceae	Zoo	_	No	No	2			2
Solanum variabile Mart.	Solanaceae	Zoo	Pioneer	No	No			2	2
Spondias duntis Parkinson*	Anacardiaceae	Zoo	Pioneer	No	No	2			2
Strychnos trinervis (Vell.) Mart.	Loganiaceae	Zoo	_	No	No	2			2
Stylogyne pauciflora Mez	Primulaceae	Zoo	Climax	No	No		2		2
Styrax glabratus Schott	Styracaceae	Zoo	In Sec	No	No	2			2
Swartzia glazioviana (Taub.) Glaz.	Fabaceae	Zoo	_	Yes	VU		2		2
Symphyopappus compressus (Gardner) B.L.Rob.	Asteraceae	Anem	In Sec	No	No		2		2
Tachigali pilgeriana (Harms) Oliveira-Filho	Fabaceae	Anem	Late Sec	Yes	No		2		2
Terminalia hoehneana (N.F.Mattos) Gere & Boatwr.	Combretaceae	Zoo	_	No	No	2			2
Tibouchina moricandiana Baill.	Melastomataceae	Anem	_	No	No		2		2
Tovomita fructipendula (Ruiz & Pav.) Cambess.	Clusiaceae	Zoo	Late Sec	No	No	2			2
Trigynaea oblongifolia Schltdl.	Annonaceae	Zoo	_	No	EN	2			2
VaNoanea guianensis Aubl.	Humiriaceae	Zoo	_	No	No	2			2
Vatairea heteroptera (Allemão) Ducke	Fabaceae	Anem	In Sec	No	No	2			2
Vataireopsis araroba (Aguiar) Ducke	Fabaceae	Anem	In Sec	No	No	2			2
Vernonanthura ferruginea (Less.) H.Rob.	Asteraceae	Anem	_	No	No		2		2
Vochysia rufa Mart.	Vochysiaceae	Anem	_	No	No	2			2
Abarema obovata (Benth.) Barneby & J.W.Grimes	Fabaceae	Zoo	_	Yes	No	1			1
Agarista punthella Cham. ex G.Don	Ericaceae	Auto	_	No	No			1	1

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Allophylus melanophloeus Radlk.	Sapindaceae	Zoo	_	No	No		1		1
Annona hypoglauca Mart.	Annonaceae	Zoo	_	No	No	1			1
Baccharis dentata (Vell.) G.M.Barroso	Asteraceae	Anem	Pioneer	No	No		1		1
Baccharis lymanii G.M.Barroso ex G.Heiden	Asteraceae	Anem	Pioneer	No	No	1			1
Baccharis oxyodoNoa DC.	Asteraceae	Anem	In Sec	No	No			1	1
Bactris setosa Mart.	Arecaceae	Zoo	Late Sec	No	No	1			1
Banara serrata (Vell.) Warb.	Salicaceae	Zoo	In Sec	No	No	1			1
Barnebydendron riedelii (Tul.) J.H.Kirkbr.	Fabaceae	Anem	Late Sec	UndeLateed	No	1			1
Beilschmiedia stricta Kosterm.	Lauraceae	Zoo	_	No	No		1		1
Butia eriospatha (Mart. ex Drude) Becc.	Arecaceae	Zoo	In Sec	No	VU			1	1
Byrsonima crispa A.Juss.	Malpighiaceae	Zoo	In Sec	No	No	1			1
Callianthe bedfordiana (Hook.) Donnell	Malvaceae	Auto	In Sec	No	No	1			1
Callianthe rufinerva (A. St.Hil.) Donnel	Malvaceae	Auto	In Sec	No	No		1		1
Campomanesia reitziana D.Legrand	Myrtaceae	Zoo	In Sec	No	VU		1		1
Capparidastrum frondosum (Jacq.) Cornejo & Iltis	Capparaceae	Zoo	_	No	No	1			1
Capsicum campylopodium Sendtn.	Solanaceae	Zoo	_	No	No		1		1
Capsicum flexuosum Sendtn.	Solanaceae	Zoo	_	No	No			1	1
Cariniana rubra Gardner ex Miers	Lecythidaceae	Anem	Late Sec	No	No	1			1
Caryocar edule Casar.	Caryocaraceae	Zoo	Late Sec	No	No	1			1
Caryodendron janeirense Müll.Arg.	Euphorbiaceae	Zoo	In Sec	No	No		1		1
Cassia grandis L.f.	Fabaceae	Auto	In Sec	No	No	1			1
Cheiloclinium anomalum Miers	Celastraceae	Zoo	_	No	No	1			1
Chrysophyllum imperiale (Linden ex K.Koch & Latetelm.) Benth. & Hook.	Sapotaceae	Zoo	Late Sec	No	EN	1			1
Cinnamomum glaziovii (Mez) Kosterm.	Lauraceae	Zoo	Climax	No	No	1			1
Cinnamomum hatschbachii Vattimo-Gil	Lauraceae	Zoo	Climax	No	VU		1		1

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Clusia lanceolata Cambess.	Clusiaceae	Zoo	In Sec	No	No		1		1
Clusia organensis Planch. & Triana	Clusiaceae	Zoo	_	No	No		1		1
Clusia studartiana C.M.Vieira & Gomes da Silva	Clusiaceae	Zoo	_	No	No		1		1
Cnidoscolus oligandrus (Müll.Arg.) Pax	Euphorbiaceae	Auto	_	No	No	1			1
Coccoloba mosenii Lindau	Polygonaceae	Zoo	_	No	No	1			1
Coccoloba striata Benth.	Polygonaceae	Zoo	_	No	No	1			1
Cordia alliodora (Ruiz & Pav.) Cham.	Boraginaceae	Zoo	In Sec	No	No	1			1
Cordia nodosa Lam.	Boraginaceae	Zoo	In Sec	No	No	1			1
Cordiera macrophylla (K.Schum.) Kuntze	Rubiaceae	Zoo	Late Sec	No	No	1			1
Croton rottlerifolius Baill.	Euphorbiaceae	Auto	_	No	No	1			1
Croton vulnerarius Baill.	Euphorbiaceae	Auto	_	No	No		1		1
Cupania emarginata Cambess.	Sapindaceae	Zoo	In Sec	No	No		1		1
Dalbergia foliosa (Benth.) A.M.Carvalho	Fabaceae	Anem	Late Sec	Yes	No	1			1
Daphnopsis utilis Warm.	Thymelaeaceae	Zoo	_	No	No		1		1
Deguelia hatschbachii A.M.G.Azevedo	Fabaceae	Auto	In Sec	Yes	No		1		1
Dendropanax australis Fiaschi & Jung-Mend.	Araliaceae	Zoo	Late Sec	No	No		1		1
Diospyros apeibacarpos Raddi	Ebenaceae	Zoo	Late Sec	No	No	1			1
Duguetia salicifolia R.E.Fr.	Annonaceae	Zoo	_	No	No		1		1
Duranta erecta L.*	Verbenaceae	Zoo	_	No	No	1			1
Eremanthus glomerulatus Less.	Asteraceae	Anem	_	No	No	1			1
Eriotheca gracilipes (K.Schum.) A.Robyns	Malvaceae	Anem	In Sec	No	No	1			1
Erythroxylum passerinum Mart.	Erythroxylaceae	Zoo	_	No	No	1			1
Eugenia adenantha O.Berg	Myrtaceae	Zoo	_	No	No		1		1
Eugenia decussata (Vell.) Mattos	Myrtaceae	Zoo	_	No	No		1		1
Eugenia egensis DC.	Myrtaceae	Zoo	In Sec	No	No		1		1
Eugenia neolaurifolia Sobral	Myrtaceae	Zoo	_	No	No	1			1

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Eugenia splendens O.Berg	Myrtaceae	Zoo	_	No	No		1		1
Eugenia viridiflora Cambess.	Myrtaceae	Zoo	_	No	No		1		1
Eugenia xanthoxyloides Cambess.	Myrtaceae	Zoo	_	No	No		1		1
Euplassa rufa (Loes.) Sleumer	Proteaceae	Zoo	_	No	No	1			1
Faramea capillipes Müll. Arg.	Rubiaceae	Zoo	In Sec	No	No	1			1
Faramea coerulea (Nees & Mart.) DC.	Rubiaceae	Zoo	_	No	No		1		1
Faramea truncata (Vell.) Müll.Arg.	Rubiaceae	Zoo	_	No	No		1		1
Ferdinandusa speciosa (Pohl) Pohl	Rubiaceae	Anem	_	No	No	1			1
Ficus cyclophylla (Miq.) Miq.	Moraceae	Zoo	Late Sec	No	VU	1			1
Ficus mariae C.C.Berg, Emygdio & Carauta	Moraceae	Zoo	Late Sec	No	No	1			1
Geonoma brevispatha Barb.Rodr.	Arecaceae	Zoo	_	No	No		1		1
Guarea grandifolia DC.	Meliaceae	Zoo	_	No	No	1			1
Guarea pendula R.S.Ramalho, A.L. Pinheiro & T.D.Penn.	Meliaceae	Zoo	Late Sec	No	No	1			1
Guazuma crinita Mart.	Malvaceae	Zoo	Pioneer	No	No	1			1
Handroanthus riodocensis (A.H.GeNory) S.Grose	Bignoniaceae	Anem	In Sec	No	EN	1			1
Hirtella glaziovii Taub.	Chrysobalanaceae	Zoo	_	No	No		1		1
Hirtella triandra Sw.	Chrysobalanaceae	Zoo	_	No	No	1			1
Ilex buxifolia Gardner	Aquifoliaceae	Zoo	_	No	No		1		1
Ilex congonhinha Loes.	Aquifoliaceae	Zoo	_	No	No		1		1
Inga maritima Benth.	Fabaceae	Zoo	_	Yes	VU		1		1
Kielmeyera grandiflora (Wawra) Saddi	Calophyllaceae	Anem	_	No	No	1			1
Leandra regnellii (Triana) Cogn.	Melastomataceae	Zoo	Pioneer	No	No		1		1
Licania egleri Prance	Chrysobalanaceae	Zoo	_	No	No		1		1
Machaerium declinatum (Vell.) Stellfeld	Fabaceae	Anem	_	Yes	No	1			1
Machaerium isadelphum (E.Mey.) Amshoff	Fabaceae	Anem	In Sec	Yes	No		1		1

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Machaerium obovatum Kuhlm. & Hoehne	Fabaceae	Anem	_	Yes	VU	1			1
Machaerium uncinatum (Vell.) Benth.	Fabaceae	Anem	In Sec	Yes	No		1		1
Macropeplus ligustrinus (Tul.) Perkins	Monimiaceae	Zoo	_	No	No		1		1
Manihot esculenta Crantz	Euphorbiaceae	Auto	Pioneer	No	No			1	1
Manilkara longifolia (A.DC.) Dubard	Sapotaceae	Zoo	Late Sec	No	No		1		1
Matayba elegans Radlk.	Sapindaceae	Zoo	_	No	No	1			1
Maytenus ubatubensis R.M.Carvalho-Okano	Celastraceae	Zoo	_	No	No		1		1
Mezilaurus navalium (Allemão) Taub. ex Mez	Lauraceae	Zoo	_	No	EN		1		1
Miconia fasciculata Gardner	Melastomataceae	Zoo	Pioneer	No	No		1		1
Miconia picinguabensis R.Goldenb. & A.B.Martins	Melastomataceae	Zoo	_	No	EN		1		1
Microstachys serrulata (Mart. & Zucc.) Müll.Arg.	Euphorbiaceae	Auto	_	No	No	1			1
Mollinedia longifolia Perkins	Monimiaceae	Zoo	Late Sec	No	No		1		1
Mollinedia stenophylla Perkins	Monimiaceae	Zoo	_	No	No		1		1
Monilicarpa brasiliana (Banks ex DC.) Cornejo & Iltis	Capparaceae	Zoo	In Sec	No	No	1			1
MoNoeverdia ardisiifolia (Reissek) Biral	Celastraceae	Zoo	_	No	No	1			1
MoNoeverdia littoralis (R.M. Carvalho-Okano) Biral	Celastraceae	Zoo	Late Sec	No	No		1		1
MoNoeverdia patens (Reissek) Biral	Celastraceae	Zoo	Late Sec	No	No		1		1
MoNoeverdia subalata (Reissek) Biral	Celastraceae	Zoo	_	No	No		1		1
Morus nigra L.*	Moraceae	Zoo	Pioneer	No	No	1			1
Mouriri apiranga Spruce ex Triana	Melastomataceae	Zoo	_	No	No	1			1
Myrceugenia franciscensis (O.Berg) Landrum	Myrtaceae	Zoo	_	No	EN		1		1
Myrceugenia kleinii D.Legrand & Kausel	Myrtaceae	Zoo	Climax	No	VU		1		1
Myrcia bella Cambess.	Myrtaceae	Zoo	Late Sec	No	No	1			1
Myrcia catharinensis (D.Legrand) NicLugh.	Myrtaceae	Zoo	_	No	No		1		1
Myrcia dryadica (M.L.Kawas.) A.R.Lourenço & E.Lucas	Myrtaceae	Zoo	_	No	No		1		1

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Myrcia maritima (Sobral & Bertoncello) A.R.Lourenço & E.Lucas	Myrtaceae	Zoo	_	No	No		1		1
Myrcia vestita DC.	Myrtaceae	Zoo	_	No	No	1			1
Myrcia vittoriana Kiaersk.	Myrtaceae	Zoo	Late Sec	No	No	1			1
Myrciaria ferruginea O.Berg	Myrtaceae	Zoo	In Sec	No	No	1			1
Neea pendulina Heimerl	Nyctaginaceae	Zoo	Late Sec	No	No	1			1
Neomitranthes warmingiana (Kiaersk.) Mattos	Myrtaceae	Zoo	_	No	No		1		1
Ocotea argentea Mez	Lauraceae	Zoo	Late Sec	No	No	1			1
Ocotea polyantha (Nees & Mart.) Mez	Lauraceae	Zoo	_	No	No	1			1
Ocotea tabacifolia (Meisn.) Rohwer	Lauraceae	Zoo	Late Sec	No	EN		1		1
Ouratea oliviformis (A.St.-Hil.) Engl.	Ochnaceae	Zoo	Late Sec	No	No		1		1
Palicourea mamillaris (Müll.Arg.) C.M.Taylor	Rubiaceae	Zoo	Climax	No	No	1			1
Panopsis multiflora (Schott) Ducke	Proteaceae	_	_	No	EN		1		1
Peritassa flaviflora A.C.Sm.	Celastraceae	Zoo	Late Sec	No	No	1			1
Persea obovata Nees & Mart.	Lauraceae	Zoo	_	No	CR		1		1
Pilocarpus spicatus A.St.-Hil.	Rutaceae	Zoo	_	No	No	1			1
Pinus elliottii L.*	Pinaceae	Anem	Pioneer	No	No			1	1
Piper corcovadensis (Miq.) C.DC.	Piperaceae	Zoo	Climax	No	No	1			1
Piper hispidum Sw.	Piperaceae	Zoo	Late Sec	No	No	1			1
Piper lhotzkyanum Kunth	Piperaceae	Zoo	In Sec	No	No		1		1
Piper truncatum Vell.	Piperaceae	Zoo	_	No	No		1		1
Piptocarpha oblonga (Gardner) Baker	Asteraceae	Anem	Pioneer	No	No		1		1
Pouteria bapeba T.D.Penn.	Sapotaceae	Zoo	Late Sec	No	CR		1		1
Pouteria macahensis T.D.Penn.	Sapotaceae	Zoo	In Sec	No	EN	1			1
Pseudolmedia hirtula Kuhlm.	Moraceae	Zoo	Sec	No	No		1		1
Psychotria capitata Ruiz & Pav.	Rubiaceae	Zoo	Late Sec	No	No	1			1

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Psychotria mima Standl.	Rubiaceae	Zoo	_	No	No		1		1
Psychotria pallens Gardner	Rubiaceae	Zoo	_	No	No		1		1
Roupala asplenioides Sleumer	Proteaceae	Anem	Climax	No	EN	1			1
Roupala consimilis Mez ex Taub.	Proteaceae	Anem	_	No	No		1		1
Rudgea coronata (Vell.) Müll.Arg.	Rubiaceae	Zoo	_	No	No		1		1
Rudgea minor (Cham.) Standl.	Rubiaceae	Zoo	_	No	No	1			1
Sacoglottis guianensis Benth.	Humiriaceae	Zoo	In Sec	No	No		1		1
Salacia arborea (Schrank) Peyr.	Celastraceae	Zoo	_	No	No		1		1
Sapium haematospermum Müll.Arg.	Euphorbiaceae	Zoo	In Sec	No	No		1		1
Schefflera vinosa (Cham. & Schltdl.) Frodin & Fiaschi	Araliaceae	Zoo	In Sec	No	No	1			1
Schinus molle L.	Anacardiaceae	Zoo	Pioneer	No	No			1	1
Senegalia giganticarpa (G.P.Lewis) Seigler & Ebinger	Fabaceae	Auto	_	Yes	No	1			1
Senegalia riparia (Kunth) Britton & Rose ex Britton & Killip	Fabaceae	Auto	_	Yes	No		1		1
Senegalia velutina (DC.) Seigler & Ebinger	Fabaceae	Auto	Pioneer	Yes	No	1			1
Senna rugosa (G.Don) H.S.Irwin & Barneby	Fabaceae	Auto	Pioneer	No	No	1			1
Senna spectabilis (DC.) H.S.Irwin & Barneby	Fabaceae	Auto	Pioneer	No	No	1			1
Senna tropica (Vell.) H.S.Irwin & Barneby	Fabaceae	Auto	_	No	No		1		1
Siphoneugena dussii (Krug & Urb.) Proença	Myrtaceae	Zoo	_	No	No		1		1
Solanum cassioides L.B.Sm. & Downs	Solanaceae	Zoo	In Sec	No	No			1	1
Solanum crinitum Lam.	Solanaceae	Zoo	Pioneer	No	No		1		1
Solanum lepidotum Dunal	Solanaceae	Zoo	Pioneer	No	No	1			1
Solanum oocarpum Sendtn.	Solanaceae	Zoo	_	No	No	1			1
Solanum paniculatum L.	Solanaceae	Zoo	Pioneer	No	No	1			1
Solanum ramulosum Sendtn.	Solanaceae	Zoo	Late Sec	No	No			1	1
Solanum reitzii L.B.Sm. & Downs	Solanaceae	Zoo	Pioneer	No	No			1	1

Species	Family	Dispersal syndrome	Successional group	Nitrogen fixing	Risk of extinction	SSF	ODF	AF	Trees (N)
Solanum sambuciflorum Sendtn.	Solanaceae	Zoo	_	No	No		1		1
Strychnos atlantica Krukoff & Barneby	Loganiaceae	Zoo	_	No	No		1		1
Styrax martii Seub.	Styracaceae	Zoo	_	No	No		1		1
Syagrus flexuosa (Mart.) Becc.	Arecaceae	Zoo	Late Sec	No	No	1			1
Syagrus macrocarpa Barb.Rodr.	Arecaceae	Zoo	_	No	EN	1			1
Symplocos oblongifolia Casar.	Symplocaceae	Zoo	In Sec	No	No	1			1
Tachigali urbaniana (Harms) L.G.Silva & H.C.Lima	Fabaceae	Anem	_	Yes	No		1		1
Terminalia corrugata (Ducke) Gere & Boatwr.	Combretaceae	Zoo	In Sec	No	No	1			1
Terminalia fagifolia Mart.	Combretaceae	Anem	In Sec	No	No	1			1
Thyrsodium spruceanum Benth.	Anacardiaceae	Zoo	In Sec	No	No		1		1
Tibouchina regnellii Cogn.	Melastomataceae	Anem	_	No	No		1		1
ToNoelea corcovadensis Glaz. ex A.C. Sm.	Celastraceae	Zoo	_	No	No	1			1
Toxicodendron striatum (Ruiz & Pav.) Kuntze*	Anacardiaceae	_	_	No	No	1			1
Trichilia martiana C.DC.	Meliaceae	Zoo	In Sec	No	No		1		1
Trichilia quadrijuga Kunth	Meliaceae	Zoo	In Sec	No	No	1			1
Trichilia tetrapetala C.DC.	Meliaceae	Zoo	Late Sec	No	No	1			1
Urera nitida (Vell.) P.Brack	Urticaceae	Zoo	Pioneer	No	No		1		1
Vassobia breviflora (Sendtn.) Hunz.	Solanaceae	Zoo	_	No	No	1			1
Vatairea macrocarpa (Benth.) Ducke	Fabaceae	Anem	In Sec	No	No	1			1
Vernonanthura viscidula (Less.) H.Rob.	Asteraceae	Anem	_	No	No			1	1
Vochysia laurifolia Warm.	Vochysiaceae	Anem	_	No	No		1		1
Xylopia laevigata (Mart.) R.E.Fr.	Annonaceae	Zoo	Late Sec	No	No	1			1
ZaNohoxylum tingoassuiba A.St.-Hil.	Rutaceae	Zoo	_	No	No	1			1
Zollernia glaziovii Yakovlev	Fabaceae	Zoo	_	No	No		1		1

Table S5: Botanical families in Brazilian Atlantic Forest restoration plantings ordered by abundance of individuals, considering all the formations. SSF – Seasonal Semideciduous Forest, ODF – Ombrophilous Dense Forest, AF – Mixed Ombrophilous Forest (Araucaria Forest). N trees: Number of trees. N sp.: Number of species for each family.

Family	N trees	N sp.	N trees SSF	N sp. SSF	N trees ODF	N sp. ODF	N trees AF	N sp. AF
Fabaceae	5662184	104	5163520	101	367513	89	131151	51
Malvaceae	1786216	17	1596819	17	132752	16	56645	9
Myrtaceae	1472108	36	1235753	35	140808	32	95547	20
Bignoniaceae	1416315	21	1324050	21	73096	19	19169	17
Anacardiaceae	1380062	12	1223457	12	120154	12	36451	8
Euphorbiaceae	1259843	13	1066663	13	172116	12	21064	9
Solanaceae	948513	11	854228	11	73065	11	21220	9
Moraceae	713375	10	672981	9	30453	9	9941	5
Meliaceae	604070	12	522740	12	69089	12	12241	6
Verbenaceae	534759	3	487794	3	36419	3	10546	3
Boraginaceae	497813	6	433911	6	60550	5	3352	5
Rutaceae	446609	9	427888	9	16874	8	1847	5
Apocynaceae	443424	10	407155	10	32338	10	3931	6
Phytolaccaceae	380568	3	345305	3	29886	3	5377	2
Primulaceae	290529	3	261744	3	22367	3	6418	3
Urticaceae	280442	5	269550	5	8651	3	2241	2
Sapindaceae	259541	11	226836	10	24396	8	8309	5
Annonaceae	247124	9	227472	9	13610	8	6042	6
Rubiaceae	244409	8	228418	8	10773	8	5218	5
Lythraceae	228874	3	189537	3	37203	3	2134	2
Lecythidaceae	224333	5	206020	5	17573	5	740	2
Lamiaceae	219409	3	187588	3	21955	3	9866	3
Lauraceae	212365	14	170160	14	30103	14	12102	10
Rhamnaceae	187301	4	178452	4	8507	4	342	2
Salicaceae	185503	7	166390	7	15948	7	3165	3
Cannabaceae	174485	1	157596	1	15315	1	1574	1
Arecaceae	149490	4	120013	4	28301	4	1176	3
Caricaceae	143309	2	135478	2	7346	2	485	2
Polygonaceae	136457	2	121567	2	9168	2	5722	2
Combretaceae	113674	5	107320	5	5389	4	965	3
Melastomataceae	108497	8	98111	8	9207	7	1179	4
Araliaceae	96855	3	87292	3	9468	3	95	1
Rosaceae	78887	1	65490	1	8454	1	4943	1
Asteraceae	67047	2	63033	2	3264	2	750	1
Sapotaceae	66098	5	62708	5	3010	4	380	2
Calophyllaceae	45886	2	41431	2	3815	2	640	1
Araucariaceae	45838	1	21519	1	15569	1	8750	1
Bixaceae	35434	2	32745	2	2689	2		
Peraceae	35164	1	34232	1	912	1	20	1

Family	N trees	N sp.	N trees SSF	N sp. SSF	N trees ODF	N sp. ODF	N trees AF	N sp. AF
Phyllanthaceae	33212	3	32277	3	535	3	400	1
Burseraceae	29401	3	27346	3	1935	3	120	1
Celastraceae	25666	3	22167	3	3024	2	475	1
Erythroxylaceae	24366	3	20555	3	3427	3	384	2
Aquifoliaceae	23046	2	20409	2	1617	2	1020	2
Loganiaceae	17408	1	12948	1	3595	1	865	1
Vochysiaceae	15962	5	13870	5	1694	4	398	1
Nyctaginaceae	15891	3	9543	3	5448	3	900	2
Capparaceae	15848	2	15298	2	550	2		
Chrysobalanaceae	15075	2	14106	2	969	1		
Ebenaceae	13329	1	11533	1	1610	1	186	1
Magnoliaceae	13034	1	8421	1	4213	1	400	1
Achatocarpaceae	9070	1	8675	1	50	1	345	1
Caryocaraceae	8975	1	8975	1				
Cardiopteridaceae	7309	2	5444	2	1765	2	100	1
Styracaceae	6048	1	3736	1	2312	1		
Clusiaceae	4800	1	3615	1	635	1	550	1
Pentaphylacaceae	3332	1	2855	1	477	1		
Myristicaceae	2050	1	1428	1	562	1	60	1
Connaraceae	1728	1	844	1	884	1		
Malpighiaceae	1692	2	242	2	1450	1		
Elaeocarpaceae	1100	1	890	1	210	1		
Cunoniaceae	1095	1	280	1	815	1		
Achariaceae	1085	1	1085	1				
Olacaceae	900	1	750	1	150	1		
Monimiaceae	769	1	210	1	559	1		

Table S6: Families present in the remnants ordered by abundance of individual considering all the formations. SSF – Seasonal Semideciduous Forest, ODF – Ombrophilous Dense Forest, AF – Mixed Ombrophilous Forest (Araucaria Forest). N trees: Number of trees. N sp.: Number of species for each family.

Family	N trees	N sp.	N trees SSF	N sp. SSF	N trees ODF	N sp. ODF	N trees AF	N sp. AF
Fabaceae	33912	220	28450	181	3445	138	2017	40
Myrtaceae	30177	270	12562	154	12316	212	5299	67
Euphorbiaceae	18105	58	11407	45	3414	40	3284	13
Lauraceae	17150	108	9627	73	5638	94	1885	30
Rubiaceae	15575	117	7209	80	7162	82	1204	14
Meliaceae	15476	25	11336	23	3701	17	439	8
Arecaceae	12755	17	4490	11	8194	11	71	3
Salicaceae	9772	27	6694	23	1164	14	1914	14
Rutaceae	9242	33	8330	29	405	18	507	11
Sapindaceae	8666	37	4676	27	1680	26	2310	6
Melastomataceae	7231	87	3398	54	3741	75	92	8
Annonaceae	7020	44	5042	37	1764	30	214	7
Anacardiaceae	6775	20	5621	14	488	11	666	7
Moraceae	5879	38	4316	34	1443	26	120	6
Apocynaceae	5303	24	4325	21	959	18	19	2
Primulaceae	4750	20	1657	14	2319	15	774	8
Sapotaceae	4498	37	3010	26	1413	31	75	5
Malvaceae	4064	35	3367	30	434	21	263	3
Nyctaginaceae	3978	17	1531	16	2435	7	12	2
Cyatheaceae	3285	11	423	7	2312	9	550	2
Siparunaceae	3083	4	2661	4	422	3		
Bignoniaceae	2856	28	1688	21	776	21	392	4
Asteraceae	2850	49	1361	24	907	29	582	22
Urticaceae	2636	11	2112	9	506	8	18	3
Burseraceae	2592	9	2403	8	189	4		
Vochysiaceae	2438	27	2016	20	358	17	64	5
Aquifoliaceae	2339	15	304	10	1238	12	797	7
Celastraceae	2122	31	1256	18				
Monimiaceae	1958	26	431	10	1325	25	202	5
Solanaceae	1888	60	677	32	823	33	388	22
Araliaceae	1774	13	1094	9	597	10	83	4
Phyllanthaceae	1744	9	1087	7	657	6	10	2
Elaeocarpaceae	1679	7	522	6	1086	5	71	3
Rosaceae	1661	4	790	3	541	3	330	4
Boraginaceae	1472	16	1178	13	264	10	30	2
Peraceae	1444	3	854	3	547	3	43	1
Dicksoniaceae	1374	1	26	1	222	1	1126	1
Polygonaceae	1262	13	1129	10	92	8	41	1
Phytolaccaceae	1241	5	1182	5	49	5		

Family	N trees	N sp.	N trees SSF	N sp. SSF	N trees ODF	N sp. ODF	N trees AF	N sp. AF
Clusiaceae	1212	12	559	7	653	9		
Myristicaceae	1187	3	667	3	520	2		
Proteaceae	1181	14	433	9	612	12	136	2
Chrysobalanaceae	1109	17	550	14	559	10		
Combretaceae	1077	10	1029	9	46	2	2	1
Olacaceae	1062	8	292	5	770	5		
Lacistemataceae	961	4	641	3	320	3		
Winteraceae	950	2	23	1	709	2	218	2
Clethraceae	889	1	330	1	331	1	228	1
Lecythidaceae	823	10	653	8	141	6	29	1
Araucariaceae	799	1	54	1	26	1	719	1
Rhamnaceae	765	9	524	7	29	3	212	4
Lamiaceae	744	12	457	9	186	8	101	3
Symplocaceae	741	15	118	9	442	13	181	4
Cannabaceae	722	5	612	4	44	3	66	3
Cunoniaceae	681	5	238	2	326	5	117	2
Styracaceae	649	7	439	6	53	4	157	2
Malpighiaceae	590	14	275	12	309	5	6	1
Hypericaceae	575	6	544	5	31	5		
Erythroxylaceae	566	16	333	13	176	9	57	3
Verbenaceae	506	5	361	3	3	2	142	3
Caricaceae	480	4	435	3	44	2	1	1
Thymelaeaceae	466	7	202	3	252	6	12	2
Ochnaceae	464	11	169	6	295	8		
Calophyllaceae	462	7	440	6	22	3		
Podocarpaceae	461	2	2	1	126	2	333	1
Cardiopteridaceae	418	2	197	2	164	1	57	2
Ebenaceae	326	5	316	4	9	1	1	1
Sabiaceae	298	2	17	2	275	2	6	1
Piperaceae	293	14	258	9	35	11		
Picramniaceae	283	7	214	5	55	4	14	2
Canellaceae	271	2			10	2	261	1
Violaceae	233	6	12	3	221	3		
Opiliaceae	220	2	206	2	14	1		
Achariaceae	180	1	180	1				
Loganiaceae	177	5	108	3	14	3	55	1
Theaceae	177	1	40	1	118	1	19	1
Lythraceae	175	3	114	3	53	3	8	1
Connaraceae	165	4	133	3	32	2		
Magnoliaceae	139	1	49	1	90	1		
Simaroubaceae	138	5	65	3	22	3	51	2
Chloranthaceae	129	1	92	1	37	1		

Family	N trees	N sp.	N trees SSF	N sp. SSF	N trees ODF	N sp. ODF	N trees AF	N sp. AF
Bixaceae	126	1	126	1				
Quiinaceae	112	2	11	2	101	1		
Oleaceae	81	3	20	2	54	2	7	3
Ulmaceae	78	3	78	3				
Humiriaceae	70	5	15	3	55	3		
Laxmanniaceae	61	1	10	1			51	1
Pentaphylacaceae	50	1	37	1	13	1		
Cactaceae	49	3	26	3	16	2	7	1
Capparaceae	47	5	8	3	39	2		
Escalloniaceae	35	1			25	1	10	1
Schoepfiaceae	34	1	31	1	3	1		
Dichapetalaceae	20	3	4	1	16	2		
Achatocarpaceae	19	1	19	1				
Quillajaceae	18	1	1	1			17	1
Trigoniaceae	15	1	15	1				
Berberidaceae	12	1			2	1	10	1
Caryocaraceae	10	2	10	2	676	24	190	6
Acanthaceae	9	1	9	1				
Pittosporaceae	9	1			9	1		
Rhizophoraceae	8	1	8	1				
Asparagaceae	5	1	5	1				
Ericaceae	5	2			4	1	1	1
Adoxaceae	4	1	4	1				
Pinaceae	4	2					4	2
Putranjivaceae	4	1	3	1	1	1		
Icacinaceae	3	1			3	1		
Griseliniaceae	2	1					2	1

Table S7: Minimum, maximum and mean animal-dispersed, non-animal-dispersed, pioneer, non-pioneer, threatened and nitrogen-fixing species and individuals per planting and per remnant.

			Minimum	Mean	Maximum
Planting	Animal-dispersed	Number of species	3	42	107
		Number of trees	947	10026	61100
	Non-animal-dispersed	Number of species	4	40	83
		Number of trees	950	10212	61200
Remnant	Animal-dispersed	Number of species	16	65	201
		Number of trees	51	762	5903
	Non-animal-dispersed	Number of species	4	24	59
		Number of trees	13	307	2256
Planting	Pioneer	Number of species	3	22	39
		Number of trees	632	6603	52420
	Non-pioneer	Number of species	0	61	142
		Number of trees	0	13635	81800
Remnant	Pioneer	Number of species	1	11	31
		Number of trees	2	133	1256
	Non-pioneer	Number of species	21	74	190
		Number of trees	113	910	5508
Planting	Threatened	Number of species	0	4	12
		Number of trees	0	885	9050
Remnant	Threatened	Number of species	1	3	13
		Number of trees	1	77	807
Planting	Nitrogen-fixing	Number of species	0	14	29
		Number of trees	0	3783	26800
Remnant	Nitrogen-fixing	Number of species	1	9	27
		Number of trees	2	94	750

Table S8: Chi-square test result between plantations and forest remnants

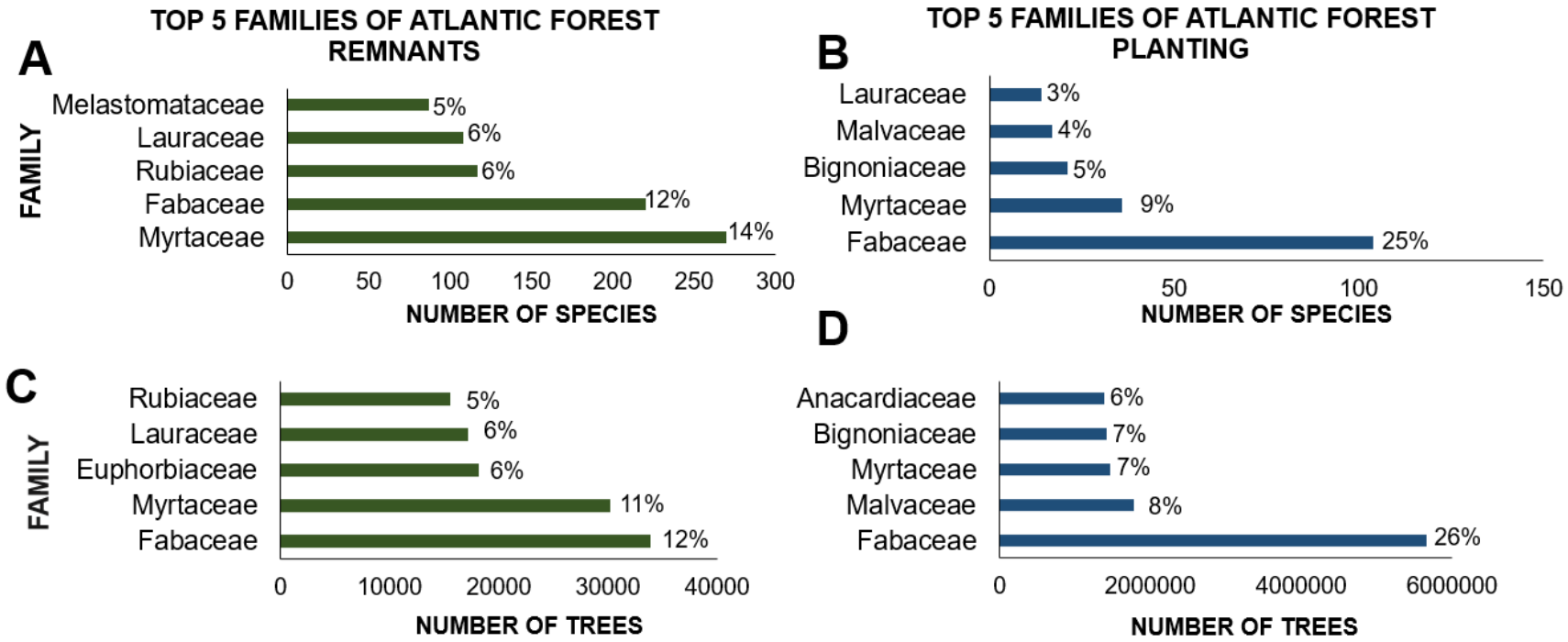
			X^2	P-value	Range of evidence
Dispersal syndrome	All forests	Number of species	54.487	< 0.0001	Very strong
		Number of trees	53341	< 0.0001	Very strong
	AF	Number of species	18.544	< 0.0001	Very strong
		Number of trees	2692.9	< 0.0001	Very strong
	ODF	Number of species	63.106	< 0.0001	Very strong
		Number of trees	26953	< 0.0001	Very strong
	SSF	Number of species	37.901	< 0.0001	Very strong
		Number of trees	18186	< 0.0001	Very strong
Successional group	All forests	Number of species	9.5746	< 0.01	Strong
		Number of trees	49838	< 0.0001	Very strong
	AF	Number of species	0.035608	0.9	Little or no
		Number of trees	3161.9	< 0.0001	Very strong
	ODF	Number of species	11.326	< 0.001	Strong
		Number of trees	20863	< 0.0001	Very strong
	SSF	Number of species	11.78	< 0.01	Strong
		Number of trees	26575	< 0.0001	Very strong
Nitrogen fixing	All forests	Number of species	24.529	< 0.0001	Very strong
		Number of trees	19794	< 0.0001	Very strong
	AF	Number of species	6.5562	< 0.05	Moderate
		Number of trees	4253	< 0.0001	Very strong
	ODF	Number of species	20.039	< 0.0001	Very strong

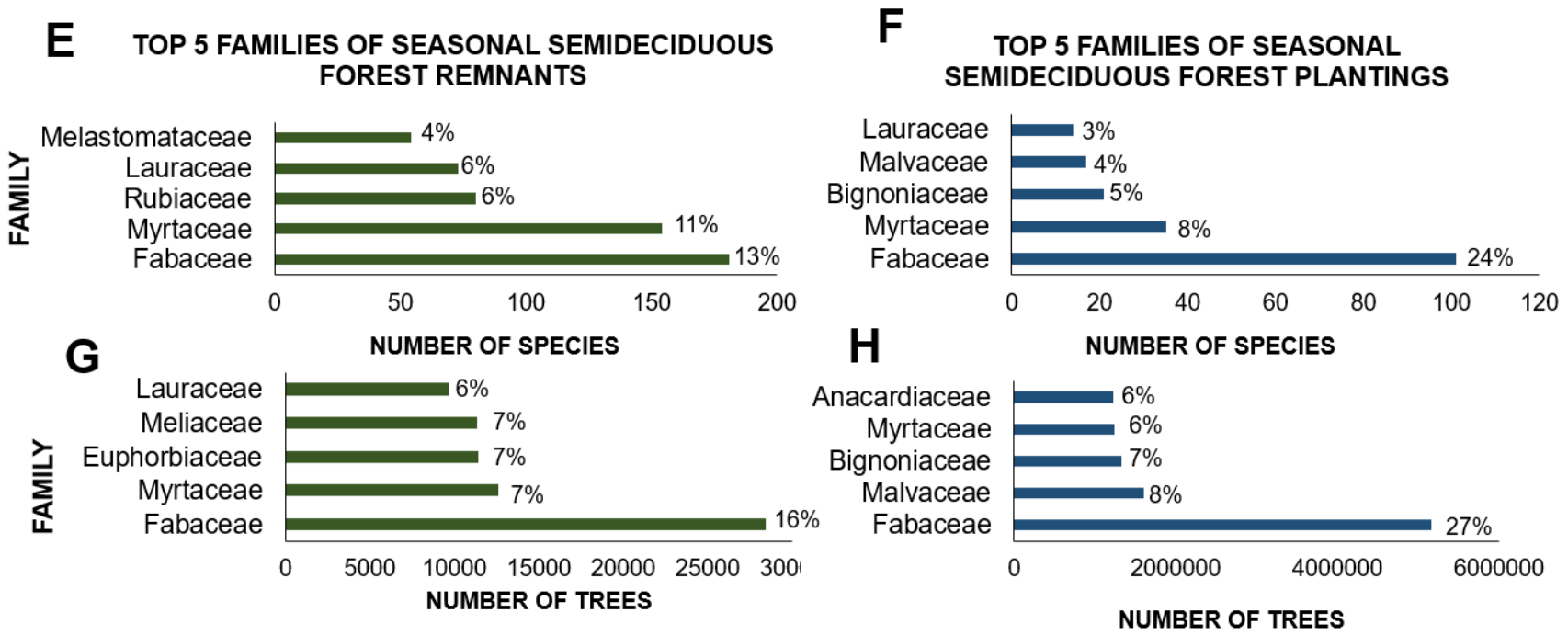
	SSF	Number of trees	9767.8	< 0.0001	Very strong
		Number of species	13.365	< 0.001	Strong
		Number of trees	6473.6	< 0.0001	Very strong
Risk of extinction	All forests	Number of species	0.20316	0.6522	Little or no
		Number of trees	2765.1	< 0.0001	Very strong
	AF	Number of species	1.3281	0.2491	Little or no
		Number of trees	757.65	< 0.0001	Very strong
	ODF	Number of species	0.19723	0.657	Little or no
		Number of trees	2678.7	< 0.0001	Very strong
	SSF	Number of species	0.55206	0.4575	Little or no
		Number of trees	1.6388	0.2005	Little or no

Figure S1- **Atlantic Forest vegetation types in Brazil**

Figure S1: Phytogeographic regions of the Brazilian Atlantic Forest considered in the study: A-) Mixed Ombrophilous Forest (Araucaria Forest); B-) Ombrophilous Dense forest; C-) Semideciduous Seasonal Forest. Pictures by A-) Ricardo Augusto Gorne Viani; B-) and C-) Crislaine de Almeida.

Figure S2: Most rich and abundant botanical families in number of tree species and individuals in the Brazilian Atlantic Forest restoration plantings and remnants overall and specifically for the Seasonal Semideciduous Forest, where most of the restoration plantings have been made.




E
TOP 5 FAMILIES OF SEASONAL SEMIDECIDUOUS FOREST REMNANTS
FAMILY
Melastomataceae
Lauraceae
Rubiaceae
Myrtaceae
Fabaceae
4%
6%
6%
11%
13%
0
50
100
150
200
NUMBER OF SPECIES
F
TOP 5 FAMILIES OF SEASONAL SEMIDECIDUOUS FOREST PLANTINGS
Lauraceae
Malvaceae
Bignoniaceae
Myrtaceae
Fabaceae
3%
4%
5%
8%
24%
0
20
40
60
80
100
120
NUMBER OF SPECIES
G
FAMILY
Lauraceae
Meliaceae
Euphorbiaceae
Myrtaceae
Fabaceae
6%
7%
7%
7%
16%
0
5000
10000
15000
20000
25000
NUMBER OF TREES
H
Anacardiaceae
Myrtaceae
Bignoniaceae
Malvaceae
Fabaceae
6%
6%
7%
8%
27%
0
2000000
4000000
6000000
NUMBER OF TREES