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Structure of the arboreal component of a SemideciduousSeasonalForest in the south of Espirito Santo state, Brazil

[1]Rafaella De Angeli Curto, [2]Gilson Fernandes da Silva, [3]Rômulo Môra, [1]Rodrigo Otávio Veiga de Miranda, [1]Ana Paula Donicht Fernandes, [1]Emanuel José Gomes de Araújo

[1]*Universidade Federal do Paraná – Centro de Ciências Florestais e da Madeira, Av. Lothário Meissner, 631, Jardim Botânico, 80210-170, Curitiba, PR – Brasil*
[2]*Universidade do Espírito Santo – Departamento de Ciências Florestais e da Madeira, Av. Governador Lindemberg, 316, 29550-000 – Jerônimo Monteiro, Espírito Santo - Brasil*
[3]*Universidade Federal de Mato Grosso – Faculdade de Engenharia Florestal – Departamento de Engenharia Florestal, Av. Fernando Correa da Costa, 2367, Boa Esperança, 78060-900, Cuiabá, MT – Brasil*

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ABSTRACT

The present study was performed in a fragment of 52.04 hectares of SemideciduousSeasonalForest, known as the Rosal Forest, in Guaçui, Espirito Santo state, Brazil.This work had as objective to produce information about the arboreal vegetation in the study area in order to increase the bases and the chances for a successful revegetation. We applied the fixed area sampling, being distributed 16 plots of 600 m^2, in a systematic way in the field (150 meters between plots and 200 meters between lines), totalizing a sampled area of 0.96 ha. All individuals withdiameter at breast height (DBH) (1.3 m) greater than or equal to 5 cm were measured and underwent for a plant identification process. Were assessed the species composition, diversity, the horizontal forest structure and the diameter size distributions of the forest under study.1,596 individuals were sampled with DBH greater than or equal to 5 cm, totaling 246 species. The most representative families in number of species found were: Fabaceae, Lauraceae, Myrtaceae, Rubiaceae, Annonaceae and Sapotaceae. The Shannon-Weaver diversity index (H') for the study area was 4.4, being an expressive value; and the equability of Pielou was 0.80. The species that stood out in descending order of IVI (%) were*Mabea fistulifera*, *Siparuna guianensis*, *Pseudopiptadenia contorta*, *Apuleia leiocarpa* and *Myrcia fallax*.The diameter structure of the studied forest fragment presents a type ofreversed-J-shaped distribution, common in native forests.

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INTRODUCTION

The term "Atlantic Forest" includes, in Brazil, a mosaic of plant communities that develops along the mountain range and lowlands that flank the Atlantic Ocean, from Rio Grande do Sul state to Rio Grande do Norte state, and its main area is located in the boundaries of the Serra do Mar and Serra da Mantiqueira in the southeast region (SIQUEIRA-FILHO and LEME, 2006), being one of the richest and threatened ecosystems of the planet.

In the state of Espirito Santo, the Atlantic Forest covered on average 90% of the territory, being the remainder occupied by associated ecosystems (IPEMA, 2004). According to data published by the SOS Atlantic Forest Foundation and the National Institute for Space Research, (SOSMAand INPE,2010), there are only 11% of remnants of the Atlantic Forest in the State, and in its southern region, the Semideciduous Seasonal Forest is a clear example of the fragmentation process, because currently this ecosystem is represented by small isolated fragments.

These remnants were formed from the predatory exploitation of forest resources, characterized by deforestation of areas for deployment mainly of coffee, pasture and forestry.

Despite the devastation, many of the remaining forest fragments in the Atlantic Forest are in the process of natural recovery by the succession process, which increases the need to understand the dynamics of this recovery, for the establishment of appropriate management plans to enable the conservation of its biodiversity.

Any strategy to conserve biological diversity requires a quantification of the existing species and

Corresponding Author: Rafaella De Angeli Curto, Universidade Federal do Paraná – Centro de Ciências Florestais e da Madeira, Av. Lothário Meissner, 631, Jardim Botânico, 80210-170, Curitiba, PR – Brasil

how they are distributed (PRIMACK and RODRIGUES, 2001). The indexes or indicators used for characterizing the structure of a plant community are called phytosociological parameters (MEUNIER *et al*., 2001).

The phytosociological study provides information about the structure of the community in a certain area, besides possible affinities between species or groups of species, adding quantitative data about the vegetation structure (SILVA *et al*., 2002).

The floristic and phytosociological studies are of a great importance for the establishment of priority actions, since any intervention will only be successful if it is guided by consistent information with the reality of each fragment.

Through the study of the floristic and phytosociological composition of a forest, it is possible to build a theoretical basis to subsidize genetic resources conservation projects, conservation of similar areas and the environmental recovery of areas or forest fragments degraded which use native species, contributing to their management, being an initial step in their knowledge (VILELA *et al*., 1993; CUSTÓDIO FILHO *et al*., 1994; GILHUIS, 1986, apud DRUMOND *et al*., 1996).

Considering the above, the main objective of this work was to produce information, the most reliable possible, on the arboreal vegetation of Rosal Forest, located in the municipality of Guaçui, Espirito Santo state, to generate information concerning this plant community, in order to increase the foundations and the chances for a successful revegetation. And as specific objectives: evaluate the floristic composition, diversity and horizontal forest structure and the diameter size distributions

Methodology:

Study Area:

This study was conducted in a forest fragment belonging to the hydroelectric plant Rosal located in the Natural Municipal Park of Guaçuí in the south of the Espirito Santo state, being this fragment covered by Semideciduous Seasonal Forest (REZENDE *et al*., 2009). The mean temperature is 20°C and the annual rainfall of 1,200 mm. The predominant soil in the region is the red-yellow Latosol (SANSEVERO *et al*., 2006).

The forest fragment under study, known as Rosal Forest, is the most preserved fragment present in the range of 100 meters width of a Permanent Preservation Area with approximately 200 hectares, around a reservoir area of 170 hectares (water mirror) belonging to the hydroelectric plant. This area is degraded in a large part, but there is an ongoing project to recover this area, providing revegetation for the entire range of 100 meters.

The Rosal forest has an area of 52.04 hectares, with 20º53'South latitude and 41º 42' West longitude the geographical coordinates of the entry access. (SANSEVERO *et al*., 2006) The Forest is distant from the urban center of the municipality of Guaçuí about 19.4 km, with 18 km of paved road (Highway Prefeito Norival Couzi/ES-185) and approximately 1.4 km unpaved road, which connects the asphalt road and the park entrance. The forest is inserted at the Itabapoana watershed.

That forest was chosen for the study because it is understood that the more information is produced on this plant community, the greater the bases and the chances for successful revegetation.

Data Collection:

A forest inventory was conducted in Rosal Forestbased on afixed-area sampling method. Were distributed 16 plots of 20 X 30 m (600 m^2), in a systematic way in the field (with a distance of 150 meters between plots on the line and 200 meters between rows), to the fullest extent of the forest, totaling 0.96 hectares of sampled area.

After the distribution of the defined plots in forest inventory, all individuals with DBH (diameter at breast height, equal to 1.30 m above the ground) equal or more than 5 cm were identified with numbered plaques attached to the stems with wire. In cases of individuals with ramification at the soil level, the ramifications were also considered, provided they were alive and framed the inclusion criteria (DBH $\geq$ 5 cm). In such cases, all stems were measured. In all individuals identified with plaques were measured the DBH with diameter tape.

In areas that had terrain slope, appropriate corrections were preceded through a cosine relation, so that all plots have equal areas (SOARES *et al*., 2006).

After measurements and identified with plaques, the trees went through a botanical identification process. The botanical samples, both as reproductive and vegetative state, were collected and placed in newspapers, cardboard and plastic bags. Subsequently, the material was pressed and dried in an oven.

After drying, the botanical materials were identified at family level, genus and species with specialized bibliography help and comparisons with the materials contained in the collection of the Herbarium of the Nature Reserve of Vale do Rio Doce at the municipality of Linhares, Espirito Santo state. In some cases, the botanical samples were sent to specialists for identification. When it was not possible to identify, the sample was considered as unidentified.

The collected specimens were deposited at the herbarium of the Department of Forestry (DEF), of the Agricultural Sciences Center of the Federal University of Espirito Santo (CCA-UFES) in the municipality of Jerônimo Monteiro, Espirito Santo state.

The plant families were listed according to the Angiosperm Phylogeny Group III guidelines (CHASE, 2009). All names of species and their

respective authorities were confirmed and updated by the site List of Species of the Brazilian Flora (REFLORA, 2010).

Data Analysis:

In order to estimate the diversity and the evenness of the species in the study area, the Shannon-Weaver diversity index (H ') and Pielou's evenness index (J) were calculated (KENT and COKER, 1992).

The analysis of the horizontal structure comprised the absolute and relative parameters described in Mueller-Dombois and Ellenberg (1974), as follows: density, dominance, frequency, coverage value index and importance value index.

In the analysis of diameter distribution, for the preparation of the frequency distribution of the diameters table and diameter-distribution charts, the value of five inches of DBH was considered the lower limit of the smallest class in diameter. The diameter classes have as amplitude ten centimeters.

All parameters were estimated with the software Mata Nativa 3.0 (CIENTEC, 2010).

RESULTS AND DISCUSSION

Were sampled 1,596 individuals, totaling 246 species. Of these total, 85% individuals were identified to the specie level, 12% only at genus, 2% only at the family level and 1% was not identified.

A total of 50 families were sampled, and the most representative in terms of number of species were Fabaceae (35), Lauraceae (20), Myrtaceae (18), Rubiaceae (14), Annonaceae (13), Sapotaceae (12), Sapindaceae (11), Salicaceae (10), Moraceae and Meliaceae (9), which account for 61.4% of all species identified. The other 40 families have a total of species (38.6%), represented by smaller numbers of individuals.

In works in the Semideciduous Seasonal Forest in the Espirito Santo statesuch as Rolim *et al*. (2006), Archanjo (2008) and Moreira (2009), being the last two located in the southern region of the state, were found as a result that considering all the species of the Fabaceae family together, this family took a prominent position on the number of species. According to Souza and Lorenzi (2005), the Fabaceae family is included among the leading families in most Brazilian natural ecosystems.

The genera with highest species richness are: *Ocotea* with 14 species; *Inga*, *Eugenia* and *Casearia*, with 7 species each; *Trichilia* and *Guatteria*, with 6 species each; and *Pouteria* with five species.When considering families and genera with highest richness in this work, it is possible to notice the similarity with the results found in the works of Archanjo (2008), held at the Private Natural Heritage Reserve of Cafundó, in the municipality o Itapemirim, Espirito Santo state and Moreira (2009), at the National Forest of Pacotubain the municipality o Itapemirim, Espirito Santo state, conducted in the municipality of Cachoeiro de Itapemirim, Espirito Santo state, being both close to the studied area.

According to Veloso *et al*. (1991), the ecological concept of Semideciduous Seasonal Forest is conditioned by the dual climate seasonality, and the common genera to this forest are *Parapiptadenia, Peltophorum, Cariniana, Lecythis, Tabebuia* (undercurrent delimitation of *Handroanthus*) and *Astronium.* In this work all genera, less the *Parapiptadenia* and *Peltophorum*, were sampled.

Several species sampled in the Forest Reserve of Mata do Paraíso at the municiplaity of Viçosa, Minas Gerais state, consisting of excerpts from Semideciduous Seasonal Forest (PINTO, 2005), were also found in the studied fragment, among which we can mention: *Annona cacans*, *Apuleia leiocarpa, Cabralea canjerana, Carpotroche brasiliensis, Cecropia glaziovi, Cecropia hololeuca, Dalbergia nigra, Guapira opposita, Machaerium nyctitans, Miconia cinnamomifolia, Myrcia fallax, Nectandra oppositifolia, Piptadenia gonoacantha, Protium heptaphyllum, Protium warmingiana, Psychotria vellosiana, Senna macranthera, Siparuna guianensis, Trichilia lepidota, Xylopia sericea* e *Zanthoxylum rhoifolium.*

Other species found in this work, were also found by Paula (2006), in the municipality of Linhares at Espirito Santo state, as*Chrysophyllum lucentifolium, Eugenia excelsa, Eugenia platysema, Jacaranda puberula, Licania kunthiana, Ocotea conferta, Pouteriareticulata, Rheedia gardneriana, Sorocea guilleminiana* e *Trichilia pallens*, for example.

The Shannon-Weaver diversity index (H') found for the study area was 4.4, being an expressive value, because according to the value found by Lopes *et al*. (2002), the Shannon diversity index 3.98, represents a high diversity when it comes to Seasonal Forest.

Studies realized in Semideciduous Seasonal Forests, indicate that the Shannon diversity index (H') ranged from 3.26 to 4.25 (IVANAUSKAS *et al*., 1999; NUNES *et al*. 2003; ANDRADE and RODAL, 2004; MARANGON *et al*., 2007). However, according to Faria (2001), the value of H' found in Tropical Forests, ranges from 3.83 to 5.86.

The value found for evenness (J) was 0.80 indicating that 80% of the maximum theoretical diversity was represented in this sample, in other words, the floristic heterogeneity of the arboreal component is relatively high. According to Meira-Neto and Martins (2000), evenness (J) varies between 0.73 and 0.88, for the Semideciduous Seasonal Forests in Minas Gerais state. Values of 0.83 and 0.89 were found by Werneck *et al*. (2000) and Marangon *et al*. (2007) at Ecological Station of Tripuí, in the municipality of Ouro Preto, Minas Gerais state and in the municipality of Viçosa, Minas Gerais state, respectively,Thus, it appears that the value found for the diversity and evenness in this

study was close to other studies to Semideciduous Seasonal Forests.

The species found in the sampling, with their respective phytosociological parameters estimates of horizontal structure are listed in Table 1 in descending order of importance value index (IVI%).

Table 1: Species found in the sampled forest fragment of Rosal Forest, Guaçuí, Espirito Santo state and their phytosociological parameters, where DA = absolute density, DR = relative density; FA = absolute frequency, RF = relative frequency; DoA = absolute dominance; DoR = relative dominance; IVI = importance value index and IVI(%) = relative importance value index

Family	Scientific Name	DA	DR	FA	FR	DoA	DoR	VI	VI (%)
Euphorbiaceae	*Mabea fistulifera* Mart.	166,7	10,03	71	1,87	2,07	7,43	19,33	6,44
Siparunaceae	*Siparuna guianensis* Aubl.	196,9	11,84	88	2,34	0,82	2,94	17,13	5,71
Fabaceae	*Pseudopiptadenia contorta* (DC.) G.P.Lewis & M.P.M.de Lima	41,7	2,51	76	2,03	3,48	12,54	17,08	5,69
Fabaceae	*Apuleia leiocarpa* (Vogel) J.F. Macbr.	67,7	4,07	65	1,72	1,31	4,71	10,50	3,50
Myrtaceae	*Myrcia fallax* DC.	66,7	4,01	71	1,87	0,56	2,01	7,89	2,63
Nyctaginaceae	*Guapira opposita* (Vell.) Reitz	49,0	2,94	41	1,09	0,57	2,04	6,08	2,03
Rubiaceae	*Amaioua intermedia* var. brasiliana (A.Rich.) Steyerm.	39,6	2,38	59	1,56	0,28	1,01	4,95	1,65
Annonaceae	*Unonopsis* sp.1	28,1	1,69	65	1,72	0,42	1,50	4,91	1,64
Fabaceae	*Piptadenia gonoacantha* (Mart.) J.F. Macbr.	8,3	0,50	35	0,94	0,94	3,37	4,80	1,60
Anacardiaceae	*Astronium graveolens* Jacq.	26,0	1,57	59	1,56	0,30	1,09	4,21	1,40
Erythroxylaceae	*Erythroxylum plowmanii* Amaral Jr.	38,5	2,32	18	0,47	0,26	0,94	3,73	1,24
Chrysobalanaceae	*Licania kunthiana* Hook.f.	21,9	1,32	35	0,94	0,40	1,44	3,70	1,23
Myristicaceae	*Virola gardneri* (A.DC.) Warb.	25,0	1,50	41	1,09	0,31	1,10	3,69	1,23
Salicaceae	*Casearia ulmifolia* Vahl. ex Vent.	12,5	0,75	47	1,25	0,44	1,60	3,60	1,20
Moraceae	*Brosimum glaucum* Taub.	25,0	1,50	53	1,40	0,18	0,66	3,57	1,19
Malpighiaceae	*Byrsonima sericea* DC.	13,5	0,81	18	0,47	0,63	2,26	3,54	1,18
Myristicaceae	*Virola oleifera* (Schott) A. C. Smith	2,1	0,13	12	0,31	0,83	2,99	3,43	1,14
Apocynaceae	*Tabernaemontana catharinensis* A.DC.	9,4	0,56	41	1,09	0,45	1,63	3,29	1,10
Fabaceae	*Tachigali vulgaris* L.G.Silva & H.C.Lima	10,4	0,63	29	0,78	0,50	1,79	3,20	1,07
Fabaceae	*Dequelia longeracemosa* (Benth.) Az.- Tozzi	10,4	0,63	29	0,78	0,48	1,72	3,13	1,04
Meliaceae	*Trichilia lepidota* subsp.schumanniana (Harms) T.D.Pennington	14,6	0,88	59	1,56	0,18	0,65	3,09	1,03
Fabaceae	*Pterocarpus rohrii* Vahl.	16,7	1,00	35	0,94	0,32	1,14	3,08	1,02
Moraceae	*Sorocea guilleminiana* Gaudich.	22,9	1,38	35	0,94	0,20	0,70	3,02	1,01
Meliaceae	*Trichilia silvatica* C.DC.	20,8	1,25	29	0,78	0,26	0,95	2,98	0,99
Bignoniaceae	*Sparattosperma leucanthum* (Vell.) K. Schum.	15,6	0,94	24	0,62	0,34	1,21	2,77	0,92
Rubiaceae	*Psychotria carthagenensis* Jacq.	16,7	1,00	29	0,78	0,13	0,48	2,26	0,75
Annonaceae	*Xylopia brasiliensis* Spreng.	7,3	0,44	29	0,78	0,29	1,03	2,24	0,75
Fabaceae	*Acacia glomerosa* Benth.	11,5	0,69	12	0,31	0,34	1,22	2,22	0,74
Meliaceae	*Trichilia* sp.1	11,5	0,69	35	0,94	0,16	0,59	2,21	0,74
Schoepfiaceae	*Schoepfia brasiliensis* A.DC.	10,4	0,63	29	0,78	0,20	0,73	2,13	0,71
Rhamnaceae	*Rhamnidium glabrum* Reissek	7,3	0,44	18	0,47	0,33	1,19	2,10	0,70
Lauraceae	*Ocotea longifolia* Kunth.	16,7	1,00	12	0,31	0,21	0,75	2,07	0,69
Fabaceae	*Melanoxylon brauna* Schott.	4,2	0,25	24	0,62	0,31	1,11	1,99	0,66
Annonaceae	*Xylopia sericea* A. St.-Hil.	7,3	0,44	35	0,94	0,14	0,50	1,87	0,62
Annonaceae	*Guatteria* sp.1	7,3	0,44	35	0,94	0,14	0,49	1,87	0,62
Sapindaceae	*Cupania* sp.2	11,5	0,69	29	0,78	0,09	0,34	1,81	0,60
Moraceae	*Naucleopsis oblongifolia* (Kuhlm.) Carauta	10,4	0,63	29	0,78	0,11	0,38	1,79	0,60
Sapotaceae	*Pouteria* sp.1	8,3	0,50	35	0,94	0,09	0,33	1,77	0,59
Fabaceae	*Inga* sp.3	12,5	0,75	29	0,78	0,06	0,22	1,76	0,58
Moraceae	*Helicostylis tomentosa* (Poepp. et Endl.) Rusby	8,3	0,50	18	0,47	0,21	0,77	1,74	0,58
Myrtaceae	*Eugenia itapemirimensis* Cambess.	9,4	0,56	35	0,94	0,07	0,24	1,74	0,58
Phyllanthaceae	*Margaritaria nobilis* Linn.f.	5,2	0,31	24	0,62	0,22	0,78	1,72	0,57
Fabaceae	*Stryphnodendron adstringens* (Mart.) Coville	4,2	0,25	24	0,62	0,23	0,84	1,72	0,57
Burseraceae	*Crepidospermum atlanticum* D.C. Daly	7,3	0,44	41	1,09	0,05	0,19	1,72	0,57
Rubiaceae	*Simira glaziovii* (K. Schum.) Steyermark	11,5	0,69	29	0,78	0,06	0,21	1,68	0,56
Malvaceae	*Pachira stenopetala* Casar.	8,3	0,50	18	0,47	0,19	0,68	1,65	0,55
Moraceae	*Brosimum* sp.1	8,3	0,50	18	0,47	0,19	0,67	1,64	0,55
Rubiaceae	*Simira* cf. *sampaioana* (Standl.) Steyerm	14,6	0,88	18	0,47	0,08	0,28	1,63	0,54
Lauraceae	*Aniba canellila* Mez	8,3	0,50	29	0,78	0,09	0,33	1,62	0,54
Urticaceae	*Cecropia hololeuca* Miq.	6,3	0,38	18	0,47	0,21	0,76	1,60	0,53
Lauraceae	*Ocotea pluridomatiata* A. Quinet	10,4	0,63	24	0,62	0,09	0,33	1,58	0,53
Malpighiaceae	*Byrsonima* sp.1	7,3	0,44	18	0,47	0,19	0,67	1,58	0,53
Lauraceae	*Ocotea elegans* Mez	6,3	0,38	35	0,94	0,06	0,22	1,53	0,51

Vochysiaceae	*Vochysia laurifolia* Warm.	3,1	0,19	6	0,16	0,32	1,16	1,51	0,50
Siparunaceae	*Siparuna reginae* (Tul.) A. DC.	8,3	0,50	29	0,78	0,03	0,12	1,40	0,47
Fabaceae	*Anadenanthera peregrina* (L.) Speg.	5,2	0,31	12	0,31	0,22	0,78	1,40	0,47
Melastomataceae	*Miconia* cf. *cinnamomifolia* (DC.) Naudin	9,4	0,56	12	0,31	0,15	0,52	1,40	0,47
Bignoniaceae	*Jacaranda puberula* Cham.	6,3	0,38	29	0,78	0,07	0,24	1,39	0,46
Lamiaceae	*Vitex* sp.1	1,0	0,06	6	0,16	0,33	1,17	1,39	0,46
Lauraceae	*Aniba firmula* (Nees & C. Mart.) Mez	5,2	0,31	18	0,47	0,13	0,47	1,25	0,42
Urticaceae	*Cecropia glaziovi* Snethl.	6,3	0,38	18	0,47	0,11	0,40	1,24	0,41
Asteraceae	*Vernonia diffusa* Lees.	7,3	0,44	12	0,31	0,14	0,49	1,24	0,41
Lauraceae	*Ocotea odorifera* (Vell.) Rohwer	5,2	0,31	24	0,62	0,08	0,28	1,22	0,41
Salicaceae	*Banara brasiliensis* (Schott) Benth.	3,1	0,19	18	0,47	0,15	0,55	1,21	0,40
Lecythidaceae	*Cariniana legalis* (Mart.) Kuntze	6,3	0,38	24	0,62	0,06	0,20	1,20	0,40
Fabaceae	*Vataireopsis araroba* (Aguiar) Ducke	1,0	0,06	6	0,16	0,26	0,95	1,17	0,39
Lamiaceae	*Vitex* aff. *megapotamica* (Spreng.) Moldenke	5,2	0,31	24	0,62	0,06	0,20	1,14	0,38
Apocynaceae	*Himatanthus bracteatus* (A. DC.) Woodson	6,3	0,38	24	0,62	0,04	0,13	1,13	0,38
Celastraceae	*Maytenus cestrifolia* Reiss.	6,3	0,38	24	0,62	0,03	0,11	1,11	0,37
Myrtaceae	*Eugenia* sp.3	8,3	0,50	18	0,47	0,04	0,14	1,11	0,37
Anacardiaceae	*Thyrsodium spruceanum* Benth.	5,2	0,31	24	0,62	0,04	0,15	1,09	0,36
Annonaceae	*Annona cacans* Warm.	3,1	0,19	18	0,47	0,12	0,42	1,07	0,36
Salicaceae	*Macrothumnia kuhlmannii* (Sleumer) M. H. Alford	5,2	0,31	24	0,62	0,04	0,12	1,06	0,35
Annonaceae	*Oxandra nitida* R.E. Fries	6,3	0,38	18	0,47	0,06	0,22	1,06	0,35
Meliaceae	*Cabralea cangerana* (Vell.) Mart. ssp. cangerana	4,2	0,25	18	0,47	0,09	0,33	1,05	0,35
Fabaceae	*Inga* aff. *cylindrica* (Vell.) Mart.	7,3	0,44	12	0,31	0,08	0,27	1,02	0,34
Meliaceae	*Guarea guidonia* (L.) Sleumer	5,2	0,31	24	0,62	0,02	0,08	1,02	0,34
Salicaceae	*Casearia* sp.1	6,3	0,38	18	0,47	0,04	0,15	1,00	0,33
Sapindaceae	*Matayba guianensis* Aubl.	4,2	0,25	24	0,62	0,03	0,11	0,99	0,33
Sapindaceae	*Cupania* sp.1	4,2	0,25	18	0,47	0,07	0,26	0,98	0,33
Chrysobalanaceae	*Parinari parvifolia* Sandw.	4,2	0,25	12	0,31	0,11	0,41	0,97	0,32
Myrtaceae	*Eugenia platysema* Berg	4,2	0,25	24	0,62	0,02	0,07	0,95	0,31
Apocynaceae	*Aspidosperma dispermum* Müll.Arg.	3,1	0,19	18	0,47	0,08	0,28	0,94	0,31
Fabaceae	*Copaifera trapezifolia* Hayne	2,1	0,13	12	0,31	0,14	0,50	0,94	0,31
Sapotaceae	*Ecclinusa ramiflora* Mart.	4,2	0,25	18	0,47	0,05	0,18	0,90	0,30
Lecythidaceae	*Couratari asterotricha* Prance	4,2	0,25	18	0,47	0,05	0,17	0,89	0,30
Myrtaceae	*Eugenia excelsa* O.Berg	3,1	0,19	18	0,47	0,05	0,18	0,84	0,28
Annonaceae	*Guatteria* sp.2	4,2	0,25	18	0,47	0,03	0,10	0,82	0,27
Lauraceae	*Nectandra oppositifolia* Nees & Mart.	2,1	0,13	12	0,31	0,11	0,38	0,82	0,27
Burseraceae	*Protium* aff. *warmingianum*March.	3,1	0,19	18	0,47	0,03	0,12	0,77	0,26
Myrtaceae	*Eugenia subterminalis* DC.	4,2	0,25	18	0,47	0,01	0,04	0,76	0,25
Lecythidaceae	*Lecythis lanceolata* Poir.	3,1	0,19	18	0,47	0,03	0,10	0,76	0,25
Simaroubaceae	*Simarouba amara* Aubl.	4,2	0,25	12	0,31	0,05	0,17	0,73	0,24
Rubiaceae	*Psychotria* sp.1	3,1	0,19	18	0,47	0,01	0,03	0,69	0,23
Trigoniaceae	*Trigoniodendron spiritusanctense* E.F. Guim. & Miguel	4,2	0,25	6	0,16	0,08	0,28	0,69	0,23
Sapotaceae	*Pouteria* sp.2	3,1	0,19	18	0,47	0,01	0,03	0,69	0,23
Fabaceae	*Machaerium nyctitans* (Vell.) Benth.	2,1	0,13	12	0,31	0,07	0,25	0,69	0,23
Nyctaginaceae	*Ramisia brasiliensis* Oliver	4,2	0,25	12	0,31	0,03	0,12	0,68	0,23
Fabaceae	*Platycyamus regnellii* Benth.	2,1	0,13	12	0,31	0,07	0,24	0,68	0,23
Fabaceae	*Zollernia latifolia* Benth.	2,1	0,13	12	0,31	0,06	0,23	0,67	0,22
Lauraceae	*Ocotea divaricata* (Nees) Mez	4,2	0,25	12	0,31	0,03	0,09	0,65	0,22
Urticaceae	*Cecropia* sp.1	2,1	0,13	12	0,31	0,06	0,21	0,65	0,22
Sapindaceae	*Allophylus* sp.1	2,1	0,13	12	0,31	0,06	0,20	0,64	0,21
Burseraceae	*Protium heptaphyllum* (Aubl.) Marchand.	3,1	0,19	12	0,31	0,03	0,10	0,60	0,20
Fabaceae	*Dalbergia nigra* (Vell.) Allemao ex Benth.	2,1	0,13	6	0,16	0,09	0,31	0,59	0,20
Lauraceae	*Ocotea lancifolia* (Schott) Mez	3,1	0,19	12	0,31	0,02	0,09	0,59	0,20
Moraceae	*Brosimum glaziovii* Taub.	1,0	0,06	6	0,16	0,10	0,36	0,58	0,19
Myrtaceae	*Plinia* sp.1	3,1	0,19	12	0,31	0,02	0,08	0,58	0,19
Rubiaceae	*Guettarda viburnoides* Cham. & Schltdl.	2,1	0,13	6	0,16	0,08	0,29	0,58	0,19
Myrtaceae	*Campomanesia* sp.2	2,1	0,13	12	0,31	0,04	0,14	0,57	0,19
Salicaceae	*Casearia* sp.2	2,1	0,13	12	0,31	0,04	0,13	0,57	0,19
Sapindaceae	*Matayba* sp.1	3,1	0,19	12	0,31	0,02	0,07	0,57	0,19
Myrsinaceae	*Myrsine* sp.1	2,1	0,13	12	0,31	0,03	0,12	0,56	0,19
Sapotaceae	*Pradosia lactescens* (Vellozo) Radlk.	3,1	0,19	12	0,31	0,02	0,06	0,56	0,19
Euphorbiaceae	*Aparisthmium cordatum* (Juss.) Baill.	3,1	0,19	12	0,31	0,02	0,06	0,56	0,19
Malvaceae	*Pseudobombax grandiflorum* (Cav.) A. Robyns	2,1	0,13	12	0,31	0,03	0,11	0,55	0,18
Putranjivaceae	*Drypetes* sp.1	3,1	0,19	12	0,31	0,01	0,03	0,53	0,18
Lauraceae	*Nectandra* sp.1	2,1	0,13	12	0,31	0,02	0,08	0,51	0,17
Sapindaceae	*Matayba* sp.2	2,1	0,13	12	0,31	0,02	0,07	0,51	0,17
Fabaceae	*Inga* sp.1	2,1	0,13	12	0,31	0,02	0,07	0,51	0,17
Combretaceae	*Terminalia glabrescens* Mart.	3,1	0,19	6	0,16	0,05	0,17	0,51	0,17
Rubiaceae	*Ixora brevifolia* Benth.	2,1	0,13	12	0,31	0,02	0,07	0,50	0,17

Fabaceae	*Diplotropis incexis* Rizzini & A.Mattos	2,1	0,13	6	0,16	0,06	0,22	0,50	0,17
Fabaceae	*Hymenolobium janeirense* Kuhlmann	2,1	0,13	12	0,31	0,02	0,06	0,50	0,17
Rubiaceae	*Chomelia pubescens* Cham. & Schltdl.	2,1	0,13	12	0,31	0,02	0,06	0,50	0,17
Sapindaceae	*Dilodendron elegans* (Radlk.) Gentry & Steyerm.	2,1	0,13	12	0,31	0,02	0,06	0,50	0,17
Salicaceae	*Casearia* sp.3	2,1	0,13	12	0,31	0,02	0,06	0,50	0,17
Sapindaceae	*Allophylus petiolulatus* Radlk.	2,1	0,13	12	0,31	0,01	0,05	0,49	0,16
Salicaceae	*Casearia javitensis* H.B. & K.	2,1	0,13	12	0,31	0,01	0,05	0,49	0,16
Fabaceae	*Erythrina* sp.1	1,0	0,06	6	0,16	0,07	0,26	0,48	0,16
Caricaceae	*Jacaratia heptaphylla* (Vell.) A. DC.	2,1	0,13	12	0,31	0,01	0,04	0,48	0,16
Moraceae	*Ficus arpazusa* Casar.	1,0	0,06	6	0,16	0,07	0,25	0,47	0,16
Euphorbiaceae	*Pachystroma* sp.1	2,1	0,13	12	0,31	0,01	0,03	0,47	0,16
Myrtaceae	*Marlierea* sp.1	2,1	0,13	12	0,31	0,01	0,03	0,47	0,16
Moraceae	*Clarisia ilicifolia* (Spreng.) Lanj. & Rossb.	2,1	0,13	12	0,31	0,01	0,03	0,47	0,16
Rubiaceae	*Psychotria vellosiana* Benth.	2,1	0,13	12	0,31	0,01	0,03	0,46	0,15
Fabaceae	*Sclerolobium striatum* Dwyer	3,1	0,19	6	0,16	0,03	0,12	0,46	0,15
Meliaceae	*Trichilia pallens* C. DC.	2,1	0,13	12	0,31	0,01	0,02	0,46	0,15
Melastomataceae	*Mouriri arborea* Gardner	2,1	0,13	12	0,31	0,01	0,02	0,46	0,15
Siparunaceae	*Siparuna* sp.1	2,1	0,13	12	0,31	0,01	0,02	0,46	0,15
Meliaceae	*Cabralea* sp.1	2,1	0,13	12	0,31	0,01	0,02	0,46	0,15
Clusiaceae	*Kielmeyera occhioniana* Saddi	1,0	0,06	6	0,16	0,06	0,23	0,45	0,15
Fabaceae	*Peltogyne angustiflora* Ducke	1,0	0,06	6	0,16	0,06	0,23	0,45	0,15
Clusiaceae	*Rheedia gardneriana* Triana & Planch.	3,1	0,19	6	0,16	0,02	0,09	0,43	0,14
Lauraceae	*Nectandra membranaceae* (Sw.) Griseb.	1,0	0,06	6	0,16	0,06	0,21	0,43	0,14
Urticaceae	*Pourouma guianensis* Aubl. subsp. guianensis	1,0	0,06	6	0,16	0,06	0,21	0,42	0,14
Lauraceae	*Licaria guianensis* Aubl.	1,0	0,06	6	0,16	0,06	0,20	0,42	0,14
Malvaceae	*Luehea* sp.1	1,0	0,06	6	0,16	0,05	0,19	0,41	0,14
Myrtaceae	*Myrcia pubipetala* Miq.	3,1	0,19	6	0,16	0,01	0,04	0,39	0,13
Lecythidaceae	*Lecythis pisonis* Cambess.	2,1	0,13	6	0,16	0,03	0,10	0,39	0,13
Sapotaceae	*Pouteria* sp.3	1,0	0,06	6	0,16	0,05	0,16	0,38	0,13
Rhamnaceae	*Colubrina arborences* (Mill.) Sargent	1,0	0,06	6	0,16	0,04	0,15	0,37	0,12
Fabaceae	*Andira* sp.1	3,1	0,19	6	0,16	0,01	0,03	0,37	0,12
Rubiaceae	*Bathysa stipulata* (Vell.) Presl	1,0	0,06	6	0,16	0,04	0,15	0,37	0,12
Annonaceae	*Guatteria sellowiana* Schltdl.	1,0	0,06	6	0,16	0,04	0,14	0,36	0,12
Salicaceae	*Casearia* sp.4	1,0	0,06	6	0,16	0,04	0,14	0,36	0,12
Lauraceae	*Ocotea glaziovii* Mez	1,0	0,06	6	0,16	0,04	0,13	0,35	0,12
Fabaceae	*Swartzia acutifolia* Vogel	1,0	0,06	6	0,16	0,03	0,12	0,34	0,11
Vochysiaceae	*Qualea jundiahy* Warm.	1,0	0,06	6	0,16	0,03	0,11	0,33	0,11
Myrtaceae	*Myrcia splendens* (Sw.) DC.	1,0	0,06	6	0,16	0,03	0,11	0,33	0,11
Annonaceae	*Xylopia aromatica* (Lam.) Mart.	2,1	0,13	6	0,16	0,01	0,03	0,32	0,10
Erythroxylaceae	*Erythroxylum* sp.2	2,1	0,13	6	0,16	0,01	0,03	0,31	0,10
Lacistemataceae	*Lacistema aggregatum* (P.J.Bergius) Rusby	1,0	0,06	6	0,16	0,02	0,09	0,31	0,10
Sapotaceae	*Chrysophyllum* sp.1	2,1	0,13	6	0,16	0,01	0,02	0,30	0,10
Lauraceae	*Ocotea glauca* (Nees) Mez	2,1	0,13	6	0,16	0,00	0,02	0,30	0,10
Ochnaceae	*Ouratea cuspidata* (A.St.-Hil.) Engl.	1,0	0,06	6	0,16	0,02	0,07	0,29	0,09
Annonaceae	*Guatteria campestris* R.E. Fr.	1,0	0,06	6	0,16	0,02	0,06	0,28	0,09
Lauraceae	*Ocotea* sp.1	1,0	0,06	6	0,16	0,02	0,06	0,28	0,09
Lauraceae	*Ocotea puberula* (Rich.) Nees	1,0	0,06	6	0,16	0,02	0,06	0,28	0,09
Rhamnaceae	*Ziziphus glaziovii* Warm.	1,0	0,06	6	0,16	0,02	0,06	0,28	0,09
Fabaceae	*Senna macranthera* (Collad.) Irwin & Barneby	1,0	0,06	6	0,16	0,02	0,06	0,28	0,09
Salicaceae	*Casearia commersoniana* Cambess.	1,0	0,06	6	0,16	0,02	0,05	0,27	0,09
Elaeocarpaceae	*Sloanea eichleri* K. Schum.	1,0	0,06	6	0,16	0,01	0,05	0,27	0,09
Myrtaceae	*Campomanesia* sp.3	1,0	0,06	6	0,16	0,01	0,05	0,27	0,09
Fabaceae	*Tachigali* sp.1	1,0	0,06	6	0,16	0,01	0,04	0,26	0,09
Fabaceae	*Inga flagelliformis* (Vell.) Mart.	1,0	0,06	6	0,16	0,01	0,04	0,26	0,09
Polygonaceae	*Coccoloba* sp.1	1,0	0,06	6	0,16	0,01	0,04	0,26	0,08
Annonaceae	*Guatteria* sp.3	1,0	0,06	6	0,16	0,01	0,04	0,26	0,08
Lauraceae	*Ocotea* sp.2	1,0	0,06	6	0,16	0,01	0,03	0,25	0,08
Sapotaceae	*Micropholis crassipedicellata* (Mart. & Eichler.) Pierre	1,0	0,06	6	0,16	0,01	0,03	0,25	0,08
Myrsinaceae	*Myrsine guianensis* (Aubl.) Kuntze	1,0	0,06	6	0,16	0,01	0,03	0,25	0,08
Lecythidaceae	*Cariniana estrellensis* (Raddi.) Kuntze	1,0	0,06	6	0,16	0,01	0,03	0,25	0,08
Bignoniaceae	*Handroanthus heptaphyllus* (Vell.) Mattos	1,0	0,06	6	0,16	0,01	0,03	0,25	0,08
Salicaceae	*Xylosma* sp.1	1,0	0,06	6	0,16	0,01	0,03	0,25	0,08
Peraceae	*Pera* sp.1	1,0	0,06	6	0,16	0,01	0,02	0,24	0,08
Meliaceae	*Trichilia* sp.2	1,0	0,06	6	0,16	0,01	0,02	0,24	0,08
Myrtaceae	*Eugenia* sp.4	1,0	0,06	6	0,16	0,01	0,02	0,24	0,08
Fabaceae	*Inga* sp.4	1,0	0,06	6	0,16	0,01	0,02	0,24	0,08
Fabaceae	*Bauhinia rufa* (Bong.) Steud.	1,0	0,06	6	0,16	0,01	0,02	0,24	0,08
Chrysobalanac	*Parinari* sp.1	1,0	0,06	6	0,16	0,01	0,02	0,24	0,08

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Bignoniaceae	*Handroanthus chrysotrichus* (Mart. ex A. DC.) Mattos	1,0	0,06	6	0,16	0,01	0,02	0,24	0,08
Elaeocarpaceae	*Sloanea garckeana* K. Schum.	1,0	0,06	6	0,16	0,01	0,02	0,24	0,08
Moraceae	*Ficus enormis* Mart. ex Miq.	1,0	0,06	6	0,16	0,01	0,02	0,24	0,08
Annonaceae	*Guatteria pogonopus* Mart.	1,0	0,06	6	0,16	0,01	0,02	0,24	0,08
Melastomataceae	*Miconia* sp.1	1,0	0,06	6	0,16	0,01	0,02	0,24	0,08
Euphorbiaceae	*Mabea paniculata* Spruce ex Benth.	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Nyctaginaceae	*Andradea floribunda* Allemao	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Olacaceae	*Heisteria* cf. *ovata* Benth.	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Sapotaceae	*Chrysophyllum lucentifolium* Cronquist. subsp. lucentifolium	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Fabaceae	*Inga striata* Benth.	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Sapotaceae	*Pouteria* sp.4	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Boraginaceae	*Cordia lomatoloba* I.M.Johnston	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Chrysobalanaceae	*Licania* sp.1	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Sapindaceae	*Cupania rugosa* Radlk.	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Apocynaceae	*Himatanthus* sp.1	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Lauraceae	*Ocotea conferta* Coe Teixeira	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Lauraceae	*Ocotea nitida* (Meissn.) J.G.Rohwer	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Lauraceae	*Ocotea* sp.3	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Myrtaceae	*Campomanesia* sp.1	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Boraginaceae	*Cordia* sp.1	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Erythroxylaceae	*Erythroxylum* sp.1	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Fabaceae	*Machaerium* sp.1	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Sapotaceae	*Pouteria reticulata* (Engl.) Eyma	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Apocynaceae	*Aspidosperma* sp.1	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Myrtaceae	*Campomanesia* sp.4	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Achariaceae	*Carpotroche brasiliensis* (Raddi.) A. Gray	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Fabaceae	*Inga* sp.2	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Myrtaceae	*Myrciaria floribunda* (West. ex Willd.) O. Berg	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Euphorbiaceae	*Sapium glandulosum* (L.) Morong.	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Rutaceae	*Zanthoxylum rhoifolium* Lamark var. petiolatum Engl.	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Myrtaceae	*Eugenia bunchosiifolia* Nied.	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Picramniaceae	*Picramnia sellowii* Planch.	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Meliaceae	*Trichilia hirta* L.	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
Fabaceae	*Zollernia* sp.1	1,0	0,06	6	0,16	0,00	0,01	0,23	0,08
	14 species determined at the family level	39,6	2,37	135	3,62	0,35	1,26	7,20	2,41
	8 species undetermined	11,5	0,68	53	1,43	0,13	0,47	2,56	0,86
	Total (0,96 ha)	1662,5	100	3770	100	27,78	100	300	100

In the study area, the 20 species with the highest number of individuals are responsible for 55.4% of the total density observed. These species are: *Siparuna guianensis, Mabea fistulifera, Apuleia leiocarpa, fallax Myrcia, opposita Guapira, Pseudopiptadenia contorta, Amaioua intermedia, Erythroxylum plowmanii, Unonopsis sp.1, Astronium graveolens, Virola gardneri, Brosimum glaucum, guilleminiana Sorocea, kunthiana Licania, Trichilia silvatica , Rubiaceae 2, Pterocarpus rohrii, Psychotria carthagenensis, longifolia Ocotea, Sparattosperma leucanthum*. And of the total of 246 species sampled, 95 are considered low density, i.e., 37.11% of the species have only one individual in the sampled area.

The 15 most important species of the community (Figure 1) taking as base the importance value index (IVI%) are: *Mabea fistulifera, Siparuna guianensis, Pseudopiptadenia contorta, Apuleia leiocarpa, fallax Myrcia, opposita Guapira, Amaioua intermedia, Unonopsis sp.1, Piptadenia gonoacantha, Astronium graveolens, Erythroxylum plowmanii, Licania kunthiana, Virola gardneri, Casearia ulmifolia* and *Brosimum glaucum*. These species together make up a total of 38.38% of IVI (%).

It can be observed that the *Mabea fistulifera* has a greater IVI (%) due to its highdensity value (10.03%). The second specie with highest IVI (%), *Siparuna guianensis* also excels due to a high density (11.84%), not being so predominant in terms of dominance in the community. According to Martins *et al*. (2002), this species is common in the understory of Semideciduous Seasonal Forests.*Siparuna guianensis* was also the second species with highest IVI (%), in a study conducted in the surrounding of the National Park of Caparaó, Minas Gerais state, covered by Semideciduous Seasonal Forest, located near to the study area (REDLING, 2007). Still in comparison to this work, there is another similarity between the species with the highest IVI (%), where *Apuleia leiocarpa, Mabea fistulifera* and *Piptadenia gonoacantha* occupy the third, fourth and tenth, respectively.

Among the 10 species with the highest importance value index (IVI) in the arboreal community of the São Domingos Watershed, Rio de Janeiro state, characterized as Semideciduos Seasonal Forest (DAN *et al*, 2010), were highlighted *Apuleia leiocarpa* and *Piptadenia gonoacantha*.*Pseudopiptadenia contorta*, which in this work occupies the third placein value of IVI, also occupy a prominent position in the work done by Archanjo (2008) in the Private Reserve of Natural Heritage of Cafundó (second position) and Moreira (2009) in Natural Forestof Pacotuba (sixth), highlighting also among the highest IVI (%) in the study of Silva and Nascimento (2001), at the Mata do Carvão, municipality of São Francisco do Itabapoana, Rio de Janeiro state.

Astronium graveolens, which stands out among the species with higher IVI (%) as tenth placed, was fourth in the work of Archanjo (2008), and 23th and 28th in the works of Gomes (2006) and Carvalho *et al*. (2006), respectively.The *Virola gardneri* species appeared in the studies of Gomes (2006) in National Forest of Goytacazes in Linhares, Espiro Santo state, and Moreira (2009) in National Forest of Pacotuba, standing out among the species with higher IVI(%).

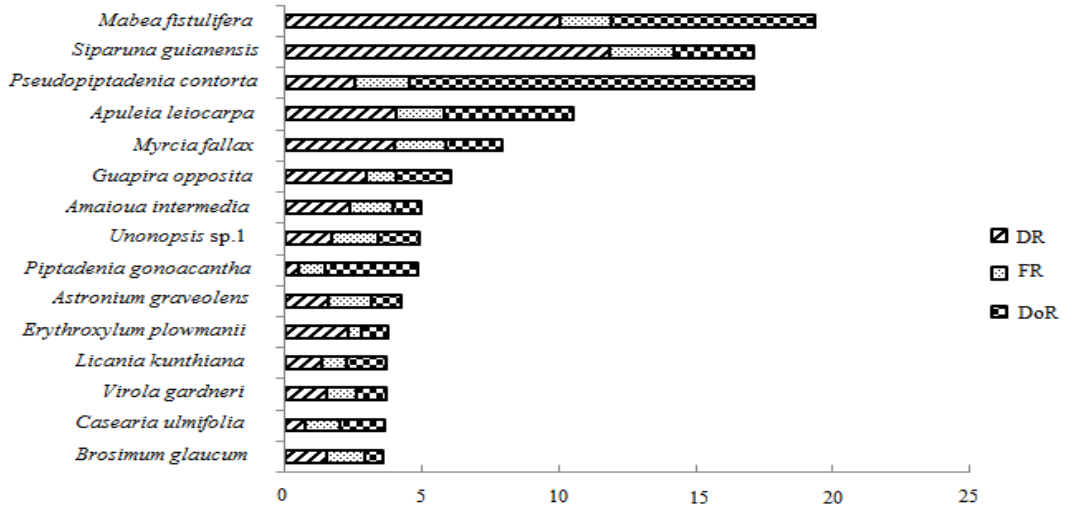

Fig. 1: List of the fifteen species with highest IVI (%) (index relative importance value) found in a fragment on the Rosal Forest, Guaçuí, Espirito Santo state with their relative densities (DR (%)), relative frequencies (RF (%)) and relative dominances (DoR (%)).

Furthermore, in accordance with Figure 1, it is observed that the frequencies have little influence on IVI (%) of the sampled species, especially the five with highest IVI (%), which generally have absolute frequency ranging from 52.9 to 90%, indicating that they are represented throughout the sampled area. However, exceptions such as *Casearia ulmifolia* (47%) *Guapira opposita* (41%), *Virola gardneri* (41%) *Piptadenia gonoacantha* (35%), *Licania kunthiana* (35%), *Erythroxylum plowmanii* (17%) can be observed.

Were also observed, exceptions for the species *Casearia ulmifolia* (47%) and *Piptadenia gonoacantha* (35%), which stood out among the species with higher IVI due to the high value of their dominances; *Virola gardneri* (41%), *Guapira opposita* (41%) and *Erythroxylum plowmanii* (17%), which stand out due to high values of densities and *Licania kunthiana* (35%), which highlighted by its density and dominance values together.

The species *Siparuna guianensis*, *Myrcia fallax* and *Guapira opposita* stood out for presenting a high density value, not being as preponderant in terms of dominance in the community.

The diameter distribution of the studied community (Figure 2) shows a type of reversed-J-shaped distribution, common to uneven-aged forests, being this fact positive when considering the sustainability of the studied forest. According to this type of distribution, there is a greater number of individuals in the smaller diameter classes and this number decreases exponentially, as the diameter class increases.

This result can be explained considering that the competition in a natural forest is not controlled and therefore most individuals present in greater numbers in the initial diameter classes are not able of overcome the competition and achieve the greater diameter classes. Furthermore, many species naturally do not grow much in diameter as others.

Analyzing the diameter distribution of the fragment, it is noted that 79.51% of the total individuals per hectare concentrate in class 10 cm of DBH, which means that the arboreal community analyzed consists, mostly, of small size individuals.

Of the class 20 to 40 cm occurs a gradual reduction in the number of individuals, being present 19.68% of the sampled trees. In classes of 80 and 90

cm, were not sampled any individual. Thus, 0.81% of the remaining individuals are distributed in classes 50, 60, 70 and 100 cm of DBH (Figure 2).

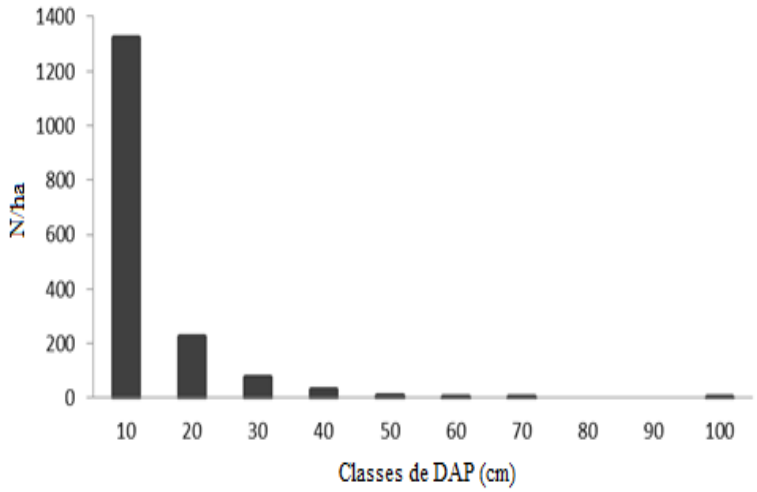

Fig. 2: Absolute density per hectare (DA) by diameter class for the fragment of Rosal Forest, Guaçuí, Espirito Santo state.

As the diameter distribution curve of the community has a typical form of reversed-J-shaped, according to Felfili and Silva Junior (2001), the studied community demonstrates a forest self-regeneration.

Taking as a basis the parameters characterizing of the successional stages presented in CONAMA Resolution N°. 10, October 1, 1993, the studied forest fragment lies in the medium/advanced stage of regeneration.

Conclusions:

The most representative families in number of species were: Fabaceae, Lauraceae, Myrtaceae, Rubiaceae, Annonaceae, Sapotaceae, Sapindaceae and Salicaceae, contributing with over half of the total species identified.

The Shannon-Weaver diversity index (H') found in the sample reaches a significant value, being above those found in studies in the Atlantic Forest vegetation.

The species *Mabea fistulifera, Siparuna guianensis, Pseudopiptadenia contorta, Apuleia leiocarpa, Myrcia fallax, Guapira opposita, Amaioua intermedia, Unonopsis* sp.1, *Piptadenia gonoacantha, Astronium graveolens, Erythroxylum plowmanii, Licania kunthiana, Virola gardneri, Casearia ulmifolia* and *Brosimum glaucum* dominate the horizontal structure of the community, representing almost half of the total IVI (%).

The diameter structure of the studied forest fragment presents a distribution in reversed-J-shaped, common to uneven-aged forests.

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