

# Programa Mata Atlântica

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*Instituto de Pesquisas Jardim Botânico do Rio de Janeiro*



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## Introduction

The Atlantic Forest Program (PMA) assembles in this document the results of the activities developed during the period of July 1996 to June 1997, representing the effort of several professionals of the Instituto de Pesquisas Jardim Botânico do Rio de Janeiro (Institute of Researches Rio de Janeiro Botanical Garden), still supported by MacArthur Foundation, Shell Brasil S.A, Ministério do Meio Ambiente, dos Recursos Hídricos e da Amazônia Legal (Ministry of the Environment, of the Water Resources and of Legal Amazonia), Margaret Mee Botanical Foundation as well as by the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq - Brazilian Research Council), through the granted fellowships to its awardee and researchers.

The activities reported here are part of the planning for the triennial aims for 1996/99, and they represent a step more in the acquisition of the knowledge for indispensable effective actions for the PMA to succeed in its main purpose of knowing better the Atlantic Forest remnants in order to implement conservation programs, and subsidizing the management, the recovery of natural areas and specialized capacitation of human resources.

During this period, the activities were accomplished through the continuity of the floristic inventories in the Atlantic Forest remnants in the Parque Nacional do Itatiaia (PARNA - Itatiaia National Park), and in the Reserva Biológica de Poço das Antas (REBIO - Poço das Antas Biological Reserve), in the proposal of recovery of degraded areas in the REBIO-Poço das Antas, and in the improvement of the biological database of the PMA.

The consolidation of the results reached along these years can especially be exemplified through the conclusion of two books that demonstrate the progress on the knowledge about the montane vegetation of the Atlantic Forest, especially in the Macaé de Cima Ecological Reserve, by publishing the second volume on the floristic aspects of the native plant species, and another book including themes about floristic diversity and conservation in Atlantic Forest.

All of these activities were executed in a restructured PMA's organization chart where its lines of action were systematized, in agreement not only with the institutional flow, as well as with the optimal allocation of grants from different financial grant agencies. Thus, the results will be shown in this report, in agreement with this new organization chart.

## Results by lines of action

### *Project Floristic and Environmental Surveys*

#### *1. Floristic and Phytosociological Surveys*

During this year, the line of studies on floristic and phytosociological surveys kept on doing the floristic and phytosociological inventories in the REBIO-Poço das Antas and in the PARNA-Itatiaia. The proceedings of maintenance, exchange, updating and identification of the botanical collections from the study areas were also continued, as well as for other projects, and the input and monitoring of the information obtained about the individuals and species collected, in the database that composes the Center of Information and Services about the Atlantic Forest (CISMA).

#### **Reserva Biológica de Poço das Antas- REBIO-Poço das Antas**

For the REBIO-Poço das Antas, this period represented a conclusive phase concerning the obtained data, involving the proceedings of identification of botanical vouchers, maintenance and updating of the databases of the CISMA. The information refer to 624 among the 1,532 individuals sampled in the inventory of forest covering mamelon-like hillocks.

Support for the development of surveys by other research workgroups in this Conservation Unit, such as the Universidade Estadual do Norte Fluminense - UENF (Northern-Fluminense State University), Universidade Federal do Rio de Janeiro - UFRJ (Rio de Janeiro Federal University), Universidade de Brasília - UnB (Brasilia University), among other, accompany the accomplished activities.

#### **Parque Nacional de Itatiaia - PARNA - Itatiaia**

The activities for the PARNA-Itatiaia included the accomplishment of trips to continue the floristic inventory in this Conservational Unit, using a samples area of 1 hectare, which was set in a well-preserved forest site, and by means of collections made at random in different places in the Park. Thus, a representative collection of the PARNA-Itatiaia's flora was quantitatively enhanced in a total of 458 vouchers, as well as qualitatively, considering the relevance of such botanical testimonies for the progress of the investigations on the Atlantic Forest. The inventory in the sample unit (1ha) is in conclusive phase, only remaining, at the moment, the collection of high-height individuals, and the recollection of those individuals whose samples need additional material to aid the identification process.

The extremely high floristic diversity and the also high endemism rates led the option for a detailed study on the floristic richness of the sites of the highland fields, which has been developed through a specific research plan of an awardee in a Scientific Initiation Program of CNPq.

#### **Identification of the species**

The activity of identification of the plant collection included the species from PARNA-Itatiaia, from the REBIO-Poço das Antas, and the vouchers obtained by the Project of Reforestation, associated to the procedures of information research about the species to be included in the database.

Since the taxonomic study is a dynamic process, vouchers from other investigated areas, such as the Estação Ecológica Estadual de Paraíso (Ecological Station Paraíso) and the Reserva Ecológica de Macaé de Cima (Macaé de Cima Ecological Reserve), was updated mainly at the specific binomial level.

The PMA was consolidated by its results in the Rio de Janeiro State, becoming reference to the flora of this ecosystem, what has been causing a

growing demand for identification of plant vouchers from other Atlantic Forest sites, supporting ecological studies, management, and technical reports about areas under impact of different nature.

### **Plant Collections originated from the Atlantic Forest: Vouchers preparation and inclusion in the herbarium of the Jardim Botânico do Rio de Janeiro and their exchange with other herbaria**

Aside the field work, other activities were developed, which were related to processing (herborization and labeling) of the collections from the REBIO-Poço das Antas and from the PARNA-Itatiaia for further inclusion in the Herbarium of the Jardim Botânico do Rio de Janeiro (RB), as well as for the distribution of vouchers duplicates for other national and foreign herbaria.

Vouchers from the REBIO-Poço das Antas (372) were included in the collection of the herbarium of the Botanical Garden, but 144 vouchers from REBIO-Poço das Antas and 1,591 from PARNA-Itatiaia are still remaining at a pre-inclusion stage.

It is still noticeable, the importance of voucher collections of the PMA as an information source for several dissertations and theses, developed in Post-graduation programs in Southeastern Brazil, as well as for projects of regional floras, such as the Flora of São Paulo.

### **2. Survey and mapping of the vegetational cover**

The present research line aims the mapping and monitoring of the vegetation of the sites under the scope of PMA, by means of conventional aerophotographs and satellite images of LANDSAT 5TM, with the use of software such as ArcInfo, ArcView, ERDAS image75.

Concerning the REBIO-Poço das Antas, there were the final corrections on the thematic map of the vegetational cover, towards the legends and of some vegetational polygons (clumps), of and further digitalization, using the software S.G.I.

The softwares PC Arc\_Info 3.5 and Arcview 2.1a are allowed the inclusion of image files in PMA's database, such as the base line (polygon containing the reserve area), polygons of the vegetation types, lines of hydrography and of roads, just lacking the final edition to facilitate the overlapping with LANDSAT TM5 satellite images for future accompaniments of dynamics of the vegetational clumps.

Concerning the PARNA-Itatiaia, the LANDSAT TM5 images have just begun to be analyzed, at the point 218/75, 09/14/1991, in the bands 4,3,5, at an approximate scale of 1:64.000, where the observed signatures were the highland fields were observed, the forests, the reforestation areas, the disturbed and the burned areas. This analysis will support the mapping of the vegetational cover, by means of conventional aerophotographs.

### **3. Wood Anatomy**

During this period, the surveys on the wood anatomy lead mainly to the conclusion of the first volume of the series "Madeiras da Mata Atlântica - Anatomia do lenho de espécies ocorrentes nos remanescentes florestais do estado do Rio de Janeiro - Brasil" (Atlantic Forest Wood - Wood Anatomy of species which occur in the forest remnants Rio de Janeiro State - Brazil), which presents anatomical descriptions, accompanied by photomicrographs of 31 tree species from of two sites under the scope of PMA: the Reserva Ecológica de Macaé de Cima, RJ, and the REBIO-Poço das Antas, RJ. This book was released September of the current year.

Special emphasis was given to the organization and increment of the wood collection of the Instituto de Pesquisas Jardim Botânico do Rio de Janeiro, as well as to the storage of duplicates for exchange with other similar scientific institutions.

Concomitantly, we began the collection and the processing of the samples for the elaboration of the second volume of the series "Madeiras da Mata Atlântica" (Atlantic Forest Wood), and also for the survey on the comparative anatomy in the families Myrtaceae (*Myrcia* and *Eugenia*) and Rubiaceae (*Simira*), with the purpose of supporting taxonomic researches which has already been developed by the PMA.

The obtained results are becoming available under the following ways:

- scientific publications which provide complementary data to the conservational and management studies, as well as they allow the analysis of the influence of environmental factors in the anatomical structure, and indicate possible uses for the studied species (vide Diffusion of Knowledge);
- elaboration of catalogs for microscopic identification of the wood of the Atlantic Forest, in order to contribute for future forest inventories, as well as an effective way of aiding in the inspection of wood exploitation in preservation areas (vide Diffusion of Knowledge).

### **Project Reforestation**

#### **1. Seedling production and experimental plantations (REBIO-Poço das Antas)**

The most important feature of this period was the partnership between the Associação Mico-leão-dourado - AMLD (Golden-lion Tamarin Association) and the PMA for the implantation, of vegetational aisle and islands (totaling 2,0ha in hill areas), at a demonstrative stage. Area preparation, choice of the plant species, seedlings production and planting were on the charge of PMA. Four months were spent in planting and preparing of areas to be planted, afterwards beginning the maintenance activities (grazing and it weeding) on those areas. The work was financed with grants obtained by AMLD from the Program for Protection of the Tropical Forests, Demonstrative Projects - module A (PD/A), coordinated by the Ministry of the Environment.

In the 1st semester of 1997, the field working staff of the Project Reforestation concentrated its works on the maintenance of 5,0 hectares of experimental plantations, including the areas of vegetational aisles and islands. The replanting in 3,3 hectares involved 852 seedlings of 12 species. Specially in the establishment of vegetational aisle and islands, 594 seedlings of the species *Trema micrantha* were used.

From July, 1996 to June, 1997, the PMA's nursery in the REBIO-Poço das Antas produced 16,213 seedlings of 65 species, and the establishment of the vegetational aisles and islands, together with the replanting of these and of other areas consumed 6,228 seedlings of 33 species.

#### **Collection of the Project Reforestation (REBIO-Poço das Antas)**

During this period, we continued the screening and labeling the vouchers of the Project Reforestation, and updating of the database. The screen of the collection was concluded, totaling 667 individuals belonging to 214 species, and the registration of vouchers totaled 170 registered individuals.

## 2. Phenology and seed collection

In the period it was proceeded the accompaniment of plant phenophases, the collection of botanical vouchers, and the taxonomic identification. Concomitantly, we began a study to determine the fruit-setting of the species of which phenology was accompanied. The quantification of fruits was made by means of fruit collection in 06 (six) sampled individuals, sampling a quarter of each individual's canopy. Later on, the fruits were weighted and their seeds were counted for determination of the average seed-setting for each species, being accomplished finally the seed processing. The quantification of fruits was made in 09 (nine) species, from August, 1996 to June, 1997.

In the work of collection of seeds for the seedling production, 63.29kg of fruits were collected that produced 16.34kg of seeds, after seed processing.

The tabulation and data analysis were also continued during the surveys on phenology.

## 3. Conservation "ex-situ"

The activities are in conclusive phase, and the following activities were developed during this period:

- A. Establishment of plots and transects for the survey on the spatial pattern of a population of *Piptadenia paniculata* (in the studied site at the REBIO-Poço das Antas);
- B. Essays on water deficit in seedlings were run in the nursery of the Forest Hortus of the Instituto de Pesquisas Jardim Botânico do Rio de Janeiro, for the Atlantic Forest tree species that were used in the plantations of REBIO-Poço das Antas. The species used until the moment were *Genipa americana*, *Dalbergia nigra*, *Schinus terebinthifolius*, *Lecythis pisonis*, *Mimosa bimucronata*, *Eugenia brasiliensis*, *Pseudobombax grandiflorum*, *Cecropia* sp., *Aegiphila sellowiana*;
- C. Monitoring of the experiments on seed germination of arboreal species under natural conditions in REBIO-Poço da Antas. 07 (seven) were studied;
- D. Preparation and accompaniment of experiments on seed germination (light x temperature, and seed scratching) with *Piptadenia paniculata* and *Albizia polycephala*, made in the Laboratory of Seeds / JBRJ;
- E. Preparation and accompaniment of essays on the flood resistance experiment the jenipapo's seedlings (*Genipa americana*), made in the Laboratory of Seeds / JBRJ;
- F. Collection of nodules of the roots of *Piptadenia paniculata* in the REBIO-Poço das Antas and in the Forest of Tijuca for the production of inoculants to be used in the reforestation in the REBIO-Poço das Antas. Isolation, purification and storage of the nodule strains were made to be used in experiments of strain selection and of efficiency in the fixation of nitrogen, expected to be carried over in green-house and nursery in the Laboratory of Leguminosae of the Empresa Brasileira de Pesquisa Agro-Pecuária - EMBRAPA (Brazilian Company for Research on Agriculture and Cattle Raising) .
- G. Data collection about the height and DAS of the individuals of a population of *Rapanea ferruginea* concluding 3 (three) years of accompaniment;
- H. Processing and analysis of the data collected in march, 1997, in REBIO-Poço das Antas, to study the spatial pattern and hierarchy among height classes in populations of *Rapanea ferruginea*, run in the Laboratory of Seeds / JBRJ;
- I. Bibliographical Survey.

## 4. Secondary succession

The activities proposed for the accompaniment of the process of secondary succession in an anthropic disturbed area and comprehension of its dynamics are expected to be concluded by the end of this period. During the period from July, 1996 to June, 1997, a survey on dispersion syndromes was begun, concerning the species of the vegetation islands and of the most important ones for the secondary forest fragments in the plains and in the slopes, studied in this survey.

Field work trips were made for observation and identification of the bird species, enrolling their position in relation to the vegetational stratum occupied by the bird, its activities and the plants used as its food source. In these opportunities, recollections of botanical materials was accomplished for those species whose previous samples did not allow a correct taxonomic identification. It was also done the collection of fertile twigs and annotation of phenological data for the shrub-arboreal plant species that were already represented in this collection.

Concomitantly, other activities were accomplished, including:

- identification of the vouchers collected in the sampling areas;
- updating of the field database;
- separation of vouchers duplicates to be sent to taxonomic experts and to exchange with other herbaria;
- bibliographical survey on dispersion syndromes of plant species that were inventoried in the studied sites and in another places which present common genera with the studied areas, what resulted, until the moment, in a database with 459 references;
- bibliographical rising regarding the feeding habits of the species of birds observed, registering indications of feeding habits for 15 among the observed species;
- survey on the ecological groups of the 314 woody species found in the 3 vegetational types studied (forest in plains, forest in hillsides and abandoned fields), totaling 71 registrations.

In this period, the area suffered damages due to a new burning, but of minor proportions of the previous one, and restricted to the borders of the

fragment of forest in plains, and some of the inventoried vegetational islands.

### **Project Center of Information and Services**

The Center of Information and Services of the Program Atlantic Forest (Centro de Informações e Serviços do Programa Mata Atlântica - CISMA) has been assisting all sorts of demands on storage, processing, recovery and analysis of the data and information, direct or indirectly accomplished by PMA's activities.

Besides evaluating and developing applications of interest of PMA, the CISMA consolidated the INTRANET System, that promotes an ease search at the databases, documents and reports. This system facilitated the access of data by the PMA's researchers, and the exchange between the lines of research and projects, with the available newsletters and constantly up-to-date documents, what motivated a dynamic maintenance of the databases.

This fact, allied the support activity allowed the use and adaptation of the computer science and of the information science as tools for the increase of the productivity and quality of the developed researches.

### **Support**

In the support line, we developed the following activities:

- Orientation to researchers in the choice of software and hardware;
- Configuration and execution of small maintenance in the machines of the project;
- Evaluation and divulgence of the last progresses in the areas of system and equipment;
- Aid to the researchers in consulting the database;
- Divulcation of patterns and creation of worksheets for new data input;
- Aid in statistical analyses and orientation in the use of the specific tools which are available for the analysis of biological data;
- Emission listing;
- INTRANET system;
- Evaluation of computer science tools to be used in PMA.

### **Computers in Net and Access to the INTERNET**

In the second semester, 1997, the Jardim Botânico do Rio de Janeiro computer net gather the Rio NET, a branch of the National Net of Research, which is linked to the INTERNET, increasing the integration of the PMA with other institutional programs, as well as accelerating the digital exchange of information, and consolidating the INTRANET System.

### **Divulcation of PMA in the INTERNET**

The activities of PMA were put on-line in September, 1996, and are available in a site of the World Wide Web, what facilitates access to hypertext documents, containing information and images, and allowing the public in general to maintain contact with the program by electronic mail, accessible through the web pages.

The site address is <http://www.jbrj.gov.br/pesquisa/pma/pma.htm>

### **INTRANET Information System**

The INTRANET System's Maintenance has a continuous flow, and every document, report, and newsletter are in constant modification.

Besides the web pages, updating on the databases of species, individuals and bibliography are periodically done by the application AliceWeb, created by the CISMA.

This system is still the basis for demonstrations to visitors in the INTRANET System.

### **Support to the Divulcation of PMA**

The CISMA promoted the development of activities of electronic text editing and of graphic computation, to produce reports and proposals, graphs and tables printed in paper or in transparency and in slide-shows, used in the publications or presentations of PMA.

- Creation and final edition of a commemorative plastic sheet for PMA, of a folder with Portuguese/English bilingual text for presentation of the PMA in events and congresses, Christmas cards, and invitations for the release of books
- Support to publish the book - Serra de Macaé de Cima: Diversidade florística e Conservação em Mata Atlântica (Mountain of Macaé de Cima: Floristic Diversity and Conservation in Atlantic Forest).
- Support to the execution of a PMA's commemorative video.

### **Support to the other Institutional Programs**

Since its creation, CISMA supports the researchers of Jardim Botânico do Rio de Janeiro in the final elaboration of their dissertations and theses,

scientific papers, and in the use of applications for the development of scientific research. Since it is a constant institutional demand, CISMA became an institutional center of reference.

**Databases**

- Maintenance of the databases of species (inclusion of geographical distribution and characteristics), individuals and bibliography.
- Revision of the names of collectors, families, genera and species of the individuals' database, in agreement with the species database. It was also made the revision of nomenclature, geographical distribution and uses of 1250 species with occurrence in the species database of Macaé de Cima.

CISMA promoted the integration of the bases of bibliographical references to the projects Floristic and Environmental Survey and Reforestation, followed by analysis of the consistency and duplication of data, and the revision of the dictionaries of authors' data, keywords and newspapers.

**Projects**

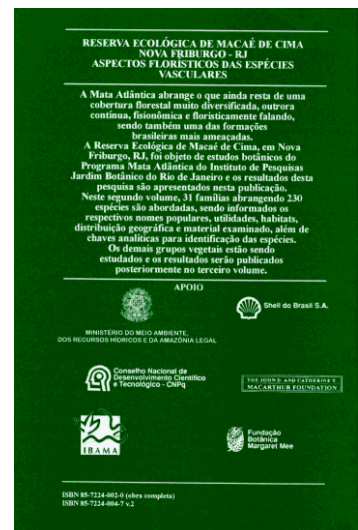
CISMA proposed a new project to the Division of Environmental Technologies - IBAMA: the Project Availability in INTERNET of the Species Database of Macaé de Cima. This project was granted, and is divided in 3 stages: (1) training in the programming language JAVA; (2) programming in JAVA for access the remote database and in real time; and (3) availability in the server WWW of IBAMA and divulgence.

All the stages were developed, but not the availability of the already published data because of the loss of 2 of the three researchers, since it is a complex work, involving the need of the separation of published and unpublished data of our bases.

**Applications developed for the PMA**

- Execution of the software for research of species in the individuals' database (ECOLOG) of Macaé de Cima, for analyses for the software FITOPAC.
- Execution of the software for research of individuals' database (ECOLOG) for analyses and counts
- Editor of labels (WINTAG) using the existent database
- Executioner of Web pages, using the base of species data (AliceWeb)

**Advances on the botanical knowledge of the Macaé de Cima Ecological Reserve**



The efforts accomplished by the staff of the project to enlarge the knowledge on the flora of the Reserva Ecológica de Macaé de Cima, allied to the one of researchers from different institutions, turned possible the conclusion of the second volume of the series Reserva Ecologica de Macaé de Cima, Nova Friburgo - RJ: Aspectos Florísticos das Espécies Vasculares (Macaé de Cima Ecological Reserve, Nova Friburgo - RJ: Floristic Aspects of the Vascular Species), providing the divulgence of the taxonomic detailing of more 230 species of the Reserve, consolidating this results about 432 species that represent near 50% of the total collection related to this study area.

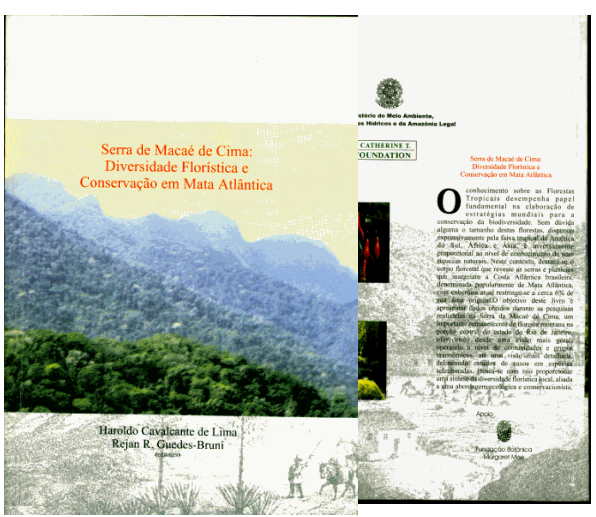
In a wider context, a synthesis on the floristic diversity of the Mountain of Macaé, allied to an ecological and conservational approach, became available to the community through the publication of the book Serra de Macaé de Cima: Diversidade Florística e Conservação em Mata Atlântica (Mountain of Macaé de Cima: Floristic Diversity and Conservation in Atlantic Forest).

**Integration to the Scientific Policy for the Conservation of Biodiversity**

The PMA has been actually participating in the political-scientific discussions about the conservation of biodiversity, promoted by several conservational entities and government organs. In this context we could highlight the following events:

**Symposium Atlantic Forest**, promoted by the Sociedade Botânica do Brasil - SBB (Botanical Society of Brazil) during XLVII National Congress of Botany, in the period of 21 to July 26, 1996, in Nova Friburgo, RJ., coordinated by Rejan R. Guedes-Bruni and Haroldo C. de Lima

**Seminar of Definition of Fomentation Strategy for the Brazilian Fund for Biodiversity**, (FUNBIO), promoted by the Ministério do Meio Ambiente, dos Recursos Hídricos e da Amazônia Legal - MMA, with the participation of Rejan R. Guedes-Bruni, representing the Instituto de Pesquisas Jardim Botânico do Rio de Janeiro, during the period of october 16<sup>th</sup> to 18<sup>th</sup>, 1996, in Rio de Janeiro.



**Partnership with the Fundação SOS Mata Atlântica** for evaluation of the mapping of Atlantic Forest remnants, developed by the foundation, in the cartographic sheets of the state of Rio de Janeiro and Espírito Santo, during the period of January to April of 1997.

**Partnership of the Program Atlantic forest with the do Conselho Nacional da Reserva da Biosfera da Mata Atlântica (National Council for the Reserve of the Biosphere of the Atlantic Forest)**, starting from April and implementing the project group named Forest Inventory of the Forest Resources of the Atlantic Forest - The Exploitation and Use of the Resources, its Current Socioeconomic Impacts and Potentialities of Sustainable Management, financed by the Brazilian Fund for Biodiversity (FUNBIO). The Foundation SOS Atlantic Forest and the Center of Genetic Resources of EMBRAPA also participate of this partnership 7<sup>th</sup> meeting of the "Bureau" of the do Conselho Nacional da Reserva da Biosfera da Mata Atlântica, in the House of the Reserve of the Biosphere, Forest Institute of the Secretary of the Environment of São Paulo, São Paulo, SP, with the participation of Marli Pires Morim de Lima, in May 14<sup>th</sup>, 1997.

## Diffusion of the knowledge

### Offered courses

**Botanical Studies in the Atlantic Forest**, during XLVII National Congress of Botany - Sociedade Botânica do Brasil - SBB, coordinated by Prof. Rejan R. Guedes-Bruni and Marli Pires Morim de Lima, in the period of July, 21 to 26, 1996

**Ultrastructural, Biological and Biochemical Aspects of the Cellular Wall**, in XLVII National Congress of Botany, taught by Claudia F. Barros, Marcos Buckeridge & Sílvia R. Machado, in the period of July, 21 to 26, 1996.

**The Morphology of fruits and seeds of Dicotyledoneae applied to the Systematic**, taught by Marli P.M. de Lima in collaboration with Dra. Graziela M. Barroso, accomplished in the Course of Masters degree in Biological Sciences (Botany) of National Museum/UFRJ, RJ, in September, 1996.

**Environmental subjects of Rio de Janeiro City** during Week of Biology 96 - Institute of Biology of UFRJ, taught by Mariana L. Vilela. L.E. Freitas and A.L.M. Araujo, in the period of September, 23 to 27, 1996.

**Ecological Anatomy** for the Post-graduation Program in Ecology (PPGE-UFRJ), taught by the Prof. Dra. Cecília Gonçalves Costa, Prof. MsC Cláudia Franca Barros, Prof. MsC Maura de Cunha, Prof. Dr. Flávio Miguens and Prof. MsC Helena Pugialli Instituto de Pesquisas Jardim Botânico do Rio de Janeiro, in the period of October 29 to November 11, 1996.

**Techniques of Collection, Herborization and Handling of Botanical Collections** during V Week of Biology - Universidade Nova Iguazu - UNIG (Nova Iguazu University), taught by Prof. João Marcelo Alvarenga Braga and Prof. Massimo G. Bovini, in the period of November, 6 to 8, 1996.

**Handling of Botanical Collections** during to III Meeting of Latin-American and of Caribbean Botanical Gardens, in the Universidade. de Caxias do Sul (Caxias do Sul University), RS, taught by Prof. Eduardo Couto Dalcin in November, 1996

### Lectures

**The influence of the surroundings in the formation of the log of arboreal plants**, by Cátia Henriques Callado, in the Department of Forest Products of the Institute of Forests - Universidade Federal Rural do Rio de Janeiro (Rio de Janeiro Rural Federal University), on July 15, 1996.

**The importance of the anatomical study of the bark to support Taxonomy**, by Cecília Gonçalves Costa, in XLVII National Congress of Botany. Nova Friburgo, RJ, on July 24, 1996.

**The Floristic Diversity of the Atlantic Forest**, by Rejan R. Guedes-Bruni, in the Week of Biology of the Universidade Federal Rural do Rio de Janeiro - UFRRJ (Rural Federal University of Rio de Janeiro), on October 8, 1996.

**Participation in Workshop " Conservation and Sustainable Management of Trees "**, by Prof. Eduardo Couto Dalcin under invitation of World Conservation Monitoring Center, Turrialba, Costa Rica, October of 1996

**The Order Commelinales with emphasis in the family Commelinaceae**, by José Anselmo de Lira Neto, in the discipline of Systematic of Angiosperms, in the Universidade Santa Úrsula (Santa Úrsula University), on November 01, 1996.

**Floristic Diversity in the Atlantic Forest**, by Marli P. M. de Lima, in the Laboratory of Plant Taxonomy of the Universidade Santa Úrsula (Santa Úrsula University), on April 18, 1997.

**The Atlantic Forest remnants and the conservation of the tropical biodiversity**, by Rejan R. Guedes-Bruni, in the Laboratory of Plant Taxonomy of the Universidade Santa Úrsula (Santa Úrsula University), on April 18, 1997.

**Morphology of the flowers and fruits**, by Marli P. M. de Lima, in the course Special Topics in Arts VII - Convivência, Pontifícia Universidade Católica do Rio de Janeiro - PUC-RIO (Pontifical Catholic University of Rio de Janeiro), April of 1997.

**Aspects in the implementation of computerized registration systems in Botanical Gardens**, during VII Meeting of the Brazilian Net of Botanical Gardens, Brasília, by Prof. Eduardo Couto Dalcin in May, 1997.

**The Agricultural Engineer's performance in the environmental area**, by Luiz Fernando Duarte de Moraes, for the discipline "Introduction to the Agronomic Engineering", of the Escola Superior de Agricultura "Luiz de Queiroz" -ESALQ/USP (Superior College of Agriculture "Luiz de Queiroz"), on May 12, 1997.

**Atlantic Forest: Which is the current vision?**, by Marli, P. M. de Lima, in the Biological Science College of Universidade do Rio de Janeiro (Rio de Janeiro University), in May of 1997.

### Granted Awardeeships



**Project Reforestation**

**Fabiane Alves Pereira**, awardee of scientific initiation of CNPq (PIBIC), starting from March of 1995, under orientation of Tânia Sampaio Pereira.

**Project Floristic and Environmental Surveys**

**Micheline Leite Marcon**, awardee of scientific initiation of CNPq (PIBIC), of July of 1995 to December of 1996, under orientation Claudia Franca Barros and Cátia Henriques Callado.

**Cristina Moreira de Silva**, awardee of scientific initiation of CNPq (PIBIC), starting from January of 1996, under orientation of Osnir Marquete Filho.

**José Anselmo de Lira Neto**, awardee of scientific initiation of CNPq (PIBIC) of July of 1995 to December of 1996, under orientation of Rejan R. Guedes-Bruni e Marli Pires Morim de Lima, awardee for specialization of CNPq, since Mach, 1997, under orientation of Dr. Graziela Maciel Barroso, Rejan R. Guedes-Bruni and Marli Pires Morim de Lima.,

**Carlos Henrique Reif de Paula**, awardee of scientific initiation of CNPq (PIBIC) starting from January of 1997, under orientantion of Rejan R. Guedes-Bruni.

**Guilherme Eduardo Mury Alves**, awardee of scientific initiation of CNPq (PIBIC) starting from January of 1997, under orientation of Rejan R. Guedes-Bruni.

**Luiz Felício Palermo**, awardee of scientific initiation of CNPq (PIBIC) starting from January of 1997, under the orientation of Marli P. Morim de Lima.

**Gilmara Pires Moura**, awardee of scientific initiation of CNPq (PIBIC), starting from January of 1997, under orientation of Claudia Franca Barros.

**Renata Soares Pinheiro**, awardee of scientific initiation of CNPq (PIBIC) starting from January of 1997, under orientantion of Rejan R. Guedes-Bruni.

**Participation in examining committees**

Assessor : Cecília Gonçalves Costa  
 Level : Dr-Thesis in Genetics  
 Course : Universidade Federal do Rio de Janeiro - UFRJ (Rio de Janeiro Federal University)  
 Graduating : Solange Faria Lua Figueiredo  
 Title : Development of a system culture in vitro for the production of furofuranic lignans starting from *Rollinia mucosa* (Jac.) Baill  
 Date : October 24, 1996

Assessor : Cecília Gonçalves Costa (President)  
 Level : MS-Dissertation in Biological Sciences (Botany)  
 Course : Universidade Federal do Rio de Janeiro - UFRJ (Rio de Janeiro Federal University)  
 Graduating : Vera Fátima G. Alves  
 Title : Anatomical studies of *Milia sonchifolia* L. (DC.) - Asteraceae - occurent in different habitats  
 Date : December 06, 1996

Assessor : Cátia Henriques Callado  
 Level : BA-Monograph in Natural Sciences.  
 Course : Universidade do Rio de Janeiro - UNI-RIO (Rio de Janeiro University)  
 Graduating : Micheline Leite Marcon  
 Title : Wood Anatomy Studies of *Miconia cinnamomifolia* (DC) Naudin and *Lacistema pubescens* Martius in the Biological Reserve of Poço das Antas.  
 Date : December 23, 1996

Assessor : Cecília Gonçalves Costa (President)  
 Level : Qualification exam  
 Course : Universidade Federal do Rio de Janeiro - UFRJ (Rio de Janeiro Federal University)  
 Graduating : Cecília Amorim of Freitas.  
 Title : Insular ecosystems  
 Date : January 8, 1997

Assessor : Cecília Gonçalves Costa (President)  
 Level : Qualification exam  
 Course : Universidade Federal do Rio de Janeiro - UFRJ (Rio de Janeiro Federal University)  
 Graduating : André Mantovani.  
 Title : Uses and preservation of Brazilian ecosystems  
 Date : January 28, 1997

Assessor : Cecília Gonçalves Costa (President)  
 Level : Dr-Thesis in Biological Sciences (Botany)  
 Course : Universidade de São Paulo - USP (São Paulo University State)  
 Graduating : Solange Cristina Mazzoni-Viveiros.  
 Title : Structural aspects of *Tibouchina pulchra* Cogn. (Melastomataceae) under impact of atmospheric polluting substances in the industrial complex of Cubatão, SP-Brazil.

Date : July 23, 1997

**Participation in scientific events**

**Presented Surveys**

**XLVII NATIONAL CONGRESS OF BOTANY**

**July 21 - 26, 1996**

**Anatomia do lenho de duas espécies da Mata Atlântica selecionadas para Reflorestamento da Reserva Biológica de Poço das Antas**, by Meres C. Assis & Cecília Gonçalves Costa.

**A utilização de documentos hipertexto como interface para bases de dados taxonômicas**, by Eduardo Couto Dalcin, Renato Pizarro & Luciana Pinheiro Solano.

**Biologia reprodutiva de *Miconia cinnamomifolia* (DC) Naudin e *M. saldanhae* Cogn. (Melastomataceae) em Poço das Antas, RJ**, by Renato Goldenberg & Tânia Sampaio Pereira

**Composição Florística de quatro áreas florestais em diferentes estágios sucessionais na Reserva Biológica de Poço das Antas, Silva Jardim, RJ: Resultados Preliminares**, by Glísia Maria da Silveira Neves, Rejan Guedes-Bruni & Tânia Sampaio

**Composição florística e estrutura em um trecho de Floresta Atlântica Baixo-montana sobre morrote mamelonar na Reserva Biológica de Poço das Antas, Silva Jardim, RJ**, by Rejan Guedes-Bruni, Marli Pires Morim de Lima, Sebastião da Silva Neto, João Marcelo A. Braga, Glísia Neves & Mariana Lima Vilela.

**Efeito da temperatura na germinação e morfologia da semente e do desenvolvimento pós-seminal de *Enterolobium glaziovii* (Bentham.) LEGUMINOSAE-MIMOSOIDEAE**, by Flávio Ramos, Antonio Andrade & Tânia Sampaio Pereira.

**Estudo anatômico do lenho de *Miconia cinnamomifolia* (DC) Naudin na Reserva Biológica de Poço das Antas, Silva Jardim - RJ**, by Micheline Leite Marcon.

**Estudo anatômico do lenho de *Pseudopiptadenia contorta* (DC) G. P. Lewis et M. P. Lima (Leguminosae Mimosoideae)**, by Cristina Moreira da Silva.

**Flórula da Apa-Cairuçu, Parati, Rio de Janeiro: Leguminosae-Mimosoideae**, by Cláudio B. Moreira & Marli P. M. de Lima.

**Levantamento florístico das espécies vegetais vasculares da Mata do Bu, Município do Conde, Bahia**, by Maria Clara Ferreira, Hortensia Pousada Bautista & Marli Pires Morim de Lima.

**Madeiras da Floresta Atlântica**, by Cátia H. Callado; Cláudia F. Barros; Maura da Cunha.; Osnir Marquete & Cecília G. Costa.

**Mapeamento da Cobertura Vegetal na Reserva Biológica de Poço das Antas, Silva Jardim, RJ**, by Haroldo C. de Lima, Shoji Iwamoto, Sergio Granzotto, Jorge di Ciero, Rejan R. Guedes-Bruni & Solange de V. A. Pessoa.

**Myrtaceae em remanescentes de floresta pluvial Atlântica no Rio de Janeiro: comparações florísticas preliminares**, by Rejan R. Guedes-Bruni, Graziela M. Barroso & Ary G. da Silva.

**Plasticidade anatômica do lenho de *Huberia glaziouviana* Cogn. (Melastomataceae) em diferentes fases sucessionais da Floresta Atlântica**, by Cátia H. Callado & Cláudia F. Barros.

**Recuperação de áreas degradadas com espécies nativas na Reserva Biológica de Poço das Antas/IBAMA - Silva Jardim, RJ**, by José Maria Assumpção, Luiz Fernando Duarte de Moraes, Rafael Puglia Neto, Cintia Luchiarri & Tamar Bajgielman.

**Recursos vegetais utilizados na Fazenda São João da Ponta da Caridade, Ilha Caviana, PA**, by Cláudio E.T. Parente & Mariana Lima Vilela.

**Reserva Biológica de Poço das Antas, Silva Jardim, RJ: Composição Florística e perfil-Diagrama de Trecho de floresta sobre morrote**, by Fernando Coutinho Pimentel Tatagiba & Rejan Guedes-Bruni.

**Reserva Ecológica de Macaé de Cima, Nova Friburgo, RJ: Apocynaceae**, by Paulo Roberto do Canto Farág.

**Reserva Ecológica de Macaé de Cima, Nova Friburgo, RJ: Aquifoliaceae**, by Mariana Lima Vilela;

**Reserva Ecológica de Macaé de Cima, Nova Friburgo, RJ: Bignoniaceae**, by Cláudia Magalhães Vieira.

**Reserva Ecológica de Macaé de Cima, Nova Friburgo, RJ: Cactaceae**, by Maria de Fátima Freitas.

**Reserva Ecológica de Macaé de Cima, Nova Friburgo, RJ: Commelinaceae**, by José Anselmo de Lira Neto.

**Reserva Ecológica de Macaé de Cima, Nova Friburgo, RJ: Lecythidaceae**, by Jane E. Morrey-Jones.

**Reserva Ecológica de Macaé de Cima, Nova Friburgo, RJ: Melastomataceae**, by José Fernando de A. Baumgratz.

**Reserva Ecológica de Macaé de Cima, Nova Friburgo, RJ : Rubiaceae**, by Mário Gomes.

**Reserva Ecológica de Macaé de Cima, Nova Friburgo, RJ: Sabiaceae**, by Jane E. Morrey-Jones.

**Reserva Ecológica de Macaé de Cima, Nova Friburgo, RJ: Zingiberales**, by João Marcelo Alvarenga Braga, Regina Helena Potsch Andreato, & Helena R. L. Pugialli.

**Respostas morfológicas e anatômicas de raízes de *Tovomitopsis paniculata* Planchon & Triana em áreas inundáveis da Floresta Atlântica**, by Helena R. L. Pugialli; Claudia F. Barros & Fábio R. Scarano.

**Utilização de *Miconia cinnamomifolia* (DC) Naudin (Melastomataceae) como indicadora da idade de florestas secundárias no Rio de Janeiro**, by Rogério Ribeiro de Oliveira, Tânia Sampaio Pereira, Patrícia Delamônica & Denise F. Lima.

#### WOOD ANATOMY SYMPOSIUM

London, October 2-4, 1996

**Wood anatomical plasticity of *Huberia glazioviana* Cogn. (Melastomataceae) in different successional stages in the tropical rain forest**, by Claudia F. Barros, Cátia H. Callado & Heitor M. Duarte.

**Woods of the Atlantic Rain Forest of Rio de Janeiro - Brasil**, by Cátia H. Callado, Claudia F. Barros, Maura da Cunha, Osnir Marquete & Cecília G. Costa.

**Siliceous inclusions in the secondary xylem in *Beilschmiedia taubertiana* (Schw. et Mez.) Kosterm. (Lauraceae)**, by Cátia H. Callado, Maura da Cunha, Ulises Lins & Cecília G. Costa.

#### 3rd CONGRESS OF ECOLOGY OF BRAZIL

Brasília, DF, October 6 to 11, 1996

**Estrutura e padrão espacial de uma população de *Miconia cinnamomifolia* (DC) Naudin na sucessão secundária da Mata Atlântica**, by T.S. Pereira, C. Luchiari, D.M. Silva Matos e W. Mantovani.

**Germinação de espécies arbóreas sob condições naturais na REBIO de Poço das Antas (RJ)**, by M. B. Loureiro, L. F. D. Moraes, A. C. S. W. Andrade, F. N. Ramos & A. F. Souza.

**Ecofisiologia de germinação de sementes de jenipapo (*Genipa americana* L. - RUBIACEAE)**, by A. F. Souza, F. N. Ramos, M. B. Loureiro & A. C. S. Andrade.

**Tolerância a inundações em plântulas de Tarumã (*Cytherexylum mirianthum* C.)**, by A. C. S. Andrade, R. N. Bastos, M. B. Loureiro & F. N. Ramos.

**Tolerância a inundações em plântulas de jenipapo (*Genipa americana* L.)**, by A. C. S. Andrade, A. F. Souza, F. N. Ramos & M. B. Loureiro.

**Ecofisiologia de germinação de *Enterolobium glaziovii* Benth (Leguminosae: Mimosoideae)**, by Flavio. N. Ramos & Antônio. C. S. de Andrade

**Estudo da plasticidade foliar de *Alchornea triplinervia* (Müll) Arg. sob diferentes regimes de luz e inundações do solo.**, by G. Rôças, C. F. Barros & F.R. Scarano.

#### IV SEMINAR OF SCIENTIFIC INITIATION PIBIC/CNPQ/JBRJ

Rio de Janeiro Botanical Garden - October 29-30, 1996

**Reserva Ecológica de Macaé de Cima, Nova Friburgo, RJ - Aspectos Florísticos das Espécies Vasculares: Aquifoliaceae**, by Mariana L. Vilela

**Reserva Ecológica de Macaé de Cima, Nova Friburgo, RJ - Aspectos Florísticos das Espécies Vasculares: Commelinaceae**, by José Anselmo de Lira Neto

**Ecofisiologia de germinação de *Enterolobium glaziovii* Benth (Leguminosae: Mimosoideae)**, by Flavio. N. Ramos & Antônio. C. S. de Andrade

**Estudos da germinação de espécies de Melastomataceae I. *Miconia cinnamomifolia* (DC) Naudin - Jacatirão**, by Fabiane Alves Pereira

**Estudo anatômico do lenho de *Miconia cinnamomifolia* (DC) Land. (Melastomataceae) e *Lacistema pubescens* Mart. (Flacourtiaceae)**, by Micheline L. Marcon.

**Estudo anatômico do lenho de *Pseudopiptadenia contorta* (DC) G. P. Lewis et M. P. Lima (LEGUMINOSAE - MIMOSOIDEAE) e *Cletra scabra* Loisel (CLETHRACEAE)**, by Cristina C. Moreira da Silva

#### CONGRESS OF BOTANICAL GARDENS

Caxias do Sul, November, 1996

**Reunião com a Rede Brasileira de Jardins Botânicos sobre Acesso a germoplasma através dos Jardins Botânicos Brasileiros: "Como traçar uma estratégia"**, by Tânia Sampaio Pereira (Coordenação)

#### III MEETING OF THE RESEARCHERS OF THE ECOLOGICAL RESERVE OF POÇO DAS ANTAS

Silva Jardim, RJ, May, 26-27, 1997

**Aspectos climáticos da Reserva Biológica de Poço das Antas**, by T. S. Pereira, J. H. A. Barbosa, L. F. D. de Moraes & C. Luchiari.

**Cenários para a recuperação de áreas degradadas na Reserva Biológica de Poço das Antas**, by L. F. D. de Moraes & G. Sparovek.

**Ecofisiologia da germinação de espécies de Melastomataceae na sucessão secundária da Mata Atlântica**, by F. A. Pereira, C. Luchiari & T. S. Pereira.

**Ensaio metodológico para o monitoramento da vegetação de Reserva Biológica de Poço das Antas através de imagens LANDSAT - 5 TM**, by P. Schuback.

**Estrutura e padrão espacial de uma população de *Rapanea ferruginea* (Ruiz et Pav.) Mez - Capororoca - na sucessão secundária da Reserva Biológica de Poço das Antas**, T. S. Pereira, M. B. Loureiro & C. Luchiari.

**Estudo da sucessão secundária em área de campo abandonado na Reserva Biológica de Poço das Antas, Município de Silva Jardim, RJ - II: Ilhas de vegetação e regeneração de áreas degradadas**, by S. de V. A. Pessoa & C. M. Vieira.

**Fenologia e sistema reprodutivo de *Miconia cinnamomifolia* (Mart. ex DC.) Naudin - Jacatirão**, by T. S. Pereira, C. Luchiari & R. Goldenberg.

**Leguminosas arbóreas da Mata Atlântica - Considerações sobre os padrões fitogeográficos das espécies da Reserva Biológica de Poço das Antas**, by H. C. de Lima.

**Madeiras da Mata Atlântica - anatomia do lenho de espécies ocorrentes nos remanescentes florestais do estado do Rio de Janeiro. Volume I**, by C. H. Callado, C. G. Costa, M. da Cunha, O. Marquete & C. F. Barros.

**Mapeamento da cobertura vegetal na Reserva Biológica de Poço das Antas, Silva Jardim, RJ**, by H. C. de Lima, S. Iwamoto, S. V. Gransoto, J. di Ciero, R. R. Guedes-Bruni & S. de V. A. Pessoa.

**Proposta de projeto para sistema de informações em unidade de conservação do IBAMA: uma parceria entre pesquisa e educação ambiental**, by L. Solano, R. Pizarro & E. Dalcin.

**Pteridófitas da REBIO de Poço das Antas - Dados preliminares**, by L. da S. Sylvestre & C. A. dos Reis.

#### XLVIII NATIONAL CONGRESS OF BOTANY

Crato, CE, July 27, to August 01, 1997

**Aspectos anatômicos do caule de *Hydrocotyle emarginata* (Vell. (UMBELLIFERAE)**, by R. M. B. Pinto & C. G. Costa.

**Estudo da Plasticidade foliar em *Saranthea eichleri* Petersen (MARANTACEAE)**, A. do E. Santo & C. G. Costa.

**MENISPERMACEAE do estado do Rio de Janeiro**, by J. M. de A. Braga.

**Espécies de *Abuta* Aublet ex Barrère extra-amazônicas, MENISPERMACEAE** by J. M. de A. Braga.

#### Participation in the Organization of Scientific Events

#### XLVII NATIONAL CONGRESS OF BOTANY

Nova Friburgo, RJ, July 21-26, 1996

#### Atlantic Forest Symposium

Participation of **Haroldo C. de Lima and Rejan R. Guedes-Bruni** as coordinators of the Atlantic Forest . Symposium

The Program Atlantic Forest - PMA promoted, with the help of the Sociedade Botânica do Brasil - SBB, the Symposium Atlantic Forest. Accomplished with status of main focus of XLVII National Congress of Botany, it received a daily public audience of about of 300 persons among students, teachers and researchers. The Symposium counted with the presence of 13 lecturers that tried to bring, in summarized way, the Atlantic Forest under the context of different focuses, concerning the knowledge lines as well as concerning to the local and regional realities. Thus, PMA organized the Symposium divided into four complementary thematic chambers which will be explained, relating the respective lectures and its lecturers. These are them:

#### Thematic Chamber I: Concept and Delimitation

*Paleoenvironmental changes in the constitution of the Atlantic Tropical Brazil* by Dr. Aziz Nacib Ab'Saber (USP); *Current Climatic profile and influence in the Atlantic Tropical landscape* by Dr. Gilberto Fisch (CTA/IAE-ACA; Universidade de Taubaté); *Phytogeographical scenery of the Atlantic Forest domain* by Dra. Ariane Luna Peixoto (UFRRJ)

#### Thematic chamber II: Floristic Analysis

*The importance of floristic surveys in the definition of conceptual limits and in the conservation of species from the Atlantic Forest* by Dr. Ricardo Ribeiro Rodrigues (ESALQ-USP); *Floristics of fragmented areas as instrument to the conceptualizing and characterization of historical affinities in the Atlantic Forest: the case of the "Brejos Nordestinos" of northeastern Brazil* by Dra. Maria Jesus Nogueira Rodal (UFRPE); *Floristic surveys as support to the Taxonomy of complex groups in the Atlantic Forest: the subject Myrtaceae* by Dra. Graziela Maciel Barroso (JBRJ/CNPq)

#### Thematic chamber III: Ecology and Conservation

*The community's structure as a support to the conservation of the Atlantic Forest remnants* by Dr. Waldir Mantovani (USP); *The studies on breeding systems in the Atlantic Forest* by Prof. Ary Gomes da Silva (FAFABES/UNICAMP); *The conservation of populations in Atlantic Forest fragments* by Dra. Dalva M. Silva Matos (UFRJ); *The rescue of florest sites and the environmental rehabilitation in the Atlantic Forest* by Dr. Flávio Bertin Gandara (UNICAMP)

#### **Thematic chamber IV: Politics of Environmental Administration**

*Mechanisms of environmental administration in the Atlantic Forest*, by José Silva Quintas (DIRPED, IBAMA), *The evolution of the forest remnants and ecosystems associated of the Atlantic Forest domain* by Mário Mantovani (SOS Atlantic Forest), *The experience of the environmental administration of the Reserve of the Biosphere of the Atlantic Forest*, by José Pedro Oliveira Costa (CN-Reserve of the Biosphere)

#### **COMMITTEES**

Participation of **Cecília G. Costa (Coordinator)**, **Cátia H. Callado** and **Claudia F. Barros** in the Technician-scientific Committee of Structural Botany.

Participation of **Eduardo C. Dalcin** and **Renato Pizarro** in the Technician-scientific Committee of Computer science.

Participation of **Glísia Maria da Silveira Neves** (as a monitor and receptionist), **Mariana Lima Vilela** (as a monitor), **Sebastião José da Silva Neto** (coordinator of lodgings) and **Tânia Cristina R. Thomaz** (as a monitor) in the activities of lodging coordination, reception, monitoring of mini-courses.

Participation of **Haroldo C. de Lima** and **Rejan R. Guedes-Bruni** in the Technician-scientific Committee of Floristics and Phytosociology

Participation of **Marli P. Morim de Lima**, **Regina Helena P. Andreata** and **Solange de V.A. Pessoa** in the organizing commission of the Congress as the first and second secretaries and of first treasurer, respectively.

Participation of **Marli P. Morim de Lima**, **Graziela M. Barroso** and **Regina Helena P. Andreata** in the Technician-scientific Committee of Phanerogamous Taxonomy

Participation of **Rejan R. Guedes-Bruni** and **Marli Pires M. de Lima** in the coordination of the mini-course: Botanical Studies in the Atlantic Forest.

Participation of **Tânia S. Pereira** in the Technician-scientific Committee of Ecology and Conservation.

#### **III MEETING OF RESEARCHERS OF THE BIOLOGICAL RESERVE OF POÇO DAS ANTAS**

Participation of **Luís Fernando D. de Moraes** and **Cíntia Luchiari** in the organizing committee of III Meeting of Researchers of the Biological Reserve of Poço das Antas.

#### **Published books**

Lima, M.P.M. de & Guedes-Bruni, R.R. (orgs.) 1996. **Reserva Ecológica de Macaé de Cima - RJ: Aspectos Florísticos das Espécies Vasculares. Vol.2.** Rio de Janeiro. Jardim Botânico do Rio de Janeiro,465 p.



Lima, H.C. de & Guedes-Bruni R. R. (eds.) 1997. **Serra de Macaé de Cima: Diversidade Florística e Conservação em Mata Atlântica.** Rio de Janeiro. Instituto de Pesquisas Jardim Botânico do Rio de Janeiro. 345 p.

#### **Published Papers**

Andrade, A.C.S., Loureiro, M.B., Souza, A.D.O. & Ramos, F.N. 1997. Quebra de dormência de Sucupira -preta, **Pesq. agropec.bras.** 32(5): 465-69.

Andreata, R. H. P., Gomes, M. Baumgratz & J. F. de A. 1997. Plantas herbáceo-arbustivas terrestres da Reserva Ecológica de Macaé de Cima. In: Lima, H.C. de & Guedes-Bruni R. R. (eds.), **Serra de Macaé de Cima: Diversidade Florística e Conservação em Mata Atlântica.** Rio de Janeiro. Instituto de Pesquisas Jardim Botânico do Rio de Janeiro. 65-73 pags.

- Barros, C. F. & Callado, C. H. 1996. Wood anatomical plasticity of *Huberia glazioviana* Cogn. (Melastomataceae) in different successional stages in the tropical rain forest. **IAWA Journal**. Vol. 17 (3): 25.
- Barros, C.F., Callado, C. H., Cunha, M. da, Costa, C.G., Puglialli, H. R. L., Marquete, O. & Machado, R.D. 1997. Anatomia ecológica e micromorfologia foliar de espécies da Floresta montana na Reserva Ecológica de Macaé de Cima. In: Lima, H. C. & Guedes-Bruni, R. R. (eds.). **Serra de Macaé de Cima: Diversidade Florística e Conservação em Mata Atlântica**: Rio de Janeiro. Instituto de Pesquisas Jardim Botânico do Rio de Janeiro. 275-296 pag.
- Braga, J.M.A. 1996. Balanophoraceae. In: Lima, M.P.M. de & Guedes-Bruni, R.R. (orgs.) **Reserva Ecológica de Macaé de Cima, Nova Friburgo, RJ - Aspectos Florísticos das Espécies Vasculares. Vol. 2**. Rio de Janeiro. Jardim Botânico do Rio de Janeiro, 85-92 pag.
- Braga, J.M.A. 1996. Cannaceae. In: Lima, M.P.M. de & Guedes-Bruni, R.R. (orgs.) **Reserva Ecológica de Macaé de Cima, Nova Friburgo, RJ - Aspectos Florísticos das Espécies Vasculares. Vol. 2**. Rio de Janeiro. Jardim Botânico do Rio de Janeiro, 165-168 pag.
- Braga, J.M.A. 1996. Menispermaceae In: Lima, M.P.M. de & Guedes-Bruni, R.R. (orgs.) **Reserva Ecológica de Macaé de Cima, Nova Friburgo, RJ - Aspectos Florísticos das Espécies Vasculares. Vol. 2**. Rio de Janeiro. Jardim Botânico do Rio de Janeiro, 289-298 pag.
- Callado, C. H., Puglialli, H. R. L., Costa, C.G., Cunha, M. da, Marquete, O. & Barros, C.F. 1997. Anatomia do lenho de espécies da Mata Atlântica. Interpretação ecológica e indicações para aproveitamento. In: Lima, H. C. & Guedes-Bruni, R. R. (eds.). **Serra de Macaé de Cima: Diversidade Florística e Conservação em Mata Atlântica**: Rio de Janeiro. Instituto de Pesquisas Jardim Botânico do Rio de Janeiro. 251-276 pag.
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- Barros, C. F.; Machado, R. D. & Miguens, F. C. Leaf ontogeny of *Plinia martinellii* G. M. Barroso et Peron (Myrtaceae). **Bot. J. Linn.**
- Barroso, G. M., Lima, M. P. M. de et al. **Morfologia de frutos e sementes de Dicotiledôneas e sua aplicação na Sistemática.** Universidade Federal de Viçosa, MG.
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Marquete, O. & Souza, R. C. O. S. *Miconia tristis* e *Miconia doriana* Cogn. (Melastomataceae) Anatomia do Eixo Vegetativo. **Rodriguésia**.

Neves, G.M.da S. Dichapetalaceae. In: Marques, M. do C. M., Vaz, A.M. S. da F., Marquete, R. (orgs.) Flórlula da APA Cairuçu, Parati, RJ: Espécies Vasculares. **série Estudos e Contribuições**. n° 14.

Pessoa, S. de V. A. Passifloraceae. In: Marques, M. do C. M., Vaz, A.M. S. da F., Marquete, R. (orgs.) Flórlula da APA Cairuçu, Parati, RJ: Espécies Vasculares. **série Estudos e Contribuições**. n° 14.

Rôças, G., Barros, C. F & Scarano, F. R. Anatomy plasticity of *Alchornea triplinervia* (Spreng.) Müll. Arg. (Euphorbiaceae) under distinct light regimes in a Brazilian Montane Atlantic Rain Forest. **Tree**.

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### **Surveys in process**

Assumpção, J.M.; Moraes, L. F. D.; Luchiari, C; Puglia-Neto, R.. Recuperação de áreas degradadas com espécies nativas na Reserva Biológica de Poço das Antas/IBAMA - Silva Jardim, RJ.

Barros, C. F. & Callado, H. C. (orgs.) **Madeiras da Mata Atlântica - Anatomia do lenho de espécies ocorrentes em remanescentes florestais do estado do Rio de Janeiro - Brasil**. Volume II.

Callado, C. H. Aspectos Anatômicos e Periodicidade do Crescimento em Espécie da Floresta Atlântica.

Callado, C. H. Plasticidade anatômica do Lenho de *Alchornea triplinervia* (Spreng.) Müll. Arg. Sob diferentes condições de crescimento na Floresta Atlântica.

Costa, M. L. M. N.; Luchiari, C.; Moraes, L. F. D.; Pereira, T. S. Fenologia de espécies arbóreas nativas da Reserva Biológica de Poço das Antas.

Lira Neto, J. A. **Verbenaceae**. In: Lima, M. P. M. de & Guedes-Bruni, R. R. **Reserva Ecológica de Macaé de Cima, Nova Friburgo, RJ - Aspectos Florísticos das Espécies Vasculares**. Vol. 3. Jardim Botânico do Rio de Janeiro.

Lira Neto, J. A. **Commelinaceae**. Monografia para bolsa de aperfeiçoamento CNPq. **Estudo taxonômico da família Commelinaceae no Parque Nacional de Itatiaia**. Jardim Botânico do Rio de Janeiro.

Lira Neto, J. A. **Listagem das espécies de Commelinaceae ocorrentes na Restinga de Carapebus e arredores, RJ**. Universidade Federal do Rio de Janeiro, Museu Nacional.

Moraes, L. F. D.; Luchiari, C.; Puglia-Neto, R.; Assumpção, J. M. Desempenho de espécies pioneiras em plantios de reflorestamento com espécies arbóreas nativas. **Reserva Biológica de Poço das Antas, Silva Jardim/RJ**.

Pereira, F. A.; Luchiari, C.; Pereira, T. S. Estudos da germinação em Melastomataceae

Pessoa, S.de V. A. Estudo da sucessão secundária na Reserva Biológica de Poço das Antas, Mun. Silva Jardim, Rio de Janeiro - I. Dinâmica de regeneração e estabelecimento dos elementos arbóreo-arbustivos em área de mata degradada.

Pessoa, S.de V. A. et Vieira, C. M. Estudo da sucessão secundária na Reserva Biológica de Poço das Antas, Mun. Silva Jardim, Rio de Janeiro - III: Ilhas de vegetação e regeneração de áreas degradadas.

Rôças, G., Barros, C. F & Scarano, F. R. Leaf anatomical variation in *Alchornea triplinervia* (Spreng.) Müll. Arg. (Euphorbiaceae) under distinct light and soil water regimes.

Vieira, C. M. et Pessoa, S.de V. A. Estudo da sucessão secundária na Reserva Biológica de Poço das Antas, Mun. Silva Jardim, Rio de Janeiro - II. O componente herbáceo em área degradada.

Vieira, C. M. et Pessoa, S.de V. A. Estudo da sucessão secundária na Reserva Biológica de Poço das Antas, Mun. Silva Jardim, Rio de Janeiro - IV. Síndrome de dispersão das espécies lenhosas.

### **Professional Capacitation**

#### **1. Post-Graduation**

#### **Doctoral Degree**

#### **In process**

**Cátia Henriques Callado**, selected for the post-graduation program in Plant Ecology, of the Universidade Federal do Rio de Janeiro (Rio de Janeiro Federal University), in November, 1996 with the thesis "*Anatomical Aspects and Growth Periodicity of the Arboreal Species of Flooded Areas of the Atlantic Forest*."

**Claudia Franca Barros**, selected for the post-graduation program in Plant Cytology of the Institute of Biophysics Carlos Chagas Filho of the Universidade Federal do Rio de Janeiro (Rio de Janeiro Federal University), in March, 1993, with the thesis "*Study of Epidermic Cells of Leaves*"



of *Species of the Atlantic forest.*"

**Haroldo C. de Lima**, selected for the post-graduation program in Plant Ecology, Universidade Federal do Rio de Janeiro (Rio de Janeiro Federal University), in January, 1996, with the thesis "Phytogeography of Arboreal Leguminosae - An analysis of the floristic similarity among Atlantic forest areas in the State of Rio de Janeiro."

**Helena Regina Lima Puglialli**, selected for the course of post-graduation program in Evolutionary Aspects of Micromolecules of the Universidade Federal do Rio de Janeiro (Rio de Janeiro Federal University), in March, 1992, with the thesis "*Evolutionary Polarity in Zingiberiflorae.*"

**Marli P. M. of Lima**, selected for the post-graduation program in Biological Sciences (Botany), of the National Museum of the Universidade Federal do Rio de Janeiro (Rio de Janeiro Federal University), in March, 1997 with the thesis "Leguminosae of the Itatiaia National Park"

**Rajan R.Guedes-Bruni**, selected for the post-graduation program in Ecology, of the Universidade de São Paulo - USP (São Paulo State University), in August, 1993, with the thesis "Canopy Structure in remnants of Atlantic Forest in Rio de Janeiro."

**Tânia S. Pereira**, selected for the post-graduation program in Ecology, of the Universidade de São Paulo - USP (São Paulo State University), in August, 1993 with the thesis "*Dynamics of Populations of Miconia cinnamomifolia. (DC) Naud. (MELASTOMATACEAE) in the secondary succession of the Atlantic Forest*"

### Master of Science Degree

#### In process

**Claudia Magalhães Vieira**, selected for the post-graduation program in Biological Sciences (Botany), of the National Museum of the Universidade Federal do Rio de Janeiro (Rio de Janeiro Federal University), in March, 1996, with the dissertation "*Taxonomy of the species of Quesnelia Gaudichaud (Bromeliaceae) of the state of Rio de Janeiro.*"

**Glísia Maria de Silveira Neves** selected for the post-graduation program in Biological Sciences (Botany), of the National Museum of the Universidade Federal do Rio de Janeiro (Rio de Janeiro Federal University), in March, 1996, with the dissertation: "Community Structure in four Forest Fragments, in different successional stadia in the Biological Reserve of Poço das Antas, Silva Jardim, RJ."

**João Marcelo de Alvarenga Braga**, selected for the post-graduation program in Biological Sciences (Botany), of the National Museum of the Universidade Federal do Rio de Janeiro (Rio de Janeiro Federal University), in March, 1996, with the dissertation "*A Review on the genus Saranthe (Regel et Koernicke) Eichler.*"

**Marta Bruno Loureiro**, selected for the post-graduation program in Environmental and Forest Sciences of the Universidade Federal Rural do Rio de Janeiro (Rio de Janeiro Federal Rural University), with the dissertation "*Analysis of a population of Piptadenia paniculata Benth. in Rebio of Poço das Antas.*"

**Micheline Leite Marcon**, selected for the post-graduation program in Biological Sciences (Botany), of the National Museum of the Universidade Federal do Rio de Janeiro (Rio de Janeiro Federal University), in March, 1997, with the dissertation: "Anatomical Plasticity of the log of species of the Atlantic Forest."

**Sebastião José da Silva Neto**, selected for the post-graduation program in Biological Sciences (Botany), in the Universidade Federal de Viçosa (Viçosa Federal University), in March, 1997.

### Specialization

#### Concluded

**Luciana Pinheiro Solano** Post-graduation *Lato Sensu* in Analysis, Project and Management of Systems in the Pontifícia Universidade Católica do Rio de Janeiro - PUC-RIO (Pontifical Catholic University of Rio de Janeiro), in December, 1996.

### 2. Training Courses

**Course of VGA/ERDAS PC**, promoted by the Gestão Empresarial & Informática Ltda - GEMPI, accomplished in January 13 to 17, 1997, in 40 hours. Attended by Pedro Schuback.

**Course of VGA/ERDAS PC** promoted by the Gestão Empresarial & Informática Ltda - GEMPI- SP., in 40 hours, from 13 to 17/01/97, attended by Pedro Schuback.

**Course of SIGCSR version Windows** promoted by IBAMA's Remote Sensing Center - DF. in 40 hours, from 7 to 11/04/97 attended by Pedro Schuback.

**Course of PC ARC/INFO v 3.5 and ARCVIEW v 3.0** promoted by the Gestão Empresarial & Informática Ltda - GEMPI - SP, in 40 hours, 14 to 18/04/97, attended by Pedro Schuback

**Course of Photo-Interpretation**, taught by Prof. Sérgio Vitorio Granzotto, in the period of November 04 to December 13, 1996, in a total of 120 hours, attended by Pedro Schuback.

**Course of ARC/INFO** (Geographic Information System Analysis & it Dates Management) Version 7 goes UNIX And Open VMS, by Gestão Empresarial & Informática Ltda, in the period from 7 to 11/10/96, in 40 hours, attended by Pedro Schuback.

**Seminar of Awardeet / INTRANET Connectivity : A Technology for Business**, promoted by Medidata, accomplished in the Inter-Continental Hotel, RJ, on July 21, 1996, attended by Luciana Solano, Eduardo Dalcin and Renato Pizarro.

**Taxonomy and Morphology of Pteridophyta**, promoted by XLVII National Congress of Botany, Sociedade Botânica do Brasil, 21 to July 26, 1996, attended by Mariana Lima Vilela.

**Restinga: Physiognomy and its Structure**, promoted by XLVII National Congress of Botany, Botanical Society of Brazil, 21 to July 26, 1996, attended by Glísia Maria de Silveira Neto.

### **Activities in Cooperation**

- Support to the Agreement celebrated between the Jardim Botânico do Rio de Janeiro and the Refinery of Duque de Caxias (REDUC)/PETROBRAS, accomplishing studies of floristic and phytosociological surveys of the areas of the Reservoir of Saracuruna, in Xerém, Duque de Caxias, aiming the protection of the forest covering and recovery of the degraded sites occurrent in the area.
- Accomplishment of experimental plantations for installation of vegetational aisles and islands in the Biological Reserve of Poço das Antas for the staff of PMA allocated in the Reserve, in collaboration to the Associação Mico Leão Dourado (Golden Lion Tamarin Association), with support of PDA (MAA).
- Consultantship in the identification of plant species close to the interpretative trail implanted behind the educational center of REBIO of Poço das Antas by the Program of Conservationist Education of the Associação Mico Leão Dourado (Golden Lion Tamarin Association).
- Support to the accomplishment of III Meeting of Researchers of REBIO Poço das Antas, by means of human resources and computational infrastructure.
- Full support, by means of human resources and infrastructure readiness, to Sociedade Botânica do Brasil, for the accomplishment of XLVII National Congress of Botany and Atlantic Forest Symposium, in Nova Friburgo, Rio de Janeiro, in July, 21 to 26, 1996.
- Support of the Laboratório Nacional de Computação Científica - LNCC (National Laboratory of Scientific Computation), supplying accounts to the AWARDEET by the staff of the Center of Information and Services of the Program Atlantic Forest.

The Program Atlantic Forest counted with the collaboration of the Dr. Sérgio Miana of Faria of the National Center of Soil Microbiology/EMBRAPA, for the Master -Fellowship of Marta B. Loureiro, concerning the use of nitrogen-fixing Leguminosae in the enrichment of the plantations and also with the support of Dra. Dalva Maria da Silva Matos of UFRJ/CNPq, in the orientation of the related analyses the dynamics of the studied plant populations.

### **PMA in the media**

Aiming of transmitting information to the scientific and/or common public, at the national as well as at the local levels, about the actions that PMA is developing in the studied areas and as they are reflected in the use of the natural resources and in conservation actions, a constant contact has been maintained with the press.

#### **RJ TV (1<sup>st</sup> and 2<sup>nd</sup> editions), by Rejan R. Guedes-Bruni**

Title: Atlantic Forest: grow with it  
Date: October 26, 1996

#### **Jornal Local da BAND (2<sup>nd</sup>. edition), by Rejan R. Guedes-Bruni**

Title: Atlantic forest: grows with it  
Date: October 26, 1996

#### **Globo Ciência, by Rejan R. Guedes-Bruni**

Title: How the flowers look like  
Date: October 12, 1996

#### **Globo Ecologia, by the staff of PMA**

Title: The Rio de Janeiro Botanical Garden  
Date: October 12, 1996  
Video Show, by Rejan R. Guedes-Bruni  
Title: What does a botanist do?  
Date: October 8, 1996

#### **TV Serra do Mar - Friburgo -interview Rejan R. Guedes-Bruni**

Subject: Opening of the Symposium Atlantic Forest  
Date: July 21, 1996.

#### **Article published in the newspaper Jornal do Brasil - RJ.** Headline: Cultivation of traditional people increases the biodiversity

Date: July 21, 1996.

#### **Article published in the newspaper Tribune da Imprensa - RJ.**

Headline: Botanists discuss in Friburgo the recovery of the Atlantic Forest  
Date: July 15, 1996.

#### **Article published in the newspaper Estado de Minas.**

Headline: Atlantic Forest  
It dates: July 1, 1996.

## Exhibitions and Events

### Commemoration of the 60<sup>th</sup> anniversary of the creation of the Itatiaia National Park



accomplishment of an exhibition about the contribution of PMA in the knowledge of the flora and its structures of the vegetational types of the Itatiaia National Park, as part of the activities of commemoration of the 60 years of PARNA on June 14, 1997.

#### Agenda 21, Brazil - the Concrete Utopia

Presence in the stand of the Ministry of the environment, Water Resources and Legal Amazonia (MMA), presenting the INTRANET System and the publications of PMA, during the week from 10 to 14/03.

#### Atlantic Forest Grows With It - Shell Event (Week of the Child)

Accomplishment of the event Atlantic Forest: Grows with it, during the period of October 26 to November 3, 1996. The event was composed of 3 blocks of integrated activities: presentation of theatrical short pieces, an art workshop and an activity implemented by the Nucleus of Environmental Education of JBRJ. Destined to the infant-juvenile public, it also received the participation of a team of researchers that tried to present the instruments which they use at work, methods and routines, as well as a cast of plants of the Atlantic Forest with its respective uses. Also implemented in the weekends, the event reached equally the adult public, that could experience and learn about a side not usually accessible to the visitor's acquaintance that is the scientific activity and that for this reason turns the Botanical Garden a park different from the others in Rio de Janeiro.

## Difficulties found

The reduction in the value granted to PMA for accomplishment of the presented proposal reflected in the permanence of the trained human resources, and allied to the impossibility of their absorption by the permanent staff of the Botanical Garden, it has been generating a highly qualified people's escape, not only of superior level as of medium level, towards other Institutions. To maintain the already trained human resources in the Botanical Garden is part of the philosophy of the Program Atlantic forest, with personality of the botanical scholarship of the Rio de Janeiro Botanical Garden, it constitutes one of the largest organizational challenges.

## Extraordinary resources

Because of its performance along its existence, and of the resulting actions in the knowledge of the Atlantic Forest, PMA was recognized as important investigation line by the Ministry of the Environment, Water Resources and of Legal Amazonia (MMA), a government organ of environment. Thus, subsidies coming from this organ helped PMA to assist specific demands, as the impression of materials of divulgance of the program (folders, stickers, publications and videos), and demands that facilitate the good course of the Program.

In view of the reduction of the resources for the other sponsor agencies of PMA, MacArthur Foundation and Shell Brasil S.A, the financial subsidies of MMA, in this period, allowed a reorganization of its financial schedule. This way, it was necessary the reallocate resources for a better use, considering the needs of the program.

## Acquisition of New Technologies, Materials and Equipment

Equipment	Purpose
2 computers Pentium 166 *	Continuity of the works of the CISMA
Laser Printer *	Autonomy in the impression of documents
Colored printer *	Autonomy in the impression of documents
2 Scanner *	Images editing
1 scanner adapter for transparencies and Slides *	Images editing
1 modem 33600kps *	For communication by digital via
1 central phone *	Agility in the communication
2 notebooks *	Field work
1 Retroprojektor *	Divulgence of the Works
1 slides projector *	Divulgence of the Works
2 clear cameras *	Technician-scientific studies
1 zip Drive *	Transport of data
3 binocular glass magnifying *	Technician-scientific studies
1 computers Pentium 100 **	Continuity of Project Reforestation's works
Laser Printer **	Autonomy in the impression of documents of the Project Reforestation

\* Material acquired with resources of MMA (Ministry of the Environment, Water Resources and Legal Amazonia)

\*\*Material acquired with resources from the Associação Mico-Leão-Dourado.

## New products available

**Explanatory Folders** of the Program Atlantic Forest, in the Portuguese and English versions, approaching the studied sites, projects and lines of researches developed by the program.

**Educational video**, in the Portuguese and English versions, approaching the projects and lines of researches developed by the program.

Scientific Books (to see item PUBLISHED BOOKS) on Atlantic Forest

...in September, 1997

**Madeiras da Mata Atlântica - Anatomia do Lenho de espécies ocorrentes em remanescentes florestais do estado do Rio de Janeiro** (Atlantic Forest Wood - Wood Anatomy of species which occur in the forest remnants Rio de Janeiro State - Brazil)  
This is the first catalog of wood for the Atlantic Forest. The information and illustrations are based on anatomical studies, which will provide support for conservation actions and management of degraded areas and rational and sustained use of forest wood.

...in a near future

**Manual de Vegetação da Reserva Biológica de Poço das Antas, Silva Jardim** (Vegetation Manual of the Biological Reserve of Poço das Antas, Silva Jardim)

One of the last plain forests in Rio de Janeiro, an area where we can still find the Golden-lion-amarin (Leontopithecus rosalia rosalia), was analyzed with relationship its floristic composition and physiognomy, as well as its mapped vegetational cover, facilitating the monitoring of the Reserve.

**Flora Associada à Fauna na Reserva Biológica de Poço das Antas, Silva Jardim** (Flora Associated to the Fauna in the Biological Reserve of Poço das Antas, Silva Jardim)

A field guide that congregates the prior plant species in the food diet of the gold lion tamarin (Leontopithecus rosalia rosalia). The information is based in the results of the floristic inventories, of the vegetational mapping, and of the typical species of reforestation, and aims to assist botanists, zoologist, environmentalist and conservationists.

**Manual Técnico de Revegetação com Espécies da Mata Atlântica** (Technician Manual of Reforestation with Atlantic Forest Species)

That manual is based on different studies developed in the Biological Reserve of Poço das Antas, on structure and dynamics of populations, as well as storing techniques and seedling production. Species with the best results in reforestation are, then, presented.

## Human resources for research line

Period July / 1996 to Jun / 1997

General coordination - Rejan Guedes - Bruni

### Floristic and Phytosociology

Rejan R.Guedes-Bruni Manager JBRJ  
Marli Pires Morim de Lima Researcher IBGE/JBRJ  
Glísia Neves Researcher FBMM  
João Marcelo Alvarenga Braga Researcher FBMM  
Sebastião José da Silva Neto Researcher FBMM  
Cláudia Franca Barros Researcher JBRJ  
Cátia Henriques Callado Researcher FBMM  
Cecília Gonçalves Costa Researcher JBRJ  
Pedro Schuback Researcher FBMM  
Graziela Maciel Barroso Collaborator JBRJ  
Lana S.Sylvestre Collaborator UFRRJ  
Regina Helena P.Andreata Collaborator USU  
Claudine M. Mynssen Collaborator USU  
Helena Regina Lima Pugialli Collaborator UFRJ  
Maura da Cunha Collaborator FBMM  
Osnir Marquete Collaborator FBMM  
Tânia Cristina Tomaz Herbarium Technician FBMM  
Rosana Mathias Herbarium Technician FBMM  
Inês Cosme Neves Laboratory Technician. FBMM  
Paulo Rogério Ferreira Dias Laboratory Technician. FBMM  
Mariana Lima Vilela Awardee CNPq-PIBIC  
José Anselmo de Lira Neto Awardee CNPq-PIBIC  
Fernando Tatagiba Palermo Awardee CNPq-PIBIC  
Carlos Henrique Reif de Paula Awardee CNPq-PIBIC  
Guilherme Eduardo Mury Alves Awardee CNPq-PIBIC  
Renata Soares Pinheiro Awardee CNPq-PIBIC  
Micheline Leite Marcon Awardee CNPq-PIBIC  
Cristina Cavalcante M. da Silva Awardee CNPq-PIBIC  
Gilmara Pires Moura Awardee CNPq-PIBIC  
Adilson Pinto Field Assistant FBMM

### Revegetação

Luiz Fernando D. de Moraes Manager FBMM  
Solange de V. A Pessoa Researcher JBRJ  
Claudia Magalhães Vieira Researcher FBMM  
José Maria Assunção Researcher JBRJ  
Cíntia Luchiari Researcher FBMM  
Marta Bruno Researcher FBMM  
Tania Sampaio Collaborator JBRJ  
Adilson Pintor Field Assistant FBMM  
Antônio Tavares de Oliveira Field Assistant FBMM

### Center of Information and Services

Eduardo Couto Dalcin Manager FBMM  
Luciana Pinheiro Solano Researcher FBMM  
Renato Pizarro Drummond Researcher FBMM

Antonio Tavares de Oliveira Field Assistant FBMM

JBRJ - Instituto de Pesquisas Jardim Botânico do Rio de Janeiro  
 FBMM - Fundação Botânica Margaret Mee  
 IBGE - Fundação Instituto Brasileiro de Geografia e Estatística  
 USU - Universidade Santa Úrsula  
 UFRJ - Universidade Federal do Rio de Janeiro  
 UFRRJ - Universidade Federal Rural do Rio de Janeiro  
 CNPq - Conselho Nacional de Desenvolvimento Técnico-científico  
 CNPq-PIBIC - Projeto Institucional de Bolsa de Iniciação Científica - CNPq

## Annexes

### *The Program Atlantic forest through the numbers*

#### *Numbers for Project*

#### *Project Floristic and Environmental Surveys*

7/96 - 6/97	
41	trips
971	collected individuals
667	identified species
17	Collected wood samples and registered in the wood collection of JBRJ
255	Microscopic sectioning and registered in the permanent slides of the wood collection of JBRJ
39	duplicates for exchange with wood collections
41	Surveys presented in scientific events
35	Published Papers
8	Offered lectures
6	Offered courses

#### *Project Reforestation*

7/96 - 6/97	
16,213	Seedlings produced in REBIO
6,228	Seedlings planted in REBIO
5.28	Reforested Hectares
5	Cultivated hectares (maintenance)
29	Species used in the seedling production in REBIO
39	Species used in the reforestation plantings
63.20	Kg of picked fruits
16.34	Kg of processed seeds
9	No. of evaluated species
20	Works presented in scientific events
3	Published works
1	Offered lectures
409	species classified by dispersion syndromes
15	classified species of birds by alimentary habit
71	species classified by ecological group

#### *Project Center of Information and Services*

In 6/1996	
2,062	registrations in the species database
23,871	registrations in the individual database
1,293	registrations in the bibliographical database
2	Presented lectures
2	Offered courses
2	Published papers
2	Surveys presented in scientific events