

SYMPOSIUM 5: ECOLOGY, EVOLUTION, CONSERVATION AND RESTORATION OF THE BRAZILIAN ATLANTIC FOREST

Bonito, 21st Junho 2012 (Thursday)

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The Atlantic Forest is the fourth world biodiversity hotspot and still maintains impressive numbers of vertebrate and plant species, many of them endemics. It also provides significant ecosystem services, such as maintenance and enhancement of natural carbon stocks, recreation and tourism, and water flow and regulation for more than 120 million people that live in the Atlantic Forest domain. However only about 20% of the native vegetation cover still remains, and it is scattered in thousands of small fragments. Maintain and improve landscape connectivity is the only chance to conserve biodiversity and ecosystem services in the long term. The Brazilian Ministry of Environment is working with the PACTO pela Restauração da Mata Atlântica, universities and the German Development Agency – GIZ to develop a spatial strategy focused on the definition of priority sites for biodiversity conservation and habitat restoration and ecosystem services maintenance. In this symposium will be presented and discussed the results of a series of maps to achieve this spatial strategy and how they have been included in decision making process. Specific mappings were conducted to identify strategic areas for: (1) biodiversity conservation, integrating previous initiatives based mostly on species, mainly threatened and endemic ones, such as IBAs, KBAs, AZEs, federal and state exercises; (2) landscape connectivity, identifying areas for habitat restoration to enhance landscape connectivity; (3) potential and effective forest biomass; (4) eligible areas for restoration projects to Kyoto and voluntary carbon credits; (5) areas for habitat restoration focused on the maintenance and enhancement of water provision.

The Atlantic Forest, the second most widespread tropical forest in Brazil, is better recognized as a complex than as a single vegetation type. It comprises a range from rain to semi-deciduous forests as well as the marginal vegetation in high altitude and over marine sand deposits. Such complexity is derived mainly from the large geographical changes along its area of occurrence associated with climatic variations that cause differences in plant communities. This includes, approximately, latitudes ranging from 5° N to 33° S, longitudes from 35° W to 52° W and altitudes from 0 to 2,200 m. This wide geographical variation determines a climatic gradient in annual rainfall (approximately, from 800 to 4,000 mm) and mean annual temperatures (averages from 15 to 25° C) which influence species distributions. In addition, two main centers of plant endemism are usually recognized: the northern Atlantic Forest and the southern Atlantic Forest; the northern block (with floristic affinities with the Amazon Forest, Caatinga and inland forests and the southern block (influenced by the flora Andes and elements of the ancient southern Gondwana). Altogether, the two regions comprise about 15,000 vascular plants and 48% endemic species that is among the highest in the world.

In this situation, plant demography and species distribution were probably influenced by a range of niche based and neutral processes that influenced the assembly rules, leading plant communities to very diverse structure and functioning. In this symposium we aim to discuss some of these processes in a variety of evolutionary and ecological perspectives.

TALKS (Room Terena, 09h00-10h30)

1. **Species, landscape and ecosystem services, why we need an integrative approach: the spatial strategy for biodiversity conservation and restoration of the Brazilian Atlantic Forest.** *Fátima Guedes*
2. **Methodological framework to optimize restoration efforts based on landscape connectivity and resilience.** *Alexandre Camargo Martensen*
3. **Collapse of the medium and large-sized mammals of the mega-fragmented north-eastern Atlantic forest of Brazil.** *Antonio Rossano Mendes Pontes*
4. **Carbon storage capacity of a fragmented landscape in the Atlantic forest Dominion of Rio de Janeiro and its implications for future landscape management and conservation.** *Dietmar Sattler*
5. **The control of the invasive jackfruit tree (Moraceae) at Ilha Grande and its effects in small mammal community and seed dispersal.** *Helena de Godoy Bergallo*
6. **Integrating initiatives for biodiversity conservation in the Brazilian Atlantic forest.** *Adriano Paglia*
7. **Effect of the width of riparian reforestation strips on the ecological restoration.** *Mariana Chaves Mota*
8. **Responses of a rainforest refugia to climate variability, the case of the Atlantic rainforest of Ceara, Brazil.** *Vincent Montade*
9. **Effects of recent climate change over the structure of bird communities in the Brazilian Atlantic forest.** *Luiz dos Anjos*
10. **Diet overlap between rodents and marsupials in four Atlantic forest áreas.** *Raisa Rodarte*
11. **Variation in the partitioning of carbon above and belowground in the Brazilian coastal Atlantic forest elevation gradient.** *Simone Vieira*
12. **Phylogenetic links among forest types in the Southern Brazilian Atlantic rainforest complex.** *Márcia Marques*
13. **Phylogenetic habitat filtering and phylogenetic structure across a successional gradient in Atlantic rainforest.** *Kátia Janaina Zanini*
14. **Different origins for functional and species diversity variation along a Southern Brazilian Atlantic rainforest tree metacommunity.** *Adriane Esquivel Muelbert*
15. **Ecohydrology of Brazilian Atlantic cloud forests from Southeastern Brazil.** *Rafael Oliveira*
16. **Do density-dependent factors organize spatial tree species distribution in the Atlantic rainforest?** *Markus Gastauer*
17. **Reproductive success of *Aechmea winkleri* (Bromeliaceae), an endemic endangered species of Southern Brazil.** *Fernanda Bered*
18. **The ghost of spur evolution past: match and mismatch in the pollination mechanisms of highly specialized long-spurred orchids.** *Felipe Wanderley Amorim*

POSTERS (Karuha Space, 15h30-16h30)

- S05.P.01. **Exotic invasive plants on forest restoration in Atlantic forest, Brazil.** *Jézili Dias*
- S05.P.02. **Effect of resource addition on cricket diversity: disentangling local passive sampling from environmental biodiversity drivers.** *Neucir Szinwelski*



- S05.P.03. Evolution and diversification of *Ortgiesia* (*Aechmea*, Bromeliaceae) in Southern Brazilian Atlantic rainforest.** *Márcia Goetze*
- S05.P.04. Isolation and characterization of nuclear microsatellite loci for *Aechmea caudata* (Bromeliaceae) a species from Brazilian Atlantic rainforest.** *Márcia Goetze*
- S05.P.05. Species diversity and distribution pattern of Begoniaceae along an altitudinal gradient in the Serra dos Órgãos, RJ, Brazil.** *Rolf Axel Engelmann*
- S05.P.06. Altered species composition and diversity in fragments of the Atlantic rainforest of Rio de Janeiro, Brazil.** *Rolf Axel Engelmann*
- S05.P.07. Survival of native tree seedlings planted in the recovery of a riparian vegetation stretch of Pandeiros river, north of Minas Gerais State, Brazil.** *Nathalle Cristine Alencar Fagundes*
- S05.P.08. Establishment of *Cecropia pachystachya* Trécul (Cecropiaceae) seedlings implanted in the recovery of the riparian vegetation of Pandeiros river, north of Minas Gerais State, Brazil.** *Caroline Siqueira Santos*
- S05.P.09. Patterns of hybridization between two sympatric species of bromeliads from Brazilian Atlantic rainforest: evolutionary and conservation implications.** *Camila Zanella*
- S05.P.10. What is the value of secondary forests and plantations on the conservation of understory birds in the Atlantic Forest?** *Andrea Boesing*
- S05.P.11. Quantitative measures of fog interception using *Sphagnum* spp.** *João Pedro Souza*
- S05.P.12. Cloud cover for modeling indicator species of cloud forests in the Serra da Mantiqueira.** *João Pedro Souza*
- S05.P.13. Patterns of tree turnover across an elevational gradient in the Brazilian Atlantic forest.** *Marcos Scaranello*
- S05.P.14. Colonization of large-seeded species in hedgerows in an Atlantic Forest landscape is influenced by neighboring forest cover, but not by connection itself.** *Carolina Cainelli Oliveira*
- S05.P.15. Surrounding landscape affects woody species regeneration in reforested sites in the Atlantic forest domain.** *Carolina Cainelli Oliveira*
- S05.P.16. Conservation genetics of endangered fern *Dicksonia sellowiana* Hook. (Dicksoniaceae) in Brazil.** *Valéria Cunha Muschner*
- S05.P.17. Intraspecific variation of Atlantic rainforest understory phenology: plant responses to light and microenvironment.** *Natalia Costa Soares*
- S05.P.18. Are edges and young forests always preferred by leaf-cutting ants? The case of *Acromyrmex* in the Atlantic forest.** *Jarbas Marçal de Queiroz*
- S05.P.19. Functional and phylogenetic diversity along a successional gradient of Atlantic forest.** *Marcia Marques*
- S05.P.20. Genetic diversity of *Enyalius perditus* and *Enyalius bilineatus* from Atlantic forest fragments of Minas Gerais State (Brazil).** *Sarah Vargas*
- S05.P.21. Species abundance distribution models on analysis of relation between bird diversity and environmental and anthropic variables.** *Rodolpho Credo Rodrigues*
- S05.P.22. Phenotypic plasticity and genetic variability of an endemic species of cacti.** *Valéria Cunha Muschner*

- S05.P.23. **High population structure and hybridization in a montane Atlantic forest orchid species complex.** *Samantha Koehler*
- S05.P.24. **Seasonal variation of soil N-transformation rates along a precipitation gradient in three restinga vegetations of Southeast Brazil.** *Silvia Mardegan*
- S05.P.25. **Effects of bird perches and plant functional traits on seed arrival and seedling establishment in abandoned pastures of Southern Brazil.** *Fernanda Cristina Gil Cardoso*
- S05.P.26. **A survey of Areaceae in the Southern Brazilian Atlantic forest as indicators for understanding the successional stages.** *Daniela Gomes Almeida Costa*
- S05.P.27. **Edge effects on riparian reforestation strips with native species.** *Mariana Chaves Mota*
- S05.P.28. **Diametrical distribution analysis of *Mollinedia Widgrenii* A. DC. (Monimiaceae) in a fragment of semideciduous mountain forest.** *Christianne Oliveira de Medeiros*
- S05.P.29. **Ecological filters determining functional convergence and divergence on herbaceous and seedling strata of an Atlantic rain forest of southern Brazil.** *Felicia Fischer*
- S05.P.30. **Microtopography and tree functional and phylogenetic diversity in Atlantic forests, southeastern Brazil.** *Igor Silva*
- S05.P.31. **Relationship between soil fertility and species richness in a primary Atlantic rainforest patch from Southeastern Brazil.** *Markus Gastauer*
- S05.P.32. **Variation in floristic composition and demography over a 12-year period in a Brazilian lowland Atlantic forest.** *Marcelo Trindade Nascimento*
- S05.P.33. **Does edge effect alter the outcome of an ant-plant mutualism in the Atlantic forest?** *Walkiria Almeida*
- S05.P.34. **Structure of fruit-feeding butterfly assemblages in the Atlantic forest of Southeastern Brazil: comparisons between canopy and understory.** *Junia Yasmin Oliveira Carreira*
- S05.P.35. **The effect of linear edges on phylogenetic diversity at the Atlantic rainforest, RJ, Brazil.** *Bruno Henrique Pimentel Rosado*
- S05.P.36. **Divergent successional trajectories in invaded and burnt pastures in the Brazilian Atlantic forest.** *Andrea Sánchez-Tapia*
- S05.P.37. **Linear canopy opening did not affect the proportion of seed dispersal syndromes in a tree community at the Atlantic rainforest, RJ, Brazil.** *Déborah Hottz*
- S05.P.38. **Diversity of nematode community in sugarcane fields and remaining of Atlantic forest.** *Márcia Cardoso*
- S05.P.39. **Proposal for optimization of forest restoration in degraded areas in the Brazilian Atlantic forest.** *Bruno Henrique Mattiello*
- S05.P.40. **Beta diversity of tree species in different forest formations of southern Brazilian Atlantic forest.** *Rodrigo Scarton Bergamin*
- S05.P.41. **Climate change threatens protected areas in the Atlantic forest biodiversity hotspot.** *Priscila Lemes*
- S05.P.42. **Spatial modeling of the seed flow for *Hymenaea courbaril* in a fragmented landscape at Pontal do Paranapanema.** *Renato de Toledo*
- S05.P.43. **Keystone species as indicators of intact food webs in a biodiversity hotspot.** *Maria Luisa da Silva Pinto Jorge*



- S05.P.44. Differential productivity, phenology and NDVI in preserved subtropical forests of Northern Argentina: the importance of an endangered tree species for the functioning of a forest ecosystem.** *Paula Inés Campanello*
- S05.P.45. Urticalean clade in the Atlantic forest: endemism and conservation.** *André Luiz Gaglioti*
- S05.P.46. Atlantic rainforest fragmentation analysis and landscape restoration management scenarios.** *Lisiane Zanella*
- S05.P.47. Spatial distribution of three palm species in fragments of Brazilian Atlantic rainforest.** *Rita de Cássia Quitete Portela*
- S05.P.48. Seed dispersal and invasive plant species in the diet of a critically-endangered primate in the Atlantic forest.** *Gustavo Canale*
- S05.P.49. Palm recruitment in Atlantic forest fragments: understanding the consequences of empty forests.** *Caroline Marques Dracxler da Silva*
- S05.P.50. Variation on functional groups of plants at a gradient of defaunation in the Atlantic forest.** *Valesca Bononi Zipparro*
- S05.P.51. Does edge effects in tropical forest drives to impoverishment of galling insect assemblages? A case in Atlantic forest of Brazil.** *Danielle Gomes de Souza*
- S05.P.53. Soil-mediated effects on potential *Euterpe edulis* (Arecaceae) fruit and palm heart sustainable management in the Brazilian Atlantic forest.** *Pedro Brancalion*
- S05.P.54. Combining ecosystems services protection and biodiversity conservation in the Atlantic forest of Brazil.** *Paula Prist*
- S05.P.55. Dung beetle communities and habitat complexity in different successional stages of Atlantic rain forest in the south of Brazil.** *Malva Isabel Medina Hernández*
- S05.P.56. Is there a relaxation on distance-dependent seed predation in small fragments of Brazilian Atlantic forest?** *Edgar Alberto do Espírito Santo Silva*
- S05.P.57. Allometric relations of the sub-canopy tree *Bathysa australis* (A.St.-Hil.) & Hook. in an Atlantic tropical rainforest of SE Brazil.** *Talita Reis*
- S05.P.59. Optimizing the evaluation of plant diversity in the tropics: a test with Atlantic forest palms.** *Rita de Cássia Quitete Portela*
- S05.P.60. Invasion of domestic dogs in two Atlantic forest fragmented landscapes with different proportions of remaining forest.** *Enrico Frigeri*
- S40.P.01. Reestablishing ecological processes in tropical forests: reintroduction of an important seed disperser in the Brazilian Atlantic Forest.** *Alexandra Pires Fernandez*