

NORTHEASTERN BRAZIL Repatriation of Herbarium Data

UPDATE

The Herbarium Repatriation Project is contributing to the conservation of biodiversity by helping botanical taxonomists in Northeastern Brazil to accurately identify and catalogue the many native plant species they encounter, a key role that taxonomists have within the framework of CBD.

Collections made during historical expeditions from Europe (mainly those in the 19th century) provided very few duplicate specimens for Brazil. The traditional way that botanists have provided access to each other's herbarium collections has been through loans of specimens and by personal visits. Neither of these forms of access provides a permanent high quality reference which remains in Brazilian herbaria, and this project is designed to make good this shortcoming, while at the same time giving substantial training opportunities for young taxonomists from NE Brazil. Because Kew's collections have a high proportion of accurately named material, as well as rich representation of historically important specimens, the transfer of images, databases and copies of the key literature form a major contribution to the herbarium resources of the NE region. The Project provides databases of all Kew specimens in selected families, together with images of the relevant types and copies of the original papers, in which their corresponding species names were first published. These information packages are being deposited in three major regional herbaria of the Northeast (IPA, Recife, CEPEC, Bahia, and UEFS, Feira de Santana). One-year training scholarships for Brazilian botanists are provided for each year of the project.

Palicourea (Rubiaceae) is one of the genera with showery flowers, often pollinated by hummingbirds.



Photo: Andrew McRobb



Photo: Andrew McRobb

Elaine Miranda from UEFS and Fabrício Juchum from CEPEC databasing Kew's collections.

An earlier phase of the project, funded by the Darwin Initiative, saw the repatriation to NE Brazil of data on eight plant families (Cactaceae, Gramineae, Loranthaceae, Myrtaceae, Passifloraceae, Rubiaceae, Verbenaceae and Viscaceae). With new funding from BAT, Kew expects, over three years, to transfer about 50% of the data and type images in its collections for NE Brazil. The plant groups selected include families of economic and ecological importance such as the Compositae (the daisy family) and the Leguminosae (the pea family).

In the current phase of the project it is expected that the method of capturing images will gradually be changed from analogue cibachrome contact prints to images based on digital technology and the protocols are now being tested. The new method will have the great advantage of making high quality images much more widely available over the Internet.

This project is part of a larger project in Brazil (PATAx) co-ordinated by Dra Maria Regina of UFPB, within APNE's Biodiversity and Conservation area of research. Collaborators in Brazil are: CEPEC, UEFS, and IPA.

Dr Simon Mayo RBG, Kew

Contact: Dr Daniela Zappi, RBG Kew
d.zappi@rbgkew.org.uk

This phase of the project is being financed by BAT (British American Tobacco). The first phase was financed by the Darwin Initiative.

Photo: Marcelino Lima



Small-holder selecting the most important plants for his family during a PRA exercise

Biodiversity and Local Development

The IDT project is working with NGO's and small farmers' organizations in northern Bahia state on a project to increase awareness of the value of local biodiversity. The partner NGO involved is SASOP, which leads local development work to improve food production for poor rural communities. The IDT project plays an important supporting role by promoting effective dissemination of knowledge about the use and management of native plants, together with other local and scientific information.

Various activities have been carried out with the communities and local organizations to identify demands for information on the use and management of native plants and to understand current practice. This resulted in the "First Local Diversity Seminar" involving around 100 small holders and technicians from 8 different municipalities and invited participants from other states in Northeast Brazil. Representatives of various Associations emphasized the importance of the caatinga for maintaining livestock ranching systems, a predominant economic activity in the area. It became evident that small-holders are looking for alternative forms of agricultural production in order to preserve the native vegetation. Everyone showed great concern at the indiscriminate plundering of timber from the caatinga. Other seminars have been organised in the region by STR's and local Associations.

This year support for the pilot experiment on forage plant management will include the publication of a newsletter, folders and a report. In July, IDT/APNE funded the Second Local Diversity Seminar. By continuing to make available information on the sustainable use and management of native forage plants, the IDT project is, in the long term, contributing to improvements in the quality of life of low income rural communities in Northeast Brazil.

Contact Marcelino Lima, IDT/AS-PTA
mslima@umbuzeiro.cnips.org.br

Caesalpinia pyramidalis (catingueira), a species selected for the fuelwood project



Photo: Peter Gasson

Strategic Workshop for APNE and Plantas do Nordeste Programme

The PNE Association (APNE) and its major partner organizations held a 3-day Strategic Workshop on 27-29 May 2002, in Aldeia, Pernambuco State.

The overall objective of the workshop was to define a strategic plan for the APNE Association and Plantas do Nordeste Programme over the next five years – until 2007. Specific objectives for APNE were: (a) to redefine a shared vision of the PNE Association and its mission, (b) to establish clearly the objectives of the PNE Programme and its component subprogrammes, (c) to agree on the areas of activity requiring most priority and on what their respective work programmes should be (d) to clarify the respective roles of the institutional partners involved in the PNE Programme, especially that of the PNE Association itself, and (e) to agree a strategy for fundraising to make APNE and its plant information centre (CNIP) sustainable in the medium to long term.

The first day's deliberations began with three presentations by Profa Dra Ana Maria Giulietti (APNE President), Dr Simon Mayo (leader of the delegation from RBG Kew), and Sra Maria Lucilene Araújo Barros Velo (leader of the CNPq delegation). Over the following days a series of structured discussions, alternating full plenary sessions with small groups, took place, guided by a moderator, Sr Cícero José Tomaz. Progress was made on a number of issues of common concern. In particular, the exact structure of the activities of APNE, especially in relation to the original PNE Programme, was finally clarified: the PNE Programme should be clearly defined as the activities which link RBG Kew, APNE and CNPq together in a Bilateral Programme of International Cooperation, while other more autonomous APNE activities should be represented by different programmes, for example, the Millennium Institute Project (funded by Brazil's MCT), the PROBIO-Chapada Diamantina project and the Ecoregions project being carried out in collaboration with TNC.

Another concern was how to find ways of ensuring the long-term sustainability of APNE and CNIP. It was recognized that the infrastructural requirements of both organizations would be better addressed if specific funding for organizational strengthening could be found. To this end, it was agreed to form a new consultative committee, designed to attract the participation of stakeholder representatives from the wider society of NE Brazil and hence be better able to develop an effective long-term fundraising strategy.

The participants included representatives of the following organizations and teams : members of the Board and staff of APNE and CNIP, CNPq (including Members of the Special Committee for PNE), RBG Kew, and representatives of UFPE, UFRPE, UFPB, IPA, CRIA and the Fundação Botânica Margaret Mee. A detailed report of the proceedings will be published in due course.

Dr Simon Mayo RBG Kew

Contact: Frans Pareyn, APNE
pne@netpe.com.br

The APNE strategic workshop was funded by CNPq and RBG Kew.

SUSTAINABLE MANAGEMENT of Caatinga Fuelwood Trees

UPDATE

As reported in the previous issue of the PNE Newsletter, the Fuel Wood Project aims to establish sustainable management practices for some of the native caatinga trees used for firewood by rural people. It is expected that this project will help to determine, at the end of a five year period, which of a series of cropping techniques (coppicing, pollarding or crown-thinning) gives optimum, sustainable returns of wood suitable for firewood and charcoal production. This involves a controlled study of the application of these techniques to selected native tree species known to be preferred by local people.

Following the selection in April 2001 of two sites located at Serra Talhada and Sertânia/Caroalina, Pernambuco State, four wood species commonly used locally for firewood were selected as suitable for study: *Caesalpinia pyramidalis* (catingueira), *Croton sonderianus* (marmeleiro), *Mimosa tenuiflora* (jurema preta) and *Mimosa* sp. (jurema de imbirá). The cropping experiment was planned using 480 trees per species at each site. The intensive work of selecting and marking the trees in the field by the Brazil team followed, with a total of 5280 trees being processed at the selected sites. Cropping and systematic data gathering started in March 2002 with the arrival of the UK team in Brazil. An average of 56 trees were treated each day. All the information gathered in the field (type of treatment, trunk circumference at

base and breast height, tree height, crown diameter, etc.) was carefully recorded and is now being entered into a database.

An encouraging level of involvement with local academic institutions was also achieved. Twenty students from local primary and secondary schools, various teachers from different disciplines within the AESA Faculty and forestry students from UFRPE all participated in the field work. This involvement provides practical environmental education and experience for students at all levels, to complement more formal theoretical work.

Another opportunity exists for the study of different methods of charcoal production in the Caroalina region (near IPA's Sertânia station), where the community depends commercially on the production of firewood and charcoal. A proposal has been put forward to AACC/RN seeking funding. Links between the Fuel Wood Project and IDT are being established to draw on IDT's previous experience with small-holder community work.

Lázaro Benedito da Silva from UFBA, Bahia will be carrying out analyses of the selected species as part of his PhD in wood anatomy. Project collaborators are APNE, in partnership with IPA and RBG Kew.

Amélia Baracat, RBG Kew

Contacts: Frans Pareyn, APNE (pne@netpe.com.br)

Dr Peter Gasson, RBG, Kew (p.gasson@rbgkew.org.uk)

Prof David Cutler (d.cutler@rbgkew.org.uk)

This project is being financed by the Clothworkers' Foundation, UK. Further funding support has also been provided, in the form of two scholarships, from CNPq, as well as co-ordination support, financial management and promotional aspects from Rio Tinto plc.



Photo: Peter Gasson

Cottage kiln built by Josivan Leonardo da Silva (Zaú) to test the calorific value of the species selected.



Photo: Amélia Baracat

Frans Pareyn, demonstrating the project to AESA faculty teachers

Ecoregional Planning of the Caatinga

APNE and The Nature Conservancy (TNC), held a three day seminar on Ecoregional Planning of the Caatinga in November 2001 in Aldeia, Pernambuco State. The objectives of the seminar were i) to divide the Caatinga biome into ecoregions¹ with geographical units suitable for planning authorities concerned with biodiversity conservation, ii) to carry out an analysis of the priority areas, as defined by PROBIO, in order to identify those where the first attempts at biome conservation should be focussed.

A group of 14 specialists from different states in Northeast Brazil, supported by technicians and a local moderator, drew on existing ecological and cartographic information (soil, climate, vegetation,

geomorphology etc) and their own knowledge and skills. As a result, a subdivision of the Caatinga into eight ecoregions was proposed – each with a description of its characteristics. New information will be added to this initial proposal by specialists. The proposal, together with an evaluation of the priority areas for conservation, is available on line at www.nature.org and – www.plantasdonordeste.org as well as through the publication "Ecorregiões do Bioma Caatinga – Resultados do Seminário de Planejamento Ecorregional da Caatinga".

Contact: Frans Pareyn (pne@netpe.com.br)

¹ An ecoregion is defined as a relatively large unit of land and water conditioned by a particular set of biotic and abiotic factors which regulate the structure and function of the natural communities which occur there.



Workshop at Irecê, Bahia to test the effectiveness of the field guides' language, descriptions and illustrations of the species selected.

BIODIVERSITY FIELD GUIDES FOR USE IN RURAL DEVELOPMENT: a collaboration between researchers, rural technicians and smallholders.

UPDATE

The Biodiversity Field Guide Project is producing a methods manual which will provide clear guidelines for authors writing field guides on plants, animals, vegetation or other aspects of biodiversity. The idea is to ensure that guides meet the requirements of the targeted audience: agriculturalists, academics, development and conservation agencies, etc. Two model field guides are being produced which reflect the experience of the target audiences gathered through community workshops. This information is being used in the production of the methodological manual. The project involves collaboration between research institutions, universities, NGOs and rural communities from Brazil, Bolívia and the United Kingdom.

One of the field guides, aimed at rural farmers and extension workers in rural communities, focuses on 21 species of caatinga forage legumes and will be launched in July. Detailed information – selected by agriculturalists and technicians working in rural communities – on the use and management of the most important forage species in the region is provided. The design of the guide, was chosen by end-user representatives.

Another, larger field guide for non-specialists, covering 250 species of caatinga legumes, will be published in November 2002. The work of collecting and preparing the guide has involved botanists, ecologists, environmental education technicians, ethnobotanists, zoologists, conservationists, agronomists, foresters, etc.

It is hoped that the production of these guides together with the methodological manual will accelerate the production of useful identification tools to bridge the gap in biodiversity knowledge in the tropics.

Contacts: Frans Pareyn (pne@netpe.com.br)
Maria Theresa Sopenna Stradmann (sasopguas@uol.com.br)
Teonildes Sacramento Nunes (teo@uefs.br)
Jorge Antonio Silva Costa (jascosta@hotmail.com)
Dr Luciano Paganucci Queiroz (lqueiroz@uefs.br)
Dr Anna Lawrence (anna.lawrence@eci.ox.ac.uk)

This project is being financed by DfID's Forestry Research Programme, UK. Participating institutions are: APNE, SASOP, UEFS and the University of Oxford, with support from RBG, Kew.

EDUCATIONAL GAMES: Interactive tools for knowledge about plants.

One of the main activities of CNIP is to systematically collect information about plants from northeast Brazil that are important for communities. To make this information available in a more attractive form to children and adolescents, two games have been created: a memory and a card game. The aim is to make known to the target audience some of the plants most commonly used by the community in Northeast Brazil – emphasis was given to the image and name of each plant. The card game, for example, is designed to give some specific information about each plant species such as its growth habitat, ecology or geographic location and uses. This work was supported by the British Council and was exhibited at the British & Brazilian Science Forum and Science Education Youth Fair.

It is hoped that this initiative will provide students and science and biology teachers with an interactive and educational working tool in the vast field of plant utilization and application of botanical science. Thirty seven of the most important plants for the communities of the Northeast were selected for the games and some widely used non-native plants found in the region were also included.

The games are currently being used by primary teachers in the private and public education sector and also at the Science Forums. It is also expected that once an evaluation of the effectiveness of these games has been carried out by the education sector, a manual will be produced demonstrating the many varied ways the games could be employed.

Contacts: Cíntia Gamarra-Rojas
cintia@umbuzeiro.cnip.org.br

Lúcia Helena Vieira da Cruz, APNE
pne@netpe.com.br

This work was supported by The British Council

Educational games for youth and children with specific information about plants used by the community in NE Brazil



Photo: Andrew McRobb

BIODIVERSITY IDENTIFICATION COURSE: training professionals in Northeast Brazil

The Botany Department at UFPE and APNE organized a postgraduate course on biodiversity identification at the UFPE campus in Recife last February. The course title was "Biodiversity Identification: methods and diagnostic information" and it was prepared and given by Dr Bob Allkin, a specialist in definition and selection descriptors for the identification of biological material, and Dr Mara Tissot-Squalli, a specialist in Natural Science and Profa at the Regional Northwest University of Rio Grande do Sul.

For ten days 15 professionals from the Northeast region of Brazil – biologists, ecologists, foresters, agronomists – learnt how to identify biological organisms and to prepare identification manuals using specific software to produce interactive keys. Francisco Machado, agronomist at EMBRAPA, (Piauí State) and APNE grant holder with the IDT project, explained that the course was very useful and directly applicable to his taxonomic work. "While learning basic skills in data base formation and in the production of documentation and publications, we were able to try out identification systems and to improve our understanding of related issues", says Francisco.

The course provided ample discussion sessions, as well as hands-on experience in using computer-based and other identification tools, e.g. from guides for children and youngsters to more complex software models.

Cláudia Lima, IDT project

Contacts: pne@netpe.com.br – cnip@cnip.org.br

FURTHER SUPPORT FROM CNPq to provide research and training grants was approved in September 2001

CNPq signed an agreement with APNE last September to provide research and training grants of R\$ 300.000,00 to the PNE Programme. The agreement establishes CNPq's support for the international cooperation projects within the Programme. These are distributed as follows:

Biodiversity

(i) PATAX (7 scholarships)

(ii) Flora of Bahia Project (5 scholarships);

Economic Botany

(i) Fuelwood Project (3 scholarships);

SIDT:

(i) IDT project (9 scholarships) and

(ii) Field Guide project (1 scholarship).

A total of 25 scholarships were approved, with 17 implemented since 1 November 2001 and five to be implemented at a later stage. Opposite is a list of the scholarships currently running:

CNPq has also approved R\$ 30.000,00 for strategic planning and evaluation of the Programme. Scholarship holders will submit a report every two months to APNE and a general evaluation will take place after six months.

Contact: Frans Pareyn – pne@netpe.com.br



Photo: Vinicius Lubambo

Students gathering information about plants at the Documentation Centre in Recife, Pernambuco State

Centre for Plant Information (CNIP) Northeast Brazil

CNIP is one of PNE Programme's most important achievements to date. It is located in the Botany Department of UFPE as part of the university's Biological Sciences Centre. It includes databases on plant species of NE Brazil and their uses, and works with a network of NGOs to define the information needs of low income rural communities in relation to native plants. A documentation centre (CEDOC) also forms part of CNIP's resources and is located in the Biological Sciences Centre's Library. Information about other services provided, including the Documentation Centre, are on line at www.cnip.org.br

Sub	Project	Scholarship Holder	Type	Subject of Research
SBIO	PATAX	Maria Bernadete Costa e Silva	DTI	Poaceae study
		Maria de Fatima Cavalcanti da Silva	ITI	Asteraceae
		Wegliane Campelo da Silva	ITI	Poaceae study
		Renata Maria Guerra de Andrade	ITI	Genus Echinochloa and Erochloa
FLORA DA BAHIA		Élvia Rodrigues de Souza	DTI	Mimosoideae – Bahia
		Vitor Cavalcanti Carvalho	ITI	Genus Calea – Bahia
		Daiane Trabuco Cruz	ITI	Genus Cattleya – Bahia
SBE	FUELWOOD PROJECT	Vanda Lucia Arcanjo Pereira	DTI	Supervisor Sertania
		Christiane Torres	DTI	Supervisor Recife – Serra Talhada
SIDT	IDT	Sidclay Cordeiro Pereira	DTI	Top Ten project
		Veralucia Santos Barbosa	DTI	Bibliographic resources
		Francisco Araujo Machado	DTI	Forage plants
		Alcioli Galdino dos Santos Jr.	ITI	Use of woody plants
		Alissandra Trajano Nunes Florent	ITI	Ethnobotany
		Gustavo Marques Borges	ITI	Herbarium computerization
	FIELD GUIDE	Jorge Antonio Silva Costa	DTI	Leguminosae identification
	Anderson Santos Carneiro	ITI	Leguminosae in Casa Nova – Bahia	



Several species of *Paepalanthus* (Eriocaulaceae) are used as ornamental cut flowers, locally known as 'Sempre-vivas'

Abbreviations used

AACC/RN	Association for Community Support in Campo, Rio Grande do Norte
AESA	Faculty of Arcoverde (Autarquia de Ensino), Pernambuco State
APNE	NGO Plantas do Nordeste Association
AS-PTA	an NGO working in alternative agriculture and rural development
BAT	British American Tobacco
Caatinga	Predominant type of vegetation in the semi-arid areas of NE Brazil
CBD	Convention on Biological Diversity
CEPEC	Cacau Research Centre
CNIP	Northeast Centre for Plant Information
CNPq	Brazilian National Council for Scientific and Technological Development
CRIA	Reference Centre for Environmental Information
DFID	The UK's Department for International Development
EMBRAPA	Brazilian Research Institute for Agriculture and Stock-Raising
GOs	Government Organizations
IDT	Information, Dissemination and Training project
IMSEAR	Semi-Arid Millennium Institute: Biodiversity, Bioprospect and Conservation of the Natural Resources
IPA	Institute for Agronomic Research, Pernambuco State
MCT	Ministry for Science and Technology, Brazil
NGOs	Non Governmental Organizations
PATAX	Taxonomic Support Project
PNE	Programa Plantas do Nordeste
PRA	Participatory Rural Appraisal
PROBIO	Conservation and Sustainable Utilization of Brazilian Biological Diversity
RBG KEW	Royal Botanic Gardens, Kew, UK
SASOP	an NGO providing consultancy work and support to community projects
SBCI	Brazilian Society for English Culture
STR	Workers Syndicate
TNC	Nature Conservancy, Brazil
UEFS	State University of Feira de Santana, Bahia
UFBA	Federal University of Bahia
UFPB	Federal University of Paraíba
UFPE	Federal University of Pernambuco
UFRPE	Federal Rural University of Pernambuco

The Association Plantas do Nordeste (APNE)

is an NGO founded in 1994 to manage the PNE Programme – a Bilateral Programme of International Cooperation linking RBG Kew, APNE and CNPq. Current projects within PNE Programme are: IDT, Fuelwood, PATAX, Guias de Campo and Flora da Bahia.

Other APNE Programmes are: IMSEAR, REDE DE SEMENTES, PROBIO/CHAPADA DIAMANTINA and ECOREGIONS (TNC).

APNE's mission is to increase the knowledge and understanding of the native plants of Northeastern Brazil, so to as enable better environmental management through conservation and sustainable use of the vegetation and thereby contributing to the quality of life of the local people.

APNE has three main areas of activity: Research, Training and Capacity Building, and Information Dissemination. The research consists of three major topics: Biodiversity & Conservation, Ecosystem Management & Economic Botany, and Plant Information.

APNE is run by a General Assembly and a Board whose main responsibility is to establish the objectives and direction for APNE. The current President is Dr Ana Maria Giulietti (amg@uefs.br) and the Vice- President is David Hassett (Director SBCI, Santa Catarina and Rio Grande do Norte States) (david@digicom.br).

APNE raises funds independently to support its activities and receives support from CNPq, the British Government, RBG Kew, private organizations and individuals. The General Coordinator and Executive Director is Frans Pareyn.

Associação Plantas do Nordeste (APNE), Av. Gen San Martín, 1371, IPA Bloco 7, Bonji 50761-000 Recife, PE, Brasil
Tel/fax: 00 55 (0) 81 3446 1486
mail: (pne@netpe.com.br)
Website: www.plantasdonordeste.org