



Edited by: Vanessa Sequeira, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AE, England.

What is PNE?

Plantas do Nordeste (PNE) is a collaborative research programme between the Royal Botanic Gardens, Kew and a number of academic, governmental and non-governmental institutes in Northeast Brazil. PNE is working towards the preservation of biodiversity and the sustainable use of native plant resources for the benefit of local people in Northeast Brazil.

PNE consists of three interlinked Subprogrammes: the Biodiversity, the Economic Botany and the Plant Information Subprogrammes. The Biodiversity and Economic Botany Subprogrammes undertake research on the plants of Northeast Brazil, whilst the Plant Information Subprogramme collects and disseminates the resulting information so that it may be used effectively by those aiming to improve the region's environment.

PNE raises funds independently to support its activities.

PhD at Kew

The following two PhD titles (unfunded) are still available, and may be of interest to Brazilian plant taxonomists and phytochemists. For information please direct enquiries to **Dr. Brian Schrire**, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AE, UK.

◆ *Taxonomy and Evolutionary relationships of the genus *Hypenia*: Hyptidinae (Labiatae).*

◆ *Biological and taxonomic significance of terpenoids and flavonoids in Ocimeae (Labiatae).*

News News

Chapada Diamantina project funded

The Rufford Foundation has donated £159,000 to fund a component project of the Biodiversity Subprogramme. The 3-year project, entitled 'Floristic Diversity and Plant Distribution in the Central Bahian Mountains', will be carrying out detailed botanical inventories of high diversity sites in the Chapada Diamantina highlands (state of Bahia).

This work builds upon more than a decade of research carried out by scientists at Kew in collaboration with Brazilian scientists. It has operated mainly on Kew core funding, with Brazilian infrastructural support and small independent grants.

The funding provided by the Rufford Foundation will enable greater participation from institutions in the Northeast than was possible before. Infrastructural support and training at the Botany Department of the Federal University of Bahia (UFBA) is an essential element of the project, and will play an important role in the development of biodiversity studies in the State.

● The Rufford Foundation has also donated £10,000 for purchase the CD-ROM version of Index Kewensis and the computer equipment on which to run it for the PNE Botanical Information Centre in Recife, Pernambuco.

Biodiversity Workshop and PNE Meeting

A two-day PNE Biodiversity Workshop was held in Teresina in September for all PNE collaborators involved with the Biodiversity Subprogramme. The Workshop participants worked towards establishing the standard procedures for collecting plant material and data in the field, and also the biodiversity descriptors for the use within the PNE databases. Future priorities and objectives of the Biodiversity Subprogramme were set.

At the PNE International Committee meeting, held immediately after the Workshop, crucial issues to the development of PNE were discussed such as the establishment of an Association, structural and financial changes, and general directional lines for the three sub-programmes.

Bursary Awarded to PNE Participant

Ms. Rosângela Lyra Lemos, who is working with Dr. Sant'Ana on the PNE project "Medicinal Plants of the State of Alagoas", was awarded one of two bursaries given by the Ciba Foundation. The bursary will enable Rosângela to attend the symposium "Ethnobotany and the Search for New Drugs" held in Fortaleza (Ceará) in December this year, and will subsequently finance her 12 week study visit to the Royal Botanic Gardens, Kew in January 1994.

Visitors Visitors

To Brazil

● Prof. Ghilleen Prance (director of the Royal Botanic Gardens, Kew) is chairing the symposium "Ethnobotany and the Search for New Drugs" which is being held in Fortaleza between the 29th of November and the 2nd of December.

● Karen Pipe-Wolferstan, the PNE UK-based manager, is in Brazil from September to November, visiting the current projects and strengthening contacts for PNE. Dr. Bob Allkin is setting up the project databases also until mid-November.

To Kew & PNE

● **Fernanda Ribeiro** - Projects Officer, British Council, Brasília; **Aluizio Bezerra** - Senator for Acre State; **Prof. Arne** - Director of Terrestrial and Freshwater Sciences, NERC; **Profa. Dra. Alaide Braga de Oliveira** - Pharmacy College, UFMG, Belo Horizonte, Minas Gerais; **Dr. Afrânio Fernandes** - Botany Department, Federal University of Ceará (Nov. - Dec.).

Calls are being made for all comments on this publication and contributions relevant to botanical research in NE Brazil to enhance future issues of the PNE Newsletter. Please direct all correspondence to the editor.

Native *caatinga* plants as fodder

Dr. Ambrósio Araújo Filho is currently one year into a three-year study of the forage potential of 18 native woody species as part of PNE's Economic Botany Sub-programme.

Dr. Araújo Filho, a researcher at the National Goat Research Centre (CNPQ/EMBRAPA) in Sobral, interior of Ceará, is an authority in sustainable rangeland management of the semi-arid *caatinga* to benefit livestock production.

Recent studies have revealed that, despite the major deterioration of the native vegetation, there still exists a great potential for livestock production in the *caatinga* if properly managed, and also that many native woody species could satisfy the entire nutritional needs of domestic ruminants over the year.



Dr. Ray Harley (RBG-Kew) notes down the names of plant species investigated by Dr. Ambrósio Filho for forage potential.

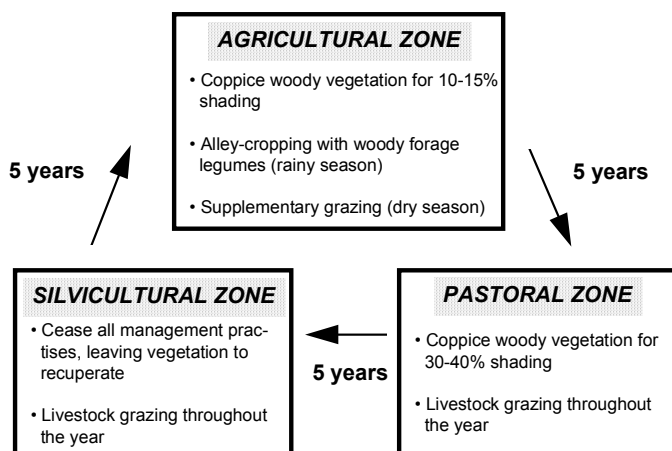
Dr. Araújo Filho is investigating the nutritional value of the 18 selected species and how these values vary over the period of a year. The most valuable species will be integrated into livestock

management strategies, bettering production as well as protecting the environment.

Until the 19th century, Northeast Brazil (particularly the state of Ceará) was a net exporter of animal products. However, the native pastureland in semi-arid *caatinga* vegetation of Northeast Brazil has been continuously mismanaged by overstocking European colonization. This, coupled with periodic severe drought, has resulted in a sharp decline in livestock production, and also a gradual ecological degradation, drastically altering the floristic composition of the native vegetation and causing the disappearance of many species with economic value.

Alternative Land Use System for the Brazilian Semi-arid

The National Goat Research Centre (CNPQ) is developing an effective 15 year rotation cycle for use by subsistence farmers in the semi-arid *caatinga*. The system is being tested at the Centre and is now being implemented on eight farmer's smallholdings of 10 hectares.



The system consists of dividing a plot of land into three areas and rotating the land use practice on each plot every five years (see diagram above).

A range of native shrubs, mostly Leguminosae for their nitrogen-fixing properties, are being used for alley-cropping within the 'agricultural zone'. The purpose of these shrubs is to shade the crops, serve as forage for domestic ruminants, fix nitrogen in the soil (some legumes), and contribute to the organic matter content in the soil.

Sowing the seeds for the better use of the land.

The Centre estimates that only one third of the area of *caatinga* is required to achieve the same yield using the alley-cropping method as is required using traditional methods.

For more information contact: Dr. J. Ambrósio Araújo Filho, Centro Nacional de Pesquisa de Caprinos, EMBRAPA, Estrada Sobral - Groaíras Km 4, Caixa Postal D-10, 62.100 - Sobral - Ceará, Brasil.