



Caribbean Chapter of the Society for Economic Botany Newsletter

PLANTS AND HERITAGE

Annual SEB Meeting Missouri July 9-13, 2011

The Annual Meeting of the Society for Economic Botany is being held this year in St. Louis, Missouri, USA. The meeting is a joint effort of the SEB and the American Fern Society (AFS), the American Society of Plant Taxonomists (ASPT) and the Botanical Society of America (BSA). Details on registration fees, accommodation and schedules can be obtained from the website

<http://www.2011.botanyconference.org/Info>

The meeting is headlined as **Botany 2011** and has the theme of *Healing the Planet*. Many interesting symposia are scheduled with distinguished invited speakers in the fields of Botany and Ethnobotany.

A sampling of symposia include, Biocultural Collections: Developing Standards for Curation and Use, Advances in Plant Systematics

and Population Genomics: Advances in Next Generation Techniques, Healing the Planet: The Legacy of Richard E. Schultes, 70 years after Schultes: Economic Botany from the Andes to the Amazon, Education Sharing our Ethnobotany Curriculum: The Open Science Approach.

A number of free workshops, with registration, will also be available including Plants, People and Pictures, Preparing Digital Images for Publication, Sustainable Teaching and Successful Manuscript Preparation and Publication.

St. Louis can be explored via a number of planned field trips such as the Missouri Botanical Garden Tour, Shaw Nature Reserve, Economic Botany Tour of St. Louis City and Tyson Research Centre. Tours can be selected on registration at the website. All tours have an associated fee.



SEB flyer 2011 Annual Meeting

The Distinguished Economic Botanist, 2011, is Professor Nancy Turner considered as Canada's foremost Ethnobotanist and a world-class anthropologist who has assiduously researched and documented indigenous cultures.

Planning a Caribbean Ethnobotanists Meeting

The Caribbean Chapter of the Society for Economic Botany, CCSEB, was launched at the 2010 meeting of the SEB in Xalapa, Mexico. A membership drive is now in progress to work towards a meeting of the CCSEB.

This meeting is essential to establish committees which will work towards advancing the objectives of the CCSEB.

New members are asked to register at the official website of the SEB. Details on new membership are provided

with the associated fee structure. http://www.econbot.org/_welcome_/to_seb.php

An email expressing interest in the Caribbean meeting should also be sent to seb.caribchap2010@gmail.com

Volume 1 Issue 2

April 30th, 2011

Special points of interest:

- Students explore plants as natural dye sources
- Robert W. Nicholls
- CaHMRI Research Institute
- The National Science Council Database of Barbadian Medicinal Plants
- The Environmental Awareness Group

Inside this issue:

Message from the Caribbean Chapter President	2
Meet an emerging Caribbean scientist	2
Paying the painkiller	3
The work of the EAG	3
Big Trees of the USVI	4
Medicinal Plants as dye sources	5
MAPS workshop in Barbados	6

Contributing to the Protection of our Plant Biodiversity Hotspot

The Caribbean is regarded as a hotspot of plant biodiversity which is in need of a paradigm shift amongst its peoples to reconnect with the diverse value of the plant biomass and the importance to the development of the tropical region.

Ethnobotanists are especially attuned to the inter-relationship between plants and people and the rich heritage associated with plant usage. A culinary culture evolved and blossomed out of our recognition and exploration of plants as sources of food, the thriving fashion industry had its origins in the realization, by our ancestors, of an application for fibrous plant material and natural dye agents, the pharmaceutical industry acknowledges that the genesis of many of its products originated in the vibrant practice of traditional medicine embraced by peoples worldwide and documented in many pharmacopoeia, and early architectural technology relied, in part, on the structural integrated of nature's woody materials.

It is, therefore, imperative that the continued enrichment of the heritage of plant use be researched and documented, adding value to the biodiversity and thereby promoting vested interest in protective actions. In this issue of the newsletter focus is given some of those in the region who are working to protect the Caribbean heritage. You will be introduced to Robert Nicholls who published an important heritage book entitled '*Remarkable Big Trees in the U.S. Virgin Islands: An Eco-heritage Guide to Jumbie Trees and Other Trees of Cultural Interest*'. Robert hopes to enhance awareness in the younger generation with his works and publications.

Meet the Environmental Awareness Group of Antigua and Barbuda, who have been working tirelessly for the past 21 years promoting awareness of the importance of preserving the islands endemic and vulnerable flora and fauna. Read about paying the painkiller trees by Anthony Richards and Reginald Murphy, a votive offering tradition traced in Antigua. Be alerted of the CaHMRI Research Institute of The University of Trinidad and Tobago involved in the experimental validation of the oral tradition of herbal medicine in Trinidad and throughout the Caribbean region. Then there are the young scientists who are honing their skills and carrying on the search for the next important plant based discovery.

These are but a few of the important stories worth being told in the evolving collection of works contributing to the legacy of our forebears which was steeped in the understanding that we need to co-habit the Earth in harmony with other species.



Image: *Melocactus intortus* Red List of Vascular Plants of Antigua and Barbuda



President of the CCSEB
Sonia Peter

“Early architectural technology relied, in part, on the structural integrity of nature’s woody materials”

Meet an Emerging Caribbean Scientist: Cheryl Rock

Cheryl Rock is a young Barbadian scientist who graduated from the Barbados Community College in 2002 with an Associate Degree in Biology and Chemistry. She decided to continue her studies offshore by moving to the USA in 2004 to pursue a Bachelors Degree in Food Science and Technology, with a minor in chemistry, upon receiving a full academic scholarship at the Alabama Agricultural and Mechanical University.

In the year of 2007, Ms Rock entered the Masters program in Food Science at the

same campus, specializing in Nutritional Biochemistry and colon carcinogenesis. In the year 2009, she gained admission to the University of Florida to pursue a Ph.D. In food science, specializing in Food Process Engineering, with a focus on ultrasonics.

She has conducted research into the chemopreventative potential of apples, and the juice extract, against the development of chemically induced colon cancer and the effect of UV light on the antioxidant capacity of blueberries. Congrats Cheryl!



Ms Cheryl Rock with one of her posters.

Paying the Painkiller

Historical and orally transmitted traces of votive offerings of coins, pebbles, nails and thorns in exchange for leaves to treat pain have been unearthed by Drs Anthony Richards and Reginald Murphy of Antigua. According to the authors of the paper on this research, this is a tradition that has been documented in other regions including parts of Britain, Ireland and the Indian sub-continent.

Evidence of tokens was discovered at four out of five trees known to be sourced for painkiller leaves. Research showed that odd numbers of leaves were retrieved from the trees and used whole to band the

body for relief from fever, joint or muscular pain.

One of the four trees is *Barringtonia asiatica*, locally known in Antigua as the Sea Poison Tree, at which nails were found in the bark of the tree and modern and antique coins found in the bark and under the tree. *Ficus nymphaeifolia*, known as Banyan or Black Fig, presented with nails hammered into the bark and also showed scars of previously affixed nails. See image.

The researchers are continuing their exploration of this tradition and have, so far, gained evidence of similar offerings to trees in Dominica and Guyana.



Environmental Awareness Action Group of Antigua and Barbuda

The Environmental Awareness Action group of Antigua and Barbuda is a non-governmental, non-profit organization with the focus of preserving and promoting awareness of the importance of the endemic vulnerable flora and fauna of the islands.

To this end, the group has initiated a number of projects including the Plant Conservation Project, **PCP**.

This project was fueled by the heightened concern for indigenous plants which were perceived to be under stress from invasive species, development and poor animal husbandry. Activities were launched in 2007 with funding from the United States Agency for International Development Caribbean Open Trade Support Programme (USAID/COTS) and assistance from the University of the West Indies, UWI. It was thought necessary to document, by quality imagery, plants that were becoming rare on the islands so that the public would have a reference guide and assist in the conservation efforts.

Extensive field surveys were conducted that led to the publication of the 'Red List of Vascular Plants of Antigua and Barbuda'

edited by C. Pratt and K. Lindsay, a 400 page field guide to the plants of the islands, a publicly available database and a detailed analysis of threatened species and ecosystems. This important body of work has armed the EAG with the evidence to support the lobby for conservation at the level of the policy makers.

The EAG is also involved in other projects including the Caribbean Waterbird Census, CWC, and the Offshore Islands Conservation Programme, OICP. By these efforts the EAG continues to inform policy makers, and educate locals and visitors about the natural resources of Antigua and Barbuda and generally heighten awareness.

Regular activities are offered in their awareness programme including kayaking, hiking, cycling, birdwatching, and coastal cleanups. Persons interested in following the work of the EAG can visit their website www.eagantigua.org, or by visiting their Facebook page: Environmental Awareness Group.

Following are images of two of the plants on the 'Red List'.



Top image: Red birch (*Myrcianthes fragrans*), Bottom image: Lignum Vitae (*Guaiacum officinale*)

Remarkable Big Trees in the U.S. Virgin Islands: Robert W. Nicholls

This fascinating text was the culmination of a project that was conceptualized by Dr. Robert Nicholls with the main objective of creating a database on the great trees of USVI and the linkages to the culture of the islands. The project and book were sponsored by the University of the Virgin Islands and the Urban and Community Forestry Assistance Program, Department of Agriculture.

Robert traces the value of the great trees, such as the Silk Cotton tree (top right image), from the time of Amerindian occupation of the islands through to colonial periods. He examines the impact of development and natural disasters on the tree stock and describes the folklore value including the relevance of Meeting Place Trees, Grave Marker Trees, Jumbie trees, Spirit Trees and Tree shrines. Following is a brief biosketch on Robert.

Robert Nicholls has been a faculty member of the University of the Virgin Islands since 1993 and is currently tenured as an Associate Professor in the College of Liberal Arts and Social Sciences. Born and raised in Forty Hill, a rural corner of the London Borough of Enfield, U.K., throughout his academic career Nicholls has explored cultural history primarily within eclectic studies of the African Diaspora.

His first degree was in Art at London's Central School, then an M.Ed., and a Ph.D. in "African Studies" at Howard University in Washington DC. Nicholls was faculty at Ahmadu Bello University in Nigeria for several years and conducted research on the expressive culture of the Iggede people, including music, masquerading, and the role of trees in social and spiritual processes. He published articles on Iggede culture and produced a CD of traditional Iggede music, *The Iggede of Nigeria* (Music of the World, CDT 117).

Since arriving in the VI, Nicholls has explored similarities between West African and West Indian culture, both in masquerading and in tree lore and has published on these topics (for e.g. "The Mocko Jumbie of the U.S. Virgin Islands: Sources and Antecedents." *African Arts*. 32(3):48-61 1999). Sponsored by UVI and funded by the Urban and Community Forestry Programme of VI's Dept of Agriculture, he directed a research project that led to the publication of the book *Remarkable Big Trees in the U.S. Virgin Islands: An Eco-heritage Guide to Jumbie Trees and Other Trees of Cultural Interest* (2006 UVI) simultaneously launching the VI Register of (165) Big Trees, logged according to the American Forestry society point system.

The book contains eco-heritage tours of the three islands with tree locations noted by GPS coordinates. Traditional remedies derived from local trees appear in his article "Medicinal Trees of the U.S. Virgin Islands and Neighboring Islands" that was published in *HerbalGram: The Journal of the American Botanical Council* (2009, Vol. 81, 32-43), which shows how cures in the form of gargles, poultices, compresses, teas, inhalants, and lotions were prepared from the roots, leaves, flowers, seeds, fruit, resin, and bark of local trees.

In T. Edward Nickens' article, Nicholls' project is characterized as saving trees by preserving the folklore that explains them ("Saving the Spirit Trees," *American Forests*. Vol. 109, No. 2: 34-39, 2003). Robert Nicholls intends for the project to heighten public awareness and respect for local trees and how they were used by the forebears, which enhances conservation, especially among the younger generations who will eventually become the custodians of island trees.

Copies of Nicholls *Remarkable Big Trees* book can be obtained by contacting rnicholl@uvi.edu.



'Since arriving in the VI, Nicholls has explored similarities between West African and West Indian culture, both in masquerading and in tree lore.'



Silk Cotton tree, *Ceiba pentandra*, base converted into a shrine, similar to those seen in the Iggede communities of Nigeria.

Medicinal Plants as Sources of Natural Dyes for Fabric



Sorrel Dye

Students at the Barbados Community College, Department of Chemistry have been experimenting with plants of medicinal value for sources of natural dyes. A number of plants, found useful on the island and in the Caribbean for a number of ailments, were selected and seeds, leaves and bark collected for extraction.

The extracted dyes were tested on a variety of natural fibres including cottons, linen and silk. Sea Island Cotton, grown in Barbados, was given special consideration as it is known to produce a fibre of high



Turmeric Dye

quality. The fastness of the dyes was also analysed before and after fixing with mordants such as vinegar.

Three of the plants used included Sorrel, *Hibiscus sabdariffa*, Turmeric, *Cucurma longa* and Annatto, *Bixa orellana*. The images above display some of the results of the testing of the dyes with fabric made from the natural fibres.

The Department of Chemistry is collaborating with the Barbados Fashion Alliance in this project which is entitled 'Mood Indigo Caribbean' and funded by the UNDP/



Annatto Dye

SPG/GEF Unit.



Plant dye extracts with fabric

CaHMRI Research Institute of Trinidad and Tobago

The Caribbean Herbal Medicine Research Institute, University of Trinidad and Tobago, was established in 2008 under the aegis of the Trinidad and Tobago Health Sciences Initiative. The institute is working to fill the void of validation of efficacy and toxicity profiles in the study of Caribbean herbal remedies.

Currently, CaHMRI is collaborating with Johns Hopkins Medicine International, Baltimore, USA in trials for the treatment of

hypertension. This is a significant step in contributing to the knowledge base of herbal medicine in the Caribbean and, will resolve the issues of method of application of the therapy, dosage and frequency of dosage which prove to be limiting in the oral tradition and practice.

The Research Institute is also engaging professional in the health care sector, and the general public, in seminars and workshops to heighten awareness of the stan-

dards involved in the use of indigenous botanicals in herbal medicine.

The establishment of CaHMRI is timely for the region which is experiencing stress on plant stocks, due to development, and in dire need of added value to inform conservation efforts of the species. The Caribbean Chapter of the Society for Economic Botany lauds CaHMRI on its initiative and wishes all success in advancing herbal medicine in the Caribbean and beyond.

PLANTS AND HERITAGE

Barbados Community College
Eyrie Campus
St. Michael
Barbados

Phone: 246-426-28-58
Fax: 246-429-5935
E-mail: speter@caribsurf.com



WORKSHOPS

A Medicinal and Aromatic Plants, MAPS, workshop is being held in Barbados, June 17th to 18th. The workshop will cover MAPS of Barbados, simple methods of essential oil extraction, suitable for small enterprises, and standards for handling plant material in product development.

A second workshop is planned for a later date, targeting persons in the first workshop who may be interested in more advanced methods of plant extraction and more in depth exposure to standards and analytical methods.

The workshops are being organized by the National Council for Science and Technology MEDPLANTS Project and will be facilitated by Dr. Sonia Peter and Ms Julia Coppin. Interested persons may contact Dr. Peter by email at seb.caribchap2010@gmail.com for further details.

NCST Database of Barbadian Medicinal Plants

The National Council for Science and Technology, Barbados, funded a project to survey the island and document the plants used in the rural communities in traditional practice.

The database lists over 90 plants used for medicine, as spices, for perfumery, as pesticides and craft. The database can be searched by application or by the common and scientific names of the plants.

The uses are divided into medicinal and non-medicinal and the multipurpose applications are listed for each plant. In addition, for each application the part of the plant that is used is listed along with the method of usage. Information on frequency of usage is limited as participants in the survey varied significantly in their responses to that parameter of the prac-

tice. Following is an extract from the database for the most commonly identified plant found to be useful for myriad ailments.

Common name: Aloes

Scientific name: *Aloe vera*

Use: Influenza, common cold

Part of plant: Gel

Method of usage: Blend with juice and
drink on mornings

Other uses: burns, cleansing, purging

Top right: *Cordia curassavica*, used as a detoxing agent in the form of a tea from leaves

Bottom right: *Thespesia populnea*, used for influenza as a tea from leaves.

