

Joint Symposia

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The Ethnobiology of Jamaica, Dominican Republic and New York: Similarities and Differences. INA VANDEBROEK¹ and S. A. Mitchell². ¹The New York Botanical Garden, 2900 Southern Boulevard, Bronx, NY, 10458 and ²Medicinal Plant Research Group, The Biotechnology Centre, University of the West Indies, JAMAICA. Email: ivandebroek@nybg.org, sylvia.mitchell@uwimona.edu.jm

The Caribbean Islands are a biodiversity hotspot. Plant species of these islands are popularly used by local communities for health and subsistence, especially in rural areas. A database of more than 3,000 medicinal uses from previous ethnobotanical research in the Dominican Republic represents an ideal source for comparative studies with other Caribbean countries that share many plants with the Dominican Republic, such as Jamaica (1,225 shared plant species). Furthermore, we were interested to find out what happens to cultural knowledge about medicinal plants when Caribbean people migrate to New York City. In Jamaica, the lush, biodiversity-rich farming parish of Portland represented an ideal site for ethnobotanical fieldwork to make comparisons with rural Dominican Republic. In New York City, we interviewed first generation immigrants from the Dominican Republic and Jamaica for transnational comparisons. Our research hypotheses were: (1) medicinal plant knowledge held by rural Jamaicans about shared Jamaican-Dominican plant species will be significantly different between both countries because of their diverse cultural backgrounds; (2) Dominicans and Jamaicans living in New York City will have less knowledge about medicinal plants than their peers in the home countries because plant species will be less easily available. We tested these hypotheses through semi-structured and plant photo interviews of commonly known species to collect quantifiable ethnobotanical data, and comparison of cultural consensus values that calculate the variation in medicinal uses attributed to each plant. The results showed high consensus values for commonly known species within and between countries, pointing to shared medicinal plant knowledge. However, intercultural differences are evident in the prevalent uses attributed to many species. For example, *Crescentia cujete* has consensus values of 0.70 (Dominican Republic) and 0.92 (Jamaica). However,

in rural Dominican Republic it is used prevalently during and after childbirth, while in Jamaica it is popularly used to treat a hard blow to the back with battered blood. It is therefore important to combine quantitative techniques such as consensus analysis with qualitative assessments to make meaningful ethnobotanical comparisons. Transnational comparisons showed increased knowledge about food plants used as medicines by Dominicans living in New York City. Jamaican transnational photo interview data showed that common plant species like sinkle bible (*Aloe vera*), coconut (*Cocos nucifera*), fevergrass (*Cymbopogon citratus*), cerasee (*Momordica charantia*), castor oil (*Ricinus communis*) and ginger (*Zingiber officinalis*) retain their cultural importance as medicines after migration.

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Application of In Vitro Techniques for the Conservation and Sustainable Use of Endemic, Indigenous, & Native Ethnomedical Plants of the Caribbean. S. A. MITCHELL. The University of the West Indies, Mona Campus, Kingston, St. Andrew, JAMAICA. Email: sylvia.mitchell@uwimona.edu.jm

The Caribbean hot spot of biodiversity is a world treasure which is under-appreciated as a source of healing although much needed by the world. These medicinal plants are used for their healing value throughout the Caribbean and wherever Caribbean people have travelled. These plants are endemic (found only in their country of origin), indigenous (originally endemic but now can be found elsewhere), native (imported by the Arawaks) or introduced (imported by the Europeans, Africans, Asians and Chinese). Much remains to be learnt and shared but this biodiversity is being greatly threatened by development. The conservation, propagation and sustainable use of these plants therefore remains a matter of great concern in the Caribbean. Of greatest concern are the endemic plants like search-mi-heart (*Rytidophyllum tomentosum*) and Chainy root (*Smilax balbisiana*). Chainy root is a forest vine growing deep within the forest and its rhizomes are a major ingredient of Jamaican root tonics. However, this root tonic plant is increasingly hard to find in the forest as demand outstrips supply; its rhizomes are being reaped without replanting. Two varieties of *Smilax balbisiana* were found, producing red

and white rhizomes respectfully. In vitro micropropagation was successful using nodal explants (2-5 cm long) excised from young shoots taken straight from the forest. These were sterilized in 10% bleach for 10 minutes. The optimum micropropagation protocol was initiation on BM + 0.5 mg/L BAP, multiplication on BM + 0.5-1.0 mg/L BAP or 0.5 mg/L kinetin, and rooting on BM + 0.5 mg/L IBA. These micropropagated plantlets can now be replanted into the forest and a sustainable commercial industry developed. So far, the full use of in vitro methods requires a greater investment than is available in most island states. The potential of tissue culture (micropropagation and somatic embryogenesis) for the development of industries from these ethnomedicinal forest plants (coined ethnobiotechnology) will be discussed.

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Reconciling Different Worldviews: Biomedicine Versus Traditional Medicine. INA VANDEBROEK. The New York Botanical Garden, 2900 Southern Boulevard, Bronx, NY, 10458. Email: ivandebroek@nybg.org

Culture bound syndromes, culture specific disorders or folk illnesses are conditions restricted to particular cultures, although their distribution range may vary considerably. An example of a folk illness with a wide distribution range is “mal de ojo” (evil eye), which can be found throughout Latin America and in transnational Latino communities in the United States, but also in the Mediterranean. Some culture bound syndromes cause relatively minor health problems, while others can be life threatening. Often, there does not exist a one-to-one correlation with discrete biomedical diseases. Usually, sufferers have a personalistic explanation for these conditions, believing that they have a supernatural origin, as opposed to the western school of thought that now mostly relies on a naturalistic explanation of illness. Culture bound syndromes are most frequently treated with traditional healthcare, including herbal remedies, and spiritual or religious healing. There exists a rich medical anthropology literature on culture bound syndromes that characterizes these conditions as ethnopsychiatric syndromes with a psychosomatic basis. Other perspectives in medical anthropology and ethnomedicine have studied folk illnesses in relation to identity, gender roles and the human body, as well as the physical, social, political and economic environment of sufferers, sometimes depicting them as metaphors for people’s representation of the self or their (suboptimal) living conditions. On the other hand, medical anthropologists have shown that physiological symptoms of folk illnesses (distinct from the psychological and social components) are often well recognized by biomedical health care providers. Culture bound syndromes are linked to increased morbidity and mortality and thus worthy of biomedical attention. Although there exist clear social and psychological dimensions to these conditions, biomedicine can be used to

treat the physiological symptoms; sometimes even an etic (biomedical) diagnosis can be made. Furthermore, epidemiological studies have shown that, similar to discrete and well-recognized biomedical diseases, there exist epidemiological patterns in the distribution of culture bound syndromes according to gender, social group and age.

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An Update on Cannabis Legislation, Research, and Development in Jamaica and Its Relevance to the Region. S. A. MITCHELL. The Biotechnology Centre, University of the West Indies, Mona Campus, Kingston 7, St Andrew, JAMAICA. Email: sylvia.mitchell@uwimona.edu.jm

Cannabis sativa, an ethnomedicinal plant of Jamaica first introduced into the island by Indian indentured workers in the mid 1880's, was banned as a dangerous drug in 1913. There are, however, many Jamaican ethnorecipes using *C. sativa* to treat colds, flu, fever, asthma, vision improvement, nausea, arthritis, pain, stomach problems, diarrhoea, migraine headaches and joint pains. Internationally, ganja has been used to treat spinal cord injuries, multiple sclerosis, relieve migraine headaches, depression, seizures, insomnia and chronic pain. Two products (Amasol and Canasol) have been made from this plant by Lockart and West at the University of the West Indies for asthma and glaucoma respectively. The Jamaican government granted them official new drug certification in 1983 and 1990 respectively. Other drugs in the pipeline are Canavert for motion sickness and Cantimol also for glaucoma. “Drug”, as defined, includes cannabis, cannabis resin, extracts and tinctures of cannabis. Further research has been stymied by laws making possession of ganja plants unlawful. Recently, however, with the aid of research elucidating the potential of medical marijuana and industrial hemp, the legislation is changing. In 1977 a Joint Committee of Parliament reviewed ganja use and legislation. In 2001, the final report of the 'National Commission on Ganja' made several recommendations. In May 2014, UWI hosted the first Jamaica Cannabis Conference. On June 2nd 2014, Cabinet approved changes to the law related to ganja. And in 2015, activities speeded up: on February 24th 2015, the House of Representatives joined the Senate in passing the legislation and on March 31st, the governor general of Jamaica signed the Bill amending the Dangerous Drugs Act, making possession of two or less ounces of ganja a ticketable offence so it will no longer give rise to a criminal record. Smoking of ganja will not be permitted in places where smoking of tobacco is not allowed. Special provisions in the bill now permit the use of this plant for religious, medical and scientific purposes and will establish a Cannabis Licensing Authority. The bill will now be sent back to parliament to be gazetted. Once this process is completed, research and development on the use of this plant for medical purposes in Jamaica can resume.

Conquering Chaos in the Age of Networked Science: Organizing, Storing and Securing your Data. KATHRYN M. HOUK. San Diego State University, Library & Information Access, 5500 Campanile Drive, San Diego, CA. Email: khok@mail.sdsu.edu

Do you know where all of your data is stored, if it's still readable, and if it's up-to-date? Do you know what information a file contains without having to open it and look at it? Are you confident that your data cannot be accessed and

tampered with by people outside of your lab? If any of these questions made you nervous, learning more about proper file naming and organization, data storage, backup and security would be a good use of your time! Attend this activity-based, 2-hour workshop to network and engage with your colleagues over the struggle to maintain your research data. Working in small groups through example problems, we'll discuss best practices for day-to-day data management and storage. By the end of this interactive session you will have tools to help your lab better manage your data and a better understanding of storage and security measures you need to be considering to keep your data secure and up-to-date.