

2019 Frances Murray-Hudson

Curriculum Vitae

P.O. Box 1536 Maun Botswana Africa

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BACKGROUND

I have a BA Hons degree in 3-Dimensional design and worked with wood, metal, ceramics and plastics. On returning to Botswana, in the mid-1980s, I became self-employed as a professional artist and illustrator with my own business. Through making jewellery from found natural objects, I began to acquire botanical knowledge about Botswana's flora.

I worked in the field on the vegetation composition for Management Plans and Environmental Impact Assessments in Botswana, especially in the Kalahari Desert, with Environmental Services Botswana (ESB). This developed and expanded my ability to identify the flora of Botswana.

For the past ten years, I have been immersed in work on the flora of the Okavango Delta, through field work on the floodplains and with the collection of flora from northern Botswana housed at PSUB herbarium at the Okavango Research Institute, a part of the University of Botswana. I am currently working as Data Mobilization Project Assistant, preparing the legacy collection of herbarium sheets for digital scanning and entering data into the Botanical Record And Herbarium Management System (BRAHMS) a database which we have tailored for the specific needs of PSUB herbarium.

I am a British woman with Permanent residence status in Botswana and have a work permit exemption certificate. I am the Director of a Company and am married to Dr. Michael Murray-Hudson, a Botswana citizen and Wetland Ecologist. We are resident in Maun, Botswana.

TERTIARY EDUCATION

1984 BA Hons Degree in 3-Dimensional Design

Brighton Polytechnic, East Sussex, England

BOTANICAL WORK EXPERIENCE

2017 to 2019

- We have used the Sustainable Land Management Ngamiland (SLM Ngamiland) and Desert and Delta Safaris (DDS) funds I raised to install BRAHMS, the data management system used in southern African herbaria and at Kew in UK.
- I have organized BRAHMS training for PSUB staff (and for other Botswana herbaria staff) from the National Botanical Research Institute (NBRI) and WIND herbarium in Namibia.
- In preparation for data entry I have been working through the PSUB mounted collection, some 10 000 specimen sheets, ensuring that the information transcribed to each specimen accurately records all existing data. This process includes confirming information using the historical records, checking and updating determinations or identifications previously made of each species.
- This updating process uses several sources of reliable botanical data, the South African National Botanical Institute (SANBI) data as provided on their website 'New Posa' (Plants of Southern Africa) in conjunction with Kew's Flora Zambesiaca (FZ), 'The Plant List', CJB website and Plants of the World on Line (Kew).
- Duplicates of PSUB specimens held in other herbaria around the world have been located and their data has been extracted for import into PSUB's BRAHMS data base. For example, more than 600 duplicates of P.A. Smith specimens are held in Belgium at Botanic Garden Meise (BR) herbarium. We pull our own specimens, and annotate them to reflect the duplicate, ensure that all the available information is on the label of the specimen. These that do not already have digital images are set aside for digital scanning. The data from the duplicates will be imported into PSUB's BRAHMS.
- Attended 2nd Botswana Biodiversity Symposium, February 2018 in Maun. Theme was 'Biodiversity management. A strategy for sustainable development and Climate Change Adaptation and Management'. We held PSUB Herbarium open for them.
- In 2017 funding was secured from SLM Ngamiland (a GEF, UNDP and GoB funded project). I also secured matching funds from the private sector tourism business, Desert and Delta Safaris (DDS), a subsidiary of Chobe Holdings Pty Ltd. DDS have pledged ongoing financial support to the PSUB project.

2009 to 2016

- In 2016, I wrote funding proposals for the Digitization of PSUB's legacy collection of plants which comprehensively represent the flora of the Okavango Delta and northern Botswana.
- Attended the 2016 Botswana Biodiversity Symposium held at CICE a part of the Botswana College of Agriculture in Gaborone. Theme was 'Knowing what you have... key to sustainable biological heritage.'

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- Attended the XXth AETFAT Congress in 2014 at Stellenbosch university, South Africa. Congress theme was Biodiversity of African Plants: Challenges in a Changing World. We presented a poster 'Public accessibility to herbarium data: PSUB history and future'
- As a formal Volunteer at the Peter Smith University of Botswana Herbarium (PSUB) I was annotating, for correction, 'A checklist of the specimens held at PSUB'.
- I was also providing information to the Flora Zambesiaca (FZ) Editor at Kew about P.A. Smith specimens held at PSUB for inclusion in new volumes of FZ: Indigoefereae, Aracaceae, Acanthaceae and Lamiaceae.
- I continued to work with collections of new plant material as they were brought in for identification at PSUB. These came from several projects and studies including for: Biogenic cycling of Silica, The Future Okavango Project: SP05, other collaborative work with international universities and our own University of Botswana projects and students working in the field
- Concurrently I was using PSUB's Herbscan to create digital images of specimens selected from the legacy collection of P.A. Smith. The ultimate intention is for these to be posted, with the matching data on-line in a virtual herbarium.
- Acquiring and installing BRAHMS at PSUB was the logical upgrade from the former PRECIS data base of the Botswana herbaria collections. PRECIS was part of a SABONET project in the late 1980s. At this point I found that SANBI had started to use BRAHMS and was migrating PRECIS data into their online available POSA database. There we were able to access the preliminary data from their duplicates (at PRE) of our specimens.

2005 to 2009

- For these four years whilst my husband was gaining his PhD, in Wetland Ecology at University of Florida, USA, we were based alternately in Gainesville, Florida and in Maun, Botswana. When in Maun we conducted fieldwork in the seasonal floodplains of the Okavango delta. Fieldwork included recording sampling information on the transects, soil types, water depth, percent cover, as well as photographing, collecting plant specimens. We attempted to identify the plant specimens using the herbarium collection at PSUB which was then housed in stationery cupboards in a porta cabin.
- When not in the field I assisted in providing recommendations for the design and storage of the PSUB collection. Funding had been acquired from the EU for the upgrade of both the library and PSUB herbarium. I provided sources of suppliers and quotations of costs for the purchase of furniture and equipment to adequately re-house the collection.
- Back in Gainesville, Florida, we entered the field data into a relational database (MSAccess). This included post-entry cross-checking, harmonising our data with existing checklists, and developing a systematic coding system to facilitate analysis.
- I worked as a volunteer at the UF herbarium FLAS. I was taught the best practices in practical skills of herbarium specimen preparation and mounting. I took a short course in Herbarium Management Skills which gave formal credits to students.
- Working with Prof. Walter Judd I was commissioned, as a botanical illustrator, to produce drawings of two new species of Melastomataceae for papers describing them.

Prior to 2005

- 1985 to 2003: I was based in Gabane, Kweneng District in south eastern Botswana. I worked with a self-employed wildlife biologist whose company was Environmental Services Botswana (ESB). We worked on many Environmental Impact Assessments and developed Management Plans for several District Councils. We also did field work in preparation for Wildlife Management Areas in many of those districts.
- I was the assistant in the field work of ESB, especially when we were conducting vegetation surveys in the Kalahari. My final contribution to these studies was drafting maps of vegetation zones, providing lists of species and occasionally I produced graphics for reports.
- I worked with Dr. J. Perkins as Vegetation Survey Field Assistant for Prof. Noel van Rooyen on the boundary of Gemsbok Kalahari Game Reserve. We were gathering species composition data for entry into Turboveg programme that was being used to create a vegetation map of the area.
- Later work with ESB became more people-oriented, we designed and administered questionnaires, using enumerators, to elicit information from people in remote areas about their needs and expectations from developments such as new roads or increased water reticulation in their community. Our work on the Botswana Range Inventory Monitoring Project (BRIMP) and the Trans Kalahari Road Impact Assessment records this transition.

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PUBLICATIONS AND PAPERS

- **July 2019** Peolwane magazine. 'Prison Tree or tree of Heaven, Friend or Foe?' Article about invasive exotic species *Ailanthus excelsa*.
- **May 2019** Peolwane magazine. 'The unbelievable significance of small plants.' Article about new species of *Inversodicraea*, *Podostemaceae* as found from specimens in PSUB herbarium collection.
- **Autumn 2018** *Planta Carnivora* Vol. 39. No. 2. *Aldrovandra*, *Droseraceae*, in the Okavango
- **Autumn 2018** *Planta Carnivora* Vol. 39. No. 2. *Utricularia raynallii* P. Taylor (*Lentibulariaceae*), newly discovered south of the Congo Basin, Africa
- 2017 monthly articles about plants for project donors: DDS and SLM Ngamiland, and occasionally in 2018 and from May to September 2019.
- **October 2014** *Wetlands*. Disaggregating Hydroperiod: Components of the Seasonal Flood Pulse as Drivers of Plant Species Distribution in Floodplains of a Tropical Wetland.
- **December 2011** *African Journal of Aquatic Science*. A vegetation-based hierarchical classification for seasonally pulsed floodplains in the Okavango Delta, Botswana

COMMISSIONED ILLUSTRATION WORK

- **2008** Department of Botany, University of Florida, USA
Journal of the Botanical Research Institute of Texas 2(1): 35-40.
Tetrazygia paralongicollis (*Miconieae: Melastomataceae*), a new species from the Sierra de Baoruco and Sierra Martin Garcia, Dominican Republic. Botanical drawings of plant parts. Paper authors: Judd, Walter S., Gretchen M. Ionta, Teodoro Clase and J. Dan Skean, Jr.
- **2006** Department of Botany, University of Florida, USA
Brittonia 60: 217-227. A new species of *Henriettea* (*Melastomataceae*) from the Sierra de Baoruco, the Dominican Republic. Paper authors: Judd, Walter S., James D. Skean, Jr., Darin S. Penneys and Fabian A. Michelangeli. Botanical drawings of this previously undescribed species for Dr. Walter Judd from rehydrated specimen and photographs.
- Centre for Environmental Policy (CEP), University of Florida, USA
Design and layout of brochure about the CEP. Included taking photos and originating their logo.
- **2005** Alachua Conservation Trust, Florida, USA Illustrations, watercolours and ink drawings, for an outdoor educational display signboard about the Ecology of Longleaf Pine Flatwoods

OTHER BOTANY RELATED ACTIVITIES

- **Approx. 2007 to date** I have a comprehensive collection of digital photographs of many common plants of the Okavango delta which I am sharing with the founders of the website the Flora of Botswana: Bart Wursten, Mark Hyde and Petra Ballings,
- **2001** Botanical Watercolour Illustration Course. Participant in a three-day beginner's level workshop led by British artist Siriol Sherlock, in Johannesburg, South Africa. We were taught wet-in-wet technique with minimal drawing. I was sent by Marung (the predecessor of Peolwane, the in-flight magazine of Air Botswana) to participate in and write an article about the experience and the hotel for the magazine.