“Biodiversity exploration could be better understood if there are more opportunities (platforms) for biologists to network”
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As part of the second half of grant number 19476-D of the 2nd Booster Rufford Small grant Foundation titled: Floristic Diversity across the Cameroon Mountains: A Case study of the Bakossi National Park, and Mt Nlonako. The field team of Tropical Plant Exploration Group (TroPEG) Cameroon headed by Sainge N. Moses (Principal Investigator) visited Mt Nlonako for another expedition.

Field work was centered in the forest above Ekangmbeng village in the months of October and November. The work was done by a 30 man field team composed of TroPEG members, consultants, students on internship and villagers from Ekangmbeng and Ngalmoa villages. Our objective was to establish permanent sample plots at different vegetation types to give a better understanding of the forest structure, composition, diversity and to complement the floristic diversity if this mountain with the adjacent Bakossi Mountain. Plots were sampled on a line transect of 20x500 m, at an elevation range of 650-1000 m.

Twelve hectare plots were sampled recording 5501 individual trees and lianas. 1200 plant specimens were collected from 300 species within the 12 hectare and 500 species in the entire survey area (plot and general collection inclusive). Funding for this activities came from the Rufford Small Grant Foundation UK.
Open tent at camp site preferred by local villagers

Modern tent used at camp site

Laying team in action

Laying team labelling start of transect

Drying of collected plant specimens

Enumeration team measuring dbh

Enumeration team recording data

TroPEG Field team
TroPEG is the leading institution in Cameroon for the West Africa data capture project and the bridge between the National Herbarium of Cameroon and the Project coordinating office in Ghana. This project started in 2015 with partners from five West African countries: Benin, Cameroon, Ghana, Nigeria and Togo.

TroPEG’s full implementation in the West African data captured project started in August 2016. Prior to data capture, two graduates on internship (Douandji Frank, and Akwa Enni Ndeh) were trained on the Botanical Research and Herbarium Management System (BRAHMS) software used to capture the data. Barely a month later, Douandji dropped the data capture to continue his academic studies and was only replaced by Yunkavi Sabastian Wirsiy in November 2016. Given this setback, together with the complexity and challenges of the software, data entry was really slow at the onset but so far work is in progress and data has been captured from 6000 images.

Working with BRAHMS: the experience of two graduates on internship capturing data from images

My name is Akwa Enni Ndeh and I am a graduate of Agriculture Economics from the Department of Agriculture and Veterinary Medicine, University of Buea, Cameroon. I attended a capacity building training organised by the Tropical Plant Exploration Group (TroPEG), in July 2016 titled "Tips on field data collection". I was later absorbed as a graduate on internship to perform data entry task and some other office operation with the organisation. To be more precise, I was trained to work on much specialised software called BRAHMS (Botanical Research and Herbarium Management System); it was actually my first time of coming across such computer programme not to talk of hearing about it.

My experience working with BRAHMS has been very exciting and interesting too. The program is so sensitive and complicated but it has been a great experience. I had the opportunity to know how the software is utilised to input the required data. I also got to know certain plants and their scientific names, authors, where they were actually collected and lots more. BRAHMS despite its complexity is a very good software for plants scientists and why not other related science fields. Despite some difficulties I am very happy because the team I worked with was very nice, understanding and helpful throughout. In all I can say I very much enjoy doing this task daily. Happy New Year 2017 to our readers….Thanks
AN APPRAISAL OF TroPEG BY YUNKAVI

SABASTIAN WIRSIY

Having just obtained a B.Tech in Computer Engineering (Software Engineering) a year ago from the College of Technology of the University of Buea, research, botany and exploration were not the first words that came to my mind if you’d ask me ten months ago. This all changed when I started volunteering at TroPEG Cameroon a little over the second half of the month of November 2016. My initial view when joining this institution was mostly to build a richer CV filled with plenty of experience, but under the wing of some passionate and talented botanists (researchers) in the persons of Mr. Sainge Moses and Mr. Ngoh Micheal, my view for nature preservation, protection and sustainable development have greatly been polished by their everyday enormous efforts and determination to profile the numerous plant species in Africa and Cameroon in particular in terms of floral biodiversity. In relation to my weekly routines at TroPEG Cameroon for the past one and a half month, I have been capturing data from plant images of West Africa and Cameroon in particular for the West African Data Capture project. In the process, the data capture ranges from their description (from roots, stems, leaves, flowers, branches just to name a few) to their habitat, geographic location, collectors, determiners etc. and making this information available to the scientific committee and the world. Thanks to the BRAHMS software. I must admit using the software at first was quite challenging since the plant samples for data collection are quite numerous, repetitive and redundant. Never the less thanks to a one day first hand training I received from Mr. Yannick Geert Klomberg, an expert with the BRAHMS software tool, collecting this information became way much easier with an achievement of data captured from over 2000 plants imaged in just a month and a half, I’m all fired up to do even much more in 2017.
Community tree nursery for restoration of landscape integrity

In her struggle to translate research findings to local communities where she is actively carrying out biodiversity research; the Tropical Plant Exploration Group (TroPEG) is constructing community nurseries and training communities in and around the Rumpi Hills Forest area on maintaining sustainability in landscape and agricultural environment. The aim of the project is to raise seedlings of trees and train communities to carry out restoration projects in degraded landscape. Some of these landscapes identified are closed to protected areas with high sensitivity and where current human activities are unfriendly to the sustainability of the area. This has negative impact to biodiversity life around the area and also in the wellbeing of the local indigenous people. Thus a more sustainable approach is being promulgated by TroPEG to one of such community growing Tea (*Camellia sinensis*) in the Rumpi Hills area. To be more precise, unsustainable tea cultivation has been observed by TroPEG conservation and livelihood team at Dikome Balue and associated villages. Therefore, the first intervention to transforming unsustainable tea plantations (monoculture farms) to highly diverse and sustainable units is being undertaken by the Conservation and Livelihood Scheme of TroPEG with sponsorship from Both Ends organisation. The project is to sensitize, train and established community tree nurseries for restoration of degraded landscapes in the Rumpi Hills, Ndian division, South West Cameroon. At this point in time, community mobilisation, sensitization and construction of nursery are on-going.

Both ENDS

Konningsschool, Netherlands

Site photos:

Tea farmers’ Backyard tree nursery

Community nursery to support tree domestication by tea farmers, Dikome Balue
Question: As Research Director of Tropical Plant Exploration Group, what are your plans for 2017?

Response: I see 2017 as a year of moving ahead. From 2012 to 2016 the struggle has been to breakthrough into science. We have developed a huge data bank on the preliminary findings of the distribution and diversity of plants on the continental part of the Cameroon Mountains. Right now, we think that 2017 is the best time to start disseminating our results through scientific publications, and presentations (at workshops and seminars).

Question: What is TroPEG’S position in generating biodiversity data?

Response: TroPEG actually started in 2010, but only entered full gear in 2012. The years 2012 to 2016 is such a short time and I think TroPEG is breaking grounds already and has achieved a wealth of biodiversity data. Journey with us down the memory lane of TroPEG let us recount her achievements together. In 2012 we established 4 ha permanent sampling
plots at the Mbembe Forest Reserve in Donga Mantung, North West Cameroon. In 2014 a book titled “Biodiversity Assessment and Conservation Statues of Plants in the Mbembe Forest Reserve, Donga-Mantung Division in the NWR Cameroon” was published based on the data from Mbembe. Still in 2014, a workshop was organized in Bamenda and Ako, to disseminate the findings of the research carried out in Mbembe through the book publication. In March 2015, TroPEG organized a training workshop in Buea and Korup National Park in partnership with the Biodiversity Informatics Training Curriculum (BITC). Still in 2015, she established 25 ha permanent sampling plots at the Rumpi Hills Forest Reserve, and 17 ha at the newly created Kimbi Fungom National Park, in the North West Region of Cameroon. In 2016, we established 12 ha permanent plot each in the Bakossi National Park and the Mt Nlonako. All these achievements put together showcases the extent to which TroPEG is involved in generating biodiversity data, and the continuous training of Cameroonians on the biodiversity of Cameroon.

**Question:** Generating botanical data in the tropics have never been an easy task, how then do you cope with the associated challenges?

**Response:** I started my career as an amateur and over the years have built a good wealth of experience and knowledge in generating botanical data. I am also lucky to have gone this far in my career working with very experienced Botanist/Researchers. Taping from these rich experiences together with my passion, enthusiasm and team work from colleagues, this has been the secret of our success in TroPEG Cameroon.

**Question:** TroPEG is a pretty young institution with high appetite for biodiversity data; don’t you feel satisfied with the current achievement?

**Response:** I am really pleased with the amount of data that TroPEG has generated in such a short time. But as a researcher, I will always go for more data because it is my responsibility to inform the public, my government, and the scientific world about new happenings in my field of research. The only setback that my team members in TroPEG and I may have is that of funding. The more funds we have the more data we will generate, the more young Cameroonians we’ll train in the field of biodiversity, and the more partnership we’ll build with other institutions.

**Question:** What is TroPEG’s vision for the next decade?

**Response:** God being on our side, we wish to document, and understand the biodiversity of the continental part of the Cameroon Mountains from lowland rainforest to dry semi-deciduous, woody and grassland savanna, and estimate the carbon stock and carbon dioxide sequestered in these forests. It is therefore our desire to become the leading institution in biodiversity research in the region.
The Tropical Plant Exploration Group (TroPEG) showcases collaborative and innovative actions in her research findings at the just ended Youth Alliance for Leadership and Development in Africa (YALDA) I-Booth Camp conference, held in the city of Buea last October 2016. TroPEG working with a sustainable agro-enterprise (Future Africa Enterprise, Cameroon) shared in this platform their sustainable twist to business around the tea sector in Cameroon. Attending this conference which lasted from the 5th to 9th of October was the coordinator of Conservation and Livelihood Scheme of TroPEG (Ngoh Michael Lyonga). The theme of this year conference was “Regional Integration for a Prosperous Africa: Transforming Youth Potentials into Opportunities across Borders!” During the conference participants came from across the different regions in Africa; from countries such as Nigeria, Southern Sudan, Botswana, South Africa, Cameroon and Ethiopia, also speakers were from diverse background. Interaction with youth leaders/entrepreneurs from the different countries was very inspirational as lessons were learnt on different experience with young entrepreneur during one-on-one conversation. Project ideas presented by participants showcasing their various activities back home was also one moment of memorable experience. This help to define and shape ideas brought forth by participants and also ideas that were already being implemented presented by the different implementers from different countries were also shaped. Ideas were not specific; they came from different background in life issues, such as Agriculture, Environment, Arts, Business, Education, Social (Entertainment) and Politics. Michael representing TroPEG/Future Africa was involved in Agriculture and Environmental ideas in group presentations but he did a single handed presentation in Sustainable Agriculture. The idea was a cross cutting one especially as he titled his presentation “Future Africa: A nexus in Biodiversity, Livelihood and Business: Case study Rumpitea”. (See plates below on page 11). In all the experience was a wonderful one as networking was established with the many different youths who participated at this grand conference.
Selected slide show 1

Selected slide show 4

Selected slide show 2

Selected slide show 5

Selected slide show 3

Michael at the conference
WHAT WE DO AND SERVICES OFFER

- Transect sampling
- Small plots sampling
- Forest & Landscape Restoration
- Establishment of permanent one hectare plot for bio-monitoring
- Establishment of 50 ha plot for long term bio-monitoring
- Identification of all forms of Plant life within the Tropics
- Ecological research
- Biodiversity and forest assessment surveys
- Ecological niche modelling
- Environmental Impact Assessment (EIA) Studies
- High Conservation Value (HCV) Assessment

DATA ANALYSIS

- All forms of Data can be arranged and analysed using specialised software such as SPSS, MINITAB, PAST and Microsoft Excel
- Biodiversity informatics in Data cleaning and data publishing

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