BAMENDA UNIVERSITY OF SCIENCE AND TECHNOLOGY

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PROCEEDINGS OF THE CONFERENCE ON BIODIVERSITY AND CONSERVATION FOR STUDENTS AND EARLY CAREER RESEARCHERS (CBCSER), YAOUNDE, CAMEROON, 13-15 JANUARY 2025

JRS Biodiversity Foundation

Edited by: Tonjock R. Kinge

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- Prof. Ahmed Abdel-Azeem, Suez Canal University, Egypt
- Dr. Beatrice T. Nganso, ICIPE, Nairobi, Kenya
- Prof. Tofel Haman Katamssadan, University of Bertoua, Cameroon

ABSTRACTS FOR CONFERENCE SESSIONS

SESSION 1: BIODIVERSITY SYSTEMATICS AND CONSERVATION

Studies of Cameroon *Inocybe* reveal the first species in sect. *Petiginosae* from Africa and the new section *Pingalae* from Africa and south Asia

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During investigation of ectomycorrhizal fungal diversity at Dja Biosphere Reserve in Cameroon, several unusual white, cortinate, caespitose clusters of an *Inocybe* species were observed in Gilbertiodendron-dominated tropical rain forests. Molecular phylogenetic analysis of combined rpb2, 28S, and ITS gene regions support a strong alliance between the Cameroon samples and a dozen other nodulose-spored species in I. sect. Petiginosae, all of which, except for the Cameroon species, are characterized by absence of a cortina and an entirely pruinose stipe among other features. The Cameroon collections are described here as new, *I. albofascicularis*, and a general assessment of taxa previously classified in I. sect. Petiginosae is provided. This section is emended and now recognized in a restricted sense based on molecular phylogenetic results. Residual species of Petiginosae were recovered elsewhere but among different clades. An assemblage of Old World tropical species known from southern India and Zambia are now placed in I. sect. Pingalae sect. nov. based on phylogenetic analyses of combined rpb1, rpb2, and 28S rDNA data. Analyses of combined ITS and 28S data were used to examine sect. Petiginosae in more taxonomic detail. As-is, sect. Petiginosae requires further taxonomic revision as multiple binomials are applied to the same species, and the same binomial is often applied to multiple distantly related taxa. Our work recovers at least 18 species in sect. Petiginosae, of which 9 are at best comfortably named. Mass spectrometry muscarine assays of 53 taxa detected a relatively large abundance of muscarine in *I. albofascicularis* and patchy detection in other species of *Inocybe*, *Inosperma*, and *Pseudosperma*. Eleven samples of Crepidotaceae and two African (Cameroon) species of Auritella revealed no detectable amounts of muscarine.

Keywords: Diversity, Cameroon, Fungal taxonomy, Phylogeny.

Population distribution, conservation status and vulnerability of *Ternstroemia cameroonensis* Cheek. in the Lebialem Highlands, Cameroon

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The study was conducted in the Lebialem Highlands to assess the population distribution, sustainability and conservation status of *Ternstroemia cameroonensis* in its natural habitat. A total of 25 circular plots of 10 m diameter were established around *T. cameroonensis* and all species as well as threat to their sustainability evaluated. Data were collected, entered into excel and various percentages calculated while diameter at breast height of *T. cameroonensis* and three companion species were analysed in STATGRAPHICS XVII.II and the mean separated. The results revealed that *T. cameroonensis* is found in six localities, mostly between 1500 m to 2500 m above sea level. The three companion species were *Aguaria saliciflora, Cyathea cameroonіana* and *Draceana mannii*. The most exploitable individuals were at Agocham (64%) while the least at Fossimondi (25%). The highest percentage of dead stems was recorded in Magha (42.85). Among the exploited stems, 33.33% showed a completely dead crown, whereas 10% regular and healthy. The main part of the species exploited w the bark (100%) and in case the stem gets dry it is exploited as fuel wood. *T. cameroonensis* was shown to be more vulnerable in Montane forests (2.8) than gallery forest (2.6).

Keywords: Critically endangered species Lebialem Highlands Rare species Vulnerability, *Ternstroemia cameroonensis*

Characterization of Agroforestry Systems on the Outskirts of a Forest Concession in Southern Cameroon

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Traditional production systems, agroforestry systems (SAFs) in southern Cameroon combine various types of trees of socio-economic interest that can contribute to the conservation of biodiversity. The objective of this work is to analyze the contribution of these agroforestry systems based on cocoa and oil palms in the sustainable management of the peripheries of a forest concession in southern Cameroon. The methodological approach adopted consisted of conducting socio-demographic surveys with 66 SAF operators using survey forms. A sampling rate of 10% was applied in seven villages in the Djoum council area. These interviews were supplemented by floristic inventories carried out on 69 plots of 40 x 60 m for a total area of 15.84 ha. The data collected were subject to various analyses and statistical tests. The floristic potential consists of 8355 individuals divided into 177 species, 153 genera, 47 families, and classified into 3 groups of woody species, namely introduced, preserved and perennial species. The Shannon index between land use types varies from 2.15 bits in palm groves to 3.9 bits in forests while it is 2.81 bits in cocoa plantations. The Forest Management Unit (FMU) and peripheral SAFs share 42 forest species out of 63 species inventoried, i.e. 66.7% of forest species preserved in cocoa plantations, proof of the effectiveness of the conservation potential of these SAFs in the region. Forests are the land use type that stores the most carbon (115.81 tC/ha) compared to 93.54 tC/ha for palm groves and 58.8 tC/ha for cocoa plantations. Gradients of diversity, density and complexity vary with proximity to the forest concession. These results could be considered as effective and quantifiable tools for the certification of many cash crops.

Keywords: agroforestry system, biodiversity, conservation, carbon stock, forest concessions

Identification and Phylogenetic Relationship of Fungi Species Isolated from Cassava leaves (*Manihot esculenta* Crantz) in Mezam Division, North West Region of Cameroon

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Cassava (*Manihot esculenta* Crantz.) is one of the major foods in Cameroon. This study aims to identify fungi species from Cassava leaves and determine their phylogenetic relationship. Random sampling was used to collect symptomatic leaves in 20 cassava farms and cultured on potato dextrose agar (PDA). Mycelia of 31 pure isolates were harvested and used for molecular analysis. DNA was extracted using the sorbitol – CTAB (Cetyltrimethylammonium Bromide)) method and amplified using the complete Internal Transcribed Spacer (ITS) and partial Translation Elongation Factor (TEF) gene regions. Sequences were edited using Chromas and Basic Local Alignment Search Tool (BLAST) performed in National Center for Biotechnology Information (NCBI). Neighbour-joining in MEGA 10.2 (Molecular Evolutionary Genetics Analysis) was used to generate phylograms at 1000 bootstrap. Six fungi genera were identified based on colony characteristics (*Aspergillus, Candida, Colletotrichum*, *Fusarium, Penicillium* and *Trichoderma*) while twenty-one fungi species were identified following molecular identification. From the ITS, nineteen fungi species were identified and grouped into fifteen genera (*Aspergillus, Candida, Clonostachys, Colletotrichum, Curvularia, Epicoccum, Fusarium, Geotrichum, Mucor, Nigrospora, Paecilomyces, Penicillium, Phoma, Pichia, Trichoderma*) while thirteen fungi species were identified from TEF belonging to ten genera (*Aspergillus, Cladosporium, Clonostachys, Curvularia, Epicoccum, Fusarium, Geotrichum, Lentinus, Penicillium, Trichoderma*). These species formed phylograms with four monophyletic groups. This study identified fungi species from cassava leaves and determined its phylogenetic relationship which is important to devise control measures.

Keywords: Identification, fungi species, cassava leaves, molecular, phylogeny.

Arbuscular Mycorrhiza Fungi Communities and Associated Common Tree Species in three Selected Forest Fragments of the Taita Hills, Kenya

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Arbuscular mycorrhizal fungi (AMF) are forms of symbionts that are ubiquitous in natural ecosystems. They are crucial in maintaining plant communities by enhancing nutrient uptake as well as acting as major drivers of seedling recruitment and sustainability. This study investigated AMF status of common tree species, the diversity of AMF species, and mycorrhiza propagules infectivity potential of the forest soils in selected forest fragments. 500g of soil samples were collected at 10m of each 15 m circular plot at 30cm depth. In addition, two grams of fine root samples of the common tree species were stained in trypan blue for morphological assessment and two hundred milligrams of the fine roots were grounded and AMF DNA extracted using Zymo plant DNA extraction kit. One hundred grams of soil samples were extracted using wet sieving and decantation methods and the most probable number method was used in the assessment of Mycorrhizal infective propagules. The Mycorrhizal colonization varied across eight tree species with intensity ranging between 43.33% and 90.50%. Genetic diversity of AMF colonizing common tree species revealed a predominance of *Glomus* spp. The spore density of AMF in soils differed across forest fragments. The calculated Shannon diversity index across forest fragments ranged between 1.376 and 1.504. MIP differed significantly across forest fragments. In conclusion, the selected tree species were mycorrhizal and the diversity of AMF in the Taita Hills was within the recommended range of AMF diversity in tropical forests. Additionally, disturbances reduced the infective potential of mycorrhizal propagules hence compromising ecosystem functioning.

Keywords: Arbuscular Mycorrhizal fungi, Genetic diversity, Mycorrhizal Infective Propagules

Morphological Diversity of *Ganoderma* species and its Host Trees in Mezam Division, North West Region, Cameroon

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Ganoderma P. Karst. is a pathogen that causes root and stem rot in trees, ultimately leading to their death. It can be used to treat various conditions of human diseases. This fungal species often grows on economically significant trees. Its morphological' diversity and host range need to be better understood due to their similarity in morphological resemblance. This research aims to identify the phenotypic diversity of *Ganoderma* species and their host trees. Opportunistic sampling was used to collect samples from nine villages in the Mezam Division, Northwest Region of Cameroon. Morphological identification of *Ganoderma* species was done based on morphological characters such as colour, length, and width, laccate or non-laccate, the type of basidiocarp, margin shape, microscopical structures, and hyphae. The morphological characters of basidiocarps collected from different host trees revealed eleven distinct *Ganoderma* species, including *Ganoderma applanatum, G. australe, G. brownii, G. cupreum,* G. *gibbosum, G. lucidum, G. multipileum, G. multiplicatum, G. orbiforme, G. resinaceum* and *G. weberianum*. This study identified nine host tree species. *Ganoderma resinaceum* was a host specific to *Elaeis guineensis*. *G. cupreum* on *Ficus* sp., and *Persea americana* and *G. orbiforme* on *Cola acuminata*. *G. multiplicatum, G. lucidum, G. gibbosum*, and *G. applanatum* had multiple hosts. *Ganoderma* typically grows on dead tree stumps based on host preferences. Still, three species were collected from living trees, one on *Albizia adianthifolia* and two on *Persea americana*, confirming their nature as saprophytes and plant pathogens.

Keywords: Fungi, *Ganoderma* species, host trees, identification, morphological characters

Molecular phylogeny and pathogenicity of *Fusarium oxysporum* f.sp elaeidis isolates from oil palm plantations in Cameroon

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Molecular phylogeny and the study of pathogenicity of *Fusarium oxysporum* f.sp. elaeidis isolates are critical to conservation efforts, particularly in the context of protecting oil palm (*Elaeis guineensis*) plantations.\r\nIn Cameroon, oil palm is of economic importance but it is however affected by vascular wilt caused by *Fusarium oxysporum* f.sp elaeidis (FOE).The aim of this study was to identify *Fusarium* species associated with oil palms using molecular techniques, and to determine the pathogenicity of the selected isolates. Fungal samples of diseased palms were collected from five oil palm estates of Cameroon and characterized by sequencing and comparing the translation elongation factor 1a gene. The results of our study revealed the pathogenicity of FOE isolates from Cameroon and demonstrated its diversity in Africa more than those previously reported. About 80% of the isolates had the presence of FOE. The Cameroonian isolates within FOE clade 1 exhibited the greatest variability grouping with isolates of other countries. This study enable the identification of resistant cultivars, track the movement of the pathogen, and develop management strategies that minimize the ecological and economic impacts of the disease.

Keywords: Oil palm, pathogenicity, phylogenetics, vascular wilt

Identification of Fungal Species Isolated from Diseased Cabbages in the Western Highlands of Cameroon

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Some fungal species affecting cabbage are pathogenic and significantly contribute to both pre-harvest and post-harvest losses, leading to food insecurity. Consequently, a study was conducted to identify the fungal species present on diseased cabbage in the Western Highlands of Cameroon. A total of one hundred samples of diseased cabbage were collected from Santa and Dschang. Fungal species were isolated from the leaves, and both cultural and molecular methods, focusing on the Internal Transcribed Spacer (ITS) and Translation Elongation Factor (TEF) gene regions, were employed for identification. The cultural study results indicated that 81 out of the 100 samples were infected with fungal species. Molecular identification based on the ITS regions revealed a total of 45 fungal species from 12 genera, with *Trichoderma* being the most prevalent at 16 isolates, followed by *Fusarium* with 10 isolates. The identification from the TEF regions indicated that 51 fungal species were isolated from cabbage, belonging to 8 genera, with *Trichoderma* again dominant at 26 species, closely followed by *Fusarium* with 16 species. These findings demonstrate that molecular identification is more reliable for identifying fungal species than cultural methods. The identified fungal species will be utilized in pathogenicity tests to determine the actual pathogens affecting cabbage and to develop suitable control measures.

Keywords: Vegetable, Fungal-taxonomy, Species-richness, Isolation, Cultural, Molecular

Diversity and Natural Regeneration Status of *Pleurotus* Host Trees in Ngel-Nyaki Montane Forest for Sustainable Management

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Increase in the indiscriminate destruction of trees (most especially those serving as hosts to P*leurotus* species) through anthropogenic activities is a serious call for concern. This study was conducted with the view to examine the diversity and natural regeneration status of *Pleurotus* host trees in Ngel-Nyaki montane. A preliminary survey across the montane forest was carried out using opportunistic sampling protocol. Morphological identification was used to identify *Pleurotus* and their host trees. Points of spotted *Pleurotus* species were marked using the Global Positioning System (GPS). Plots of 20 x 20 m^2 were established on the points of observed *Pleurotus* species. The natural regeneration status of host trees was determined based on their various size classes (seedlings, saplings and adults). Diameter at breast height (DBH) of host trees was measured at 1.3m (using vernier caliper and DBH tape) while those below were not, but considered as seedlings, while saplings 10cm and below and adults above 10cm. Shannon-Weiner Diversity Index (H') was used to determine host trees diversity. The H' value was 0.74. The *Pleurotus* species observed at Ngel-Nyaki montane were *Pleurotus pulmonarius, Pleurotus ostreatus, P.leurotus djamor* and *Pleurotus eryngii* while the host trees were *Polyscias fulva, Anthonotha noldeae,* and *Ficus lutea* respectively. The natural regeneration status was good with a Natural Regeneration Index (NRI) of 1.78. Host trees are also used for food, medicine, food and medicine, fuelwood. Increased surveillance is recommended to reduce the rate of adult host trees destruction in the study area.

Key Words: Diversity, Regeneration status, *Pleurotus*, Host trees, Sustainable management, Montane Forest.

Diversity, Conservation and the Antimicrobial Activity of some Coprophilous Fungi Obtained from Cow Dung in the North West Region of Cameroon

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Coprophilous fungi are saprophytic fungi that live on animal dung. Dung is rich in nitrogen, water-soluble minerals, growth factors, undigested food components and carbohydrates making it a rich substrate for the growth of fungi and other microorganisms. Most of the fungi that grow on dung have not been documented and studied but some reports have shown the potential of dung inhabiting fungi with Biological activities of ought most importance. Coprophilous fungi are important sources of antibiotics, enzymes and biological control agents. The use of most inorganic fungicides to eradicate pest has led to soil depletion and the killing of ecologically friendly soil organisms. The aim of this research was to document on the diversity, conservation and to test the antimicrobial activity of some crude extracts of coprophilous fungi obtained from dry cow dung which will result to the conservation of some species of coprophilous fungi and the discovery of new antibiotics and fungicides against diseases. Dry cow dung samples were collected from 3 different cattle ranches in the North West Region of Cameroon. A total of 21 dung samples were collected in zip lock bags. Dry dung samples were transported to the Chemistry Laboratory at Ecole Normal Superieur, University of Yaounde 1 Cameroon where by the moisture chamber method and isolation was done. Identification of coprophilous that grew on dung was done morphologically by observing cultural characters of color and texture and microscopically with the help of a compound microscope. A total of 100 species of coprophilous fungi were obtained. 45 interesting strains of coprophilous fungi isolated were conserved in 4% glycerol and stored in a deep freezer at -80 ^{0}C. 20 interesting strains of these coprophilous fungi were selected for the anti-microbial test which was done using the micro dilution method. Crude extracts of these strains were gotten by cultivating them in rice for 21 days and extraction was done using the solvent Ethylacetate. The anti-microbial test was carried out using two bacteria strains which include; *Escherichia coli*, *Staphylococcus aureus* and the pathogenic fungi *Candida albicans*. Different species of coprophilous fungi were isolated from the cow dung. Several species were isolated from cattle ranch 1 (Alahki cattle Ranch), followed by cattle ranch 3 (Upstation cattle Ranch) and lastly in cattle ranch 2 (Alabukam cattle Ranch). Some of these coprophilous fungi have been identified to be new to science therefore making cow dung a potential reservoir of some important fungi since cow dung is a rich in a lot of nutrients. Some extracts of the selected coprophilous fungi gave good results, therefore making coprophilous fungi an elite candidate for the discovery of new organic chemicals and antibiotics against pathogens.

Keywords: Coprophilous fungi, Diversity, conservation, Anti-microbial activity, Crude extracts, anti-microbial resistance

Ex-situ conservation through domestication of selected wild mushroom species from the Abongfen forest, North West Region, Cameroon

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Abongfen forest has a rich biodiversity of wild mushroom available mostly during the rainy seasons. This study aims to carry out ex-situ conservation through domestication of selected wild mushroom species to secure from extinction and to make it available throughout the year. Six mushrooms collected (*Laetiporus sulphureus, Phellinus sp, Inonotus obliquus*, *Pleurotus sajor-caju, Stereum sp. and Pleurotus ostreatus*) were cultured in Potato Dextrose Agar (PDA) to obtain pure cultures and mother spawn which was subsequently domesticated. Each mushroom species was cultivated in a completely randomized design with four treatments; sawdust (50%) mixed with maize cobs (50%), palm cones (100%), sawdust (100%) and beans straw (100%) all supplemented with rice brand (10%) and quick lime, and eight replicates. Maize cobs were ground in an electric mill while palm cones and beans straw were reduced with a sharp knife to smaller sizes (1-3cm long) and soaked over the night in tap water. Excess water was drained using a sieve to 65% moisture content. Each portion was well mixed on a clean cemented floor using a clean spade. 2.0kg of each composition was filled into polypropylene bags of 25 x 15cm size and sterilized in drum for 4hours. After cooling each bag was inoculated with three table spoonsful of spawn, incubated at room temperature 25^{o}C (±2) and the spawn run was observed until fully colonized. The days of colonization, primordial initiation and harvesting were noted. The fruit bodies on each bag was counted and weighed (in g) after harvesting to determine the yield. *Pleurotus sajor-caju, Pleurotus ostreatus* and *Laetiporus sulphureus* colonized the substrate but only *Pleurotus* grow and produce fruit bodies. Mycelial colonization was higher on beans straw (31.60 ± 2.46 days). The mean diameter of pileus (24.70±0.94 cm) and average number of fruiting bodies (4.5±1.2) and weight of fruit bodies (95.20 ± 2.58 g) were best on maize cobs mixed with sawdust. Wild edible mushrooms need to be domesticated to ensure availability for food, medicine and as a source of income.

Keywords: Biodiversity, Conservation, Pure culture, Spawn, Wild mushrooms.

Ethnobotanical Survey of Medicinal Plants used in the Treatment of Skin Infection and Arthritis in Bova, South West, Cameroon

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According to WHO data published in 2020, rheumatoid arthritis death reached 0.01% in Cameroon. Skin infections affect people of all ages from neonates to the elderly and account for approximately 34% of all the diseases encountered worldwide. This study was to carry out an ethnobotanical survey of medicinal plants used in the treatment of skin infection and arthritis, in Bova village, South West Region of Cameroon. The survey was done between 2nd to 19th May 2024, at Bova village, South West Region of Cameroon. A semi-structured questionnaire was used to collect information on the name, type and method of preparation and mode of administration of medicinal plants used in the treatment of skin infections and arthritis. The study targeted males and females who were 21 years and above and people who had knowledge on the plants in the treatment of skin infections and arthritis in Bova. The plants obtained were authenticated at the National Herbarium in Yaounde. The data obtained was keyed in Microsoft Office Excel 2013. The data was presented on a frequency distribution tables. A total of 71 participants took part in the survey where 49(69.01%) were females and 22 (30.99%) were males, the survey identified and recorded 31 plants species from 24 plant families used for treating skin infections and/or arthritis. The Asteraceae (5 species) was the most frequently mentioned plant family. The leaves 17(54.83%) was the most commonly used plant part, maceration and decoction were the most common method of preparation and topical application was the most commonly used mode of administration. A diverse number of plants species are used for treating different diseases in Bova, South West Region of Cameroon. In addition to their use as medicines, a large number of plants have other non-medicinal uses. The youth should be encouraged to learn the traditional medicinal knowledge to preserve it from being lost with the older generation.

Keywords: Arthritis; Ethnobotanical survey; Medicinal plants; Skin infection

Taxonomy of Two New Psyllid Species (Hemiptera: Triozidae) Associated with *Diospyros hoyleana* White (Ebenaceae) and *Lasiodiscus mannii* (Rhamnaceae) Hook in Cameroon

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The study of the psyllid fauna in Cameroon has revealed the existence of two new species within the genus Trioza. This group appears to be rich and diverse in the Afrotropical region in general and particularly in Cameroon. In this study, we present the morphological and biometric descriptions of these species, *Trioza lasiodiscus* sp. nov. and *Trioza diospyros* sp. nov., which are associated respectively with *Lasiodiscus mannii* Hook and *Diospyros hoyleana* White. These new species were identified through a meticulous analysis of their morphometric characters, which are key elements for specific diagnosis. Their taxonomic grouping within the obsoleta group was established based on comparisons with already described closely related species within this group. The discovery of these new species underscores the importance of continuing faunal inventories in tropical regions, where biodiversity remains largely unknown. This work contributes to enriching our understanding of the systematics of psyllids and helps to better comprehend the evolutionary relationships within this group. Furthermore, the damage caused by these insects to their respective host plants raises important questions regarding their impact on the protection of these plants, which have significant economic and medicinal interests. Indeed, the galls induced by the immatures and the foliar necroses caused by the adults can weaken the plants, making them more vulnerable to other stresses, ultimately leading to decline and altering the composition of plant communities.

Keywords: Psyllids, taxonomy, systematics, Trioza, Cameroon, galls, host plants, conservation.

Diversity of endophytic fungi on mistletoes in Santa, North West Region, Cameroon

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Endophytic fungi are microorganisms that grow inside plant tissues without causing negative symptoms to the host. They are ubiquitous; occurring in all known plants including mistletoes. This study aimed to determine the species richness of endophytic fungi found in mistletoes and host bark of some host trees in Santa, North West Region of Cameroon and equally to test the applicability of eCognition software in the classification of these endophytes. Six samples (mistletoe young leaves, old leaves, young stems, old stems, haustoria and host bark) were collected from each of 10 selected fruit trees (*Persia americana,* two *Psidium guajava, Rhus sp,* two *Eriobotrya japonica, Croton macrostachyuss, Anthocleista schweinfurthii Gilg, Calliandra calothyrsus* and *Cola accuminata*) in Santa, resulting in 60 samples. The samples were cultured and sub cultured on PDA and MEA to obtain pure endophytic fungi cultures to compare variability and determine endophyte richness. Another subculture was done on MEA in triplicates and photographed using a Sony Alpha 6000 camera, and the images were analyzed using multiresolution segmentation in eCognition developer 10.3. A total of 66 fungal colonies were obtained and 41 were identified to the genus level. Nine genera were identified including *Alternaria, Aspergillus, Colletotrichum Dinemasporium, Fusarium, Penicillium, Pestalotiopsis, Phytophthora* and *Saccharomyces*, belonging to 9 families, 8 Orders, 5 Classes and 2 Phyla (Ascomycota and Oomycota). *Fusarium* was found in all 6 organs used and *Aspergillus* was found in all organs except old stems. *Colletotrichum, Dinemasporium, Penicillium* and *Saccharomyces* were each recorded in only one organ. Young stems recorded the highest genera followed by young leaves and old leaves while haustoria and host bark recorded the least. The eCognition software proved to be a quick method of sorting out fungal cultures as some similar cultures (G_1H_1, I_1A_2, G_3H_3, E_5F_5, G_5H_5 and B_6C_6) produced similar false colour patterns. Results obtained indicate that Young stems are the most suitable organ for endophytic fungi and *Fusarium* and *Aspergillus* can be considered in ubiquitous in all mistletoe organs. PDA is a preferred medium for fast growth of mistletoes fungal endophytes while MEA is preferred medium for purer cultures.

Keywords: Endophytic fungi, Mistletoes, Species richness, eCognition, False colour.

SESSION 2: BIODIVERSITY AND ECOSYSTEM CONSERVATION AND SERVICES

Diversity of endophytic fungal communities associated with the rhizome fragment of the white cultivar in *Xanthosoma sagittifolium* L. Schott cultivated in two agroecological zones in Cameroon and Sri Lanka

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This work aimed to determine the endophytic fungal richness of seeds consisting of rhizome fragments in *Xanthosoma sagittifolium* while highlighting the similarities and differences according to the agroecological zones of harvest. Rhizome fragments from 9~12 months of old plants were harvested from the white cultivar of *X. sagittifolium* was used. The harvest sites were in agroecological zones IV and V in Cameroon and dry and intermediate zones in Sri Lanka. The culture media used were PDA and PVK. The morphological and microscopic characterization of each isolated genus was carried out. 169 strains of endophytic fungi were isolated in Cameroon and 38 in Sri Lanka. In Cameroon, Rhizome fragments from agroecological zone IV presented a richness of endophytic fungi (105 strains) compared to those from agroecological zone V (64 strains). In contrast, in Sri Lanka, 17 strains are recorded in the dry zone and 21 in the intermediate zone. These different strains were grouped into 8 genera (*Alternaria* spp. *Aspergillus* spp., *Fusarium* spp. *Penicillium* spp. *Pythium* spp., *Phoma* spp., *Rhizopus* spp., and *Trichoderma* spp.) and also undetermined strains were recorded. Among these endophytic fungi, the genera Aspergillus spp., *Penicillium* spp., *Rhizopus* spp., and *Trichoderma* spp., showed a significant growth rate on PVK medium. The genera *Fusarium* spp., and *Pythium* spp., responsible for root rot, were poorly represented. However, the genus *Phoma* spp. presented several different morphological characters. This mapping of endophytic fungi according to the agroecological harvest zones is a key to understanding the use of endophytic fungi in the context of the development of fertilizer for the improvement of cultivation and production in *Xanthosoma sagittifolium* L. Schott

Keywords: Diversity, endophytic fungi, rhizome fragment, *Xanthosoma sagittifolium* L. Schott, Cameroon, Sri Lanka

Estimating Colobus satanas anthacinus (Le Conte, 1857) Density and their Threats in Nki National Park, East Region Cameroon

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The black colobus monkey, *Colobus satanas* is a threatened species from the central African forests suspected to be vulnerable due to habitat disturbance and thus thought to be mainly restricted to primary forest. A survey was carried out in Nki National Park, specifically to estimate the density of *Colobus satanas,* their distribution and human threats to their population. Eighteen 2 km line transects, reconnaissance walks as well as administration of semi-structured questionnaires to 150 participants in 8 villages around the Park were used to collect these data. Analyses was done using R-package in Distance software to determine *Colobus satanas* density and mean scores on a four-point Likert scale with a cut-off point of 2.50 was used to determine the threats. Results obtained indicated an estimated density of 0.2 groups/km2, translated to 19 (10-39) individual *Colobus satanas*/km^2. The main threats on *Colobus satanas* in Nki National Park and its peripheries with their percentage acceptance were identified to be hunting for bushmeat (96%), non-respect of law enforcement (94.4%), logging (70.7%), lack of a management plan (66%) and road construction (58%). In conclusion, the rate of poaching is rampant in Nki National Park which has a negative effect on the population of *Colobus satanas*. Thus, Cameroon, like other range countries of this species should include *Colobus satanas* in the list of completely protected organisms and also ban the hunting, sale and consumption of primates.

Keywords: Density, *Colobus satanas*, threats, Nki National Park, Cameroon.

Plant Diversity and Conservation Concerns of Transitional Forests of Center Cameroon

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Despite the many threats the natural ecosystems are subject to, sustainable forest management and biodiversity conservation are currently neglected by managers of communal forests (CF). Whereas they are essential for them to achieve the SDGs for which Cameroon have great attention. Considering that these aspects are usually not highlighted in CF management plans, this study aims to characterize the plant diversity and evaluate the conservation status of CFs forests located in Minta and Ndikinimeki, Central Cameroon. These two CFs have some orographic differences with Ndikinimeki CF being part of evergreen forests, while the Minta CF is strictly semi-deciduous. We used floristic inventories of individual trees of diameter at breast height ≥ 5cm; within 69 plots of 40m x 50m of the different vegetation strata of each CF. These data were used for floristic, endemism and conservation concerns, and structural vegetation characterization for each stratum of each CF. A total of 2,534 stems were inventoried in 13,8 ha, belonging to 222 species, 152 genera and 49 families. At Minta, 1,246 stems were counted, belonging to 173 species, 121 genera and 43 families, with a generic coefficient of 69.94%. At Ndikinimeki, 1,288 stems were counted, belonging to 150 species, 132 genera and 43 families, giving a generic coefficient of 88%. Mature forests (MF) had the highest species richness (126 in Minta and 113 in Ndikinimeki) regardless of the CF, and the lowest values were found in the savannas. The value of Shannon index (4.32-4.55), confirm the rich and diversified statute of these CF. Density and basal area found was respectively, 184 stems/ha and 276.26 m^2/ha. The study identified 29 species which are worldly threatened and with *Diospyros crassiflora* and *Mansonia alstissima* with Endandered (EN) statute. Also, *Dialium zenkeri* was the Cameroonian endemic plant species found; and which confirm the necessity to take into account conservation of them on management plans. This study further demonstrates the importance of biodiversity studies as an aid to the sustainable management and conservation of forests in the transition zone.

Keywords: Communal Forest, biodiversity, threatened species, transition forest-savannah, Cameroon

Parasitic insects associated with the African tulip tree *Spathodea campanulata* P. BEAUV (Bignoniaceae) in the Fako division of Cameroon

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Spathodea campanulata is an invasive alien weed native to West Africa that was widely distributed for ornamental purposes. In areas where the tree was introduced like in Fiji Islands, it has become invasive disrupting the natural ecosystem and affecting biodiversity. There is therefore a need to control this alien weed to protect the environment in the Pacific Island. This study identifies parasitic insects associated with the African tulip tree *Spathodea campanulata* in Buea and Limbe municipalities of the Fako Division of Cameroon from April to June 2024. Surveys were conducted to identify all the trees in these municipalities, and all the insects associated with the trees were recorded and identified. Host-specificity tests were done with *Bunia pugnana*. A total number of 30 trees were inventoried in the Buea and Limbe municipalities. Among the insects recorded were *Olios argelasius, Aphthona nonstriata, Tapinoma sessile, Paratrechina longicornis, Hemiptera psylloidea, Tetragnatha extensa,* and *Bunia pugnana*. The host-specificity tests (no-choice and choice test) carried out with *Bunia pugnana* on selected plants showed that Bunia strongly prefers *Spathodea campanulata* over other tested species such as *Kigelia Africana, Newbouldia laevis, and Markhamia lutea*. This preference is evidenced by the insect movement towards *Spathodea campanulata* and their ability to complete their life cycle on the host. These preliminary results should be further explored, and continuing monitoring and further testing on a wider range of non-target species should be conducted to ensure the agent's safety and effectiveness.

Keywords. *Spathodea campanulata*, Fako division, parasitic insects, Host-specificity test

Influence of agricultural practices on the diversity of soil-borne Hemiptera in cocoa-based agrosystems in Mintom (Southern Cameroon)

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In Cameroon, the order Hemiptera is the most represented and the most damaging in cocoa farms amongst insects. With a view in fighting these pests, chemical control is currently the most effective and varies from one farmer to another. However, due to the large toxic spectra of the chemicals applied, there is a risk for non-targeted soil-borne hemipteran. Yet less is known about their diversity. The present study therefore intends to assess the influence of agricultural practices on the diversity of soil-borne Hemipteran in coco based agrosystems. A preliminary survey helped in characterising agricultural practices according to the intensity of pesticides use. A soil-borne hemiptera inventory was conducted from May to August 2023 in 18 cocoa-based agrosystems and 12 forests plots of Mintom. Thirty quadrats of 625mÂ² were sampled by manuel collection and trapping using pitfalls. Samples were conserved in pill boxes containing alcohol at 70% and sorted in the laboratory. Hemipteran diversity was assessed using Shannon and Pielous indices and compared, using the Bray-Curtis dissimilarity index. A total of 4 types of agricultural practices were identified according to the intensity of pesticides application: very low, low, average and heavy. A total of 474 hemipterans were collected and divided into 19 families, 46 genera and 62 species. Their specific richness was high in the first type (26 species) and less in the third type (15 species). The Hemipteran diversity was greater in the fourth type and less in the first and second agricultural practices. The specific richness and abundance of soil-born hemipterans significantly varied amongst agricultural practices. Pesticides overuse is therefore said to harm soil-borne hemipteran diversity in cocoa based agrosystems.

Keywords: Diversity, Hemiptera, Soil, Agricultural practices, Agrosystems, Cocoa

Floristic and structural diversity of three community forests being exploited in the northern periphery of the Dja Biosphere Reserve – Cameroon

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Community forestry faces the challenge of biodiversity conservation. This study is a contribution to knowledge of the dimensions of the involvement of community forestry in the preservation of floristic biodiversity in the Dja Biosphere Reserve. It aims to analyse the flora and structure of the woody vegetation of the Adjane, Kompia and Nemeyong II community forests located on the northern periphery of the reserve. A full inventory was carried out within four types of vegetation physiognomy. It consisted of identifying, counting and measuring the diameter of woody species with a minimum diameter of 5 cm. The inventory system consisted of 24 plots of 250 m x 20 m each, i.e. 8 plots per community forest sampled. A total of 8089 individuals were inventoried in all the community forests, corresponding to an average density of 674 individuals/ha. These species belong to 291 species, 208 genera and 61 families. 4952 individuals classified in 263 species, 192 genera and 58 families have a diameter d ≥ 10 cm. 3137 have a diameter of 5 cm ≤ d < 10 cm and are grouped in 236 species, 180 genera and 55 families. The Shannon index varies between 3.27 and 3.87; the Pielou index between 0.87 and 0.92 and the Simpson index between 0.93 and 0.97. The Sorensen similarity index is high between the Adjane and Nemeyong II community forests (78.62%). Basal area ranged from 22.16 to 34.36 m2/ha. The three community forests show average species diversity, with an equitable distribution of individuals within the different species. The forest stand is sparse in the Kompia forest, while tree cover is most evident in the Nemeyong II forest. We are in the presence of rich forests, in full reconstitution with good natural regeneration of species.

Keywords: Dja Biosphere Reserve, community forest, floristic diversity

Diversity and Conservation of Indigenous Trees in Coffee Farms of the Western Highlands of Cameroon (case study: Noun Division)

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In coffee farming, farmers maintain some indigenous trees and also grow exotic tree species. This help to ameliorate climate change, provide ecosystem goods and services which help to lower the cost of production as well as diversify farm produce and benefits. The aim of this study was to assess the abundance and diversity of tree species in coffee plantations and their socio-economic importance to the indigenous people of Foumbot and Kouoptamo subdivisions. Data on the species diversity were collected in *C. arabica* and *C. robusta* plantations through field surveys and discussions with farmers in Foumbot and Kouoptamo subdivisions. A total of 100 plots were sampled. In each of the plots, 50 m × 20 m subplot was mapped out using a decametre and all the woody plant species of DBH ≥ 5 cm at 1.3 m above the ground were identified and recorded. A total of 3776 trees belonging to 44 species, 34 genera and 21 families were recorded. Fabaceae was the largest family followed by Moraceace then Rutaceae. 36 species were found in *C. robusta* plantations and 28 species in *C. arabica* plantations. A similar trend was also observed for genera. Between the two plantations, 14 genera and 14 families were common. The most representative genera in *C. arabica* plantations were Terminalia and Ficus with 2 species each, while in *C. robusta* plantations they were citrus with 4 representatives, acacia (3) and ficus (2). The average density of trees in *C. arabica* plantations was 469.5 trees/ha while in *C. robusta* was 287.2 trees/ha. For the two plantations *Leucaena leucocephala* had the highest density with an average of 307.2 stem/ha in Arabica and 100 stems/ha in *C. robusta* plantations respectively. For both coffee plantation types, the number of native trees was higher than that of introduced species, with a higher number of native trees encountered in *robusta* plantations. The number of cultivated species in both coffee plantations was 16 in arabica and 15 in robusta but the cultivated trees were abundant and dense in both plantations. Five species were found to be of conservation concerned. Almost all tree species found in the coffee plantations were cited to be used in at least one of the five use-categories; food, medicine, construction, energy and others. *Canarium schweinfurtii, Phoenix reclinata* and *Raphia farenifera* were found in all the five use-categories. Trees are important in coffee productivity and contributes significantly to biodiversity. Raising awareness of local communities on the value of diversification in the management of coffee farms will greatly boost biodiversity conservation alongside coffee production.

Keywords: Diversity, Coffee farms, Native trees and Conservation.

Characterization of endophytic fungi from fragments of rhizomes of *Xanthosoma sagittifolium* L. Schott collected in agro-ecological zone V of Cameroon

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Xanthosoma sagittifolium (L.) Schott is a tropical plant cultivated for its edible leaves and tubers. The real problem related to its cultivation is the lack of improved varieties, soil fertility, post-harvest losses, and inadequate agronomic practices. The general objective of this study will be to determine the diversity of endophytic fungi present in rhizome fragments in *X. sagittifolium*. To do this, rhizome samples of two cultivars of *X. sagittifolium* were collected in the East region of Cameroon, more precisely in 5 localities namely: Mboundel, Koso, Djouth, Bitouala, Nguelebok during the dry season. The classic methodology of isolation and macro- and microscopic identification was used to characterize the endophytic fungal communities using morphological and microscopic identification keys. To assess this fungal diversity, diversity indices such as Shannon, Simpson, Piélou, and specific richness indices were calculated. The results showed that the rhizomes of the two cultivars of X. sagittifolium harbor a significant diversity of endophytic fungi. A total of 145 isolates and 8 genera were obtained, of which only one was identified, with a predominance of Aspergillus sp. (46.2%). The isolation frequencies vary according to the varieties, Aspergillus sp. being more frequent in the red variety (54.8%) than in the white one (34.4%). Diversity indices reveal greater diversity for the white variety (H' = 1.89, D = 0.188, J = 0.91) than for the red (H' = 1.45, D = 0.341, J = 0.7), although both varieties have equal species richness (S = 8). Furthermore, fungal diversity varied across harvest sites, with Djouth recording the highest values for Shannon index (H' = 1.83) and species richness (S = 8), while Nguelebok has the highest Piélou Equitability (J = 0.94). These differences reflect the impact of local ecological conditions on the composition of fungal communities. These results provide a basis for developing sustainable agriculture strategies, taking advantage of endophytic fungi to optimize the productivity and resilience of these plant crops under varied conditions.

Keywords: *Xanthosoma sagittifolium* L. Schott, diversity, endophytic fungi, rhizome fragments, agro-ecological zone,

Diversity of arbuscular mycorrhizal fungi associated with the rhizosphere of some plants along an altitude gradient in Mount Cameroon

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The general objective of this work was to evaluate the influence of environmental factors on the diversity of arbuscular mycorrhizal fungi in Mount Cameroon's different types of vegetation. Sampling was conducted on Mount Cameroon's southwest slope in February 2024. A mixed sampling plan was chosen for this study. The physicochemical analysis of the soil was carried out in each sampling point, as the evaluation of the floristic background, and the collection of samples at depths between 0-20cm and between 20-40cm deep. The mycorrhizal status of the dominant plants of the floristic background and morphological characterization of the mycorrhizal types were carried out. The results show a dominance of plants of the Cyatheaceae family. The highest mycorrhization frequencies occur in forests, submontane, montane, and subalpine meadows with 100% of the roots of *Vernonia amygdalina*, Cyathea spp, and *Dracaena afromontana* plants. The soils of the different vegetation levels are predominantly loamy-clayey, the pH is acidic along the slope with values between 4.1 and 5.6. The extraction and counting of spores of arbuscular mycorrhizal fungi gave higher densities of 16 spores per gram of soil for samples taken between 0-20cm depth and 25 spores per gram of soil between 20-40cm depth at 1481 meters altitude in the submontane forest. 7 genera belonging to the class of Glomeromycetes were recorded *Glomus* spp., *Funneliformis* spp., *Rhizophagus* spp., *Septoglomus* spp., *Gigaspora* spp., *Accaulospora* spp., and *Scutellospora* spp., with a predominance of the genus *Glomus* which appears in all types of vegetation studied followed by the genus *Gigaspora* which is absent at 3772 meters of altitude. This study shows a variation of the biotic and abiotic parameters studied within the same type of vegetation, between different levels of vegetation, and according to the depth of the soils.

Keywords: Arbuscular mycorrhizal fungi, Mount Cameroon, diversity, types of vegetation, altitude

Diversity of endophytic fungi present in the leaves of two varieties of Fragaria x ananassa L. during fertilization

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The general objective of this work was to determine the richness of Fragaria x ananassa leaves from plants under fertilization conditions. Fragaria x ananassa 'Mme moutot' and Fragaria x ananassa 'Charlotte' were used. The experimental design was a complete block. Five treatments were applied; Control (T), Entocompost (ENT), Clam Shells (CLS), Arbuscular Mycorrhiza Fungi (AMF), and the mixture (ENT+CLS+AMF). Soil analysis and agronomic growth parameters were also evaluated. Endophytes present in the leaves were isolated, identified, and characterized. The results showed that the soil had a sandy-silty texture, an acid pH of 5.5, and an average fertility (CEC 13.25 meq/100g, available phosphorus of 80.92 mg/kg). This soil, moderately poor in phosphorus, has a C/N ratio of 28, thus characterizing a very high mineralization of organic matter. The biofertilizers applied significantly influenced the growth of the plants Student Newman and Keuls test at 5% in the two varieties of Fragaria x ananassa compared to the controls. The average petiole size was influenced by the ENT+CLS+AMF mixture at Month 2 with 14.53 ± 01.01 cm and 14.55±00.84 cm in Fragaria x ananassa 'Mme moutot' and Fragaria x ananassa 'Charlotte' respectively. The yield was significant in the presence of the ENT+CLS+AMF mixture in the variety 'Mme moutot' (2t/ha). Morphological characterization of the endophytic fungi of the identified leaves showed strains with a cottony and woolly appearance with a growth that was either very slow, medium, fast or very fast depending on the treatments applied. Five classes of fungi were identified, thus grouping 9 genera; the class of Sordariomycetes (Fusarium spp. and Colletotrichum spp.); the class of Mucoromycetes (Mucor spp.), the class of Basidiomycetes (Rhizoctonia spp. and Armillaria spp.); the class of Dothideomycetes (Allophoma spp., Neoascochyta spp. and Alternaria sp.) and the class of Ascomycetes (Aspergillus spp.). The highest number of endophytic fungi was recorded with Fragaria x ananassa 'Charlotte' in the presence of the treatment ENT.

Keywords: Fragaria x ananassa, diversity, biofertilizers, endophytic fungi, soil analysis

SESSIONS 3 & 4: BIODIVERSITY AND CLIMATE CHANGE, BIODIVERSITY AND INDIGENOUS KNOWLEDGE FOR CONSERVATION

Climate Change-Biodiversity Nexus in the Bamenda Highlands of Cameroon

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There is a strong connection between climate change and biodiversity, as each directly impacts the other. The Bamenda Highlands of Cameroon serve as a transitional zone between the forested southern regions and the grasslands of the north. This area is primarily characterized by grasslands interspersed with patches of woody savanna, gallery forests, montane forests, and humid forests. These vegetation types can be categorized into lowland and highland varieties. Human activities, such as agriculture and the use of fire by farmers and herders, pose significant threats to this vegetation, preventing the establishment of climatically appropriate vegetation. Habitat destruction has also led to the decline of several wildlife species. In the lower transitional areas, savanna woodlands grow along streams (Donga Plain), alongside shrubs and low-mountain forests (Batibo, Bambui, Mount Oku). In the highlands, grasslands derived from mountainous forests can be found, particularly in areas like the Nkambe-Bui Plateau and the Santa and Oshie highlands. The region's mountains exhibit diverse ecological conditions, with savanna-like vegetation present in the escarpments (such as the Donga escarpment, Jakiri, and Njinikom) and grassland vegetation on the peaks (including Mount Oku and Mount Lefo). The fauna of the Bamenda Highlands includes microorganisms, insects, amphibians, reptiles, birds, rodents, and primates. Some of these species are endemic to the region, while others are vulnerable, threatened, or endangered due to climate change and changes in land cover. This situation underscores the urgent need for proactive conservation efforts to restore landscapes through Nature-based Solutions and Ecosystem-based Adaptation.

Keywords: conservation, flora, fauna, vulnerability, Nature-based Solutions

Climatic Variability and Biodiversity Degradation in the Bamenda Municipality

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Biodiversity degradation in the Bamenda Municipality, driven by climate change, is disrupting natural habitats and species in ways that are not yet fully understood. Some indications rising temperatures are negatively impacting biodiversity, while changing weather patterns, extreme weather events, and population growth are exerting additional pressure on species already threatened by human activities. This study aims to (i) investigate the effects of climate change on biodiversity degradation in the Bamenda Municipality, (ii) assess the impact of this degradation on the community's livelihood, and (iii) examine the measures taken by species to adapt to climate change. To conduct the study, both quantitative and qualitative methods were employed to gather primary and secondary data. This included visual observations, literature reviews, interviews, discussions, and questionnaires. Meteorological data from 1981 to 2021 for Northwest Meteorological Service at the Delegation of Transport was collected and analyzed. The results indicated a decline in rainfall, rising temperatures, and increased biodiversity degradation. The study found a significant decrease in certain species, such as a reduction in the population of green grasshoppers (*Omocestus viridulus*), locally known as 'Mounguine'. Additionally, there was an increase in pest insects and rodent populations, along with the degradation and indiscriminate felling of eucalyptus trees (Myrtaceae). The urban poor have increasingly relied on wood shavings and charcoal for fuel. Moreover, swampy areas were reclaimed, leading to the destruction of habitats for some plant and animal species. This resulted in a rise in the prevalence of plants with variegated leaves. The study recommends planting drought-resistant trees along the main roads and streets of the Municipality. It also emphasizes the necessity of restoring and conserving swampy areas, as well as implementing biological control measures for pest insects and rodent populations to achieve a sustainable urban environment.

Keywords: biodiversity, species, degradation, climatic, variability, sustainability

Collection and analysis of data on phytodiversity and carbon stock of trees in urban areas in Cameroon: the case of Yaoundé 6

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In Cameroonian cities, trees are crucial for the well-being of urban dwellers, but urbanization threatens them. Reforestation efforts should focus on species with high sequestration potential and tolerated by the population. This study, "Collection and Analysis of Data on Phytodiversity and Carbon Stock of Trees in Urban Areas: Case of Yaoundé VI" assesses the carbon stock and diversity of tree species, particularly in Yaoundé 6. Data were collected at several sites (Elig-Effa, Biyem-assi Sud-Ouest and Biyem-assi Sud-Est). Methodologies include measuring tree circumference and height, species identification via existing keys and samples from the National Herbarium, and use of Simpson and Shannon-Wiener diversity indices. A non-destructive method based on the allometric equation of Chave et al (2014) assessed carbon stocks. 306 trees were recorded in Yaoundé 6: 104 in Elig-Effa West, 130 in Biyem-assi South-West and 72 in Biyem-Assi South-East, divided into 15 families, 23 genera and 28 species. The carbon stock in Elig-Effa West is 16.0811 tC for 68.9 ha (0.2334 tC/ha), in Biyem-assi South-West 20.1014 tC for 69 ha (0.2792 tC/ha), and in Biyem-assi South 11.1330 tC for 32 ha (0.3479 tC/ha). *Mangifera indica* predominates in sequestration. Most species are fruit trees, but the forest species *Alstonia boonei* is well tolerated. The low amounts of carbon sequestered are due to the small number of trees. This study guides urban reforestation in Cameroon by identifying species conserved by the population.

Keywords: collection, carbon stock, phytodiversity, arborescent, urbanization

Inducing rooting capacity of auxins and some natural substances on the cuttings propagation of *Nauclea latifolia* in the western highlands of Cameroon.

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This study aimed to explore the effects of different root inducing agents on cuttings propagation of *Nauclea latifolia* (Sm), in the western highlands of Cameroon. Stem and root cuttings were treated with synthetic hormones. Five auxins treatments of indole-3- acetic acid (IAA), same for indole-3-butyric acid (IBA) and one control. All auxins treatment was applied by dipping the basal end of the cuttings into the solution for 5s before inserting, in the rooting medium. Other sources of hormones were equally used. viz: coconut water (CW), honey (H) and aloe vera gel (AV). Cuttings were soaked into these hormone sources for an hour before inserted into the non-mist propagator. The cuttings inserted in the non-mist propagator without treatment serve as control. A total of 486 cuttings were used in this experiment. Out of which 279 rooted with an overall rooted percentage of 57.41%. Cuttings soaked in IAA had the highest rooted percentage (18.2%), followed by cuttings soaked in AV gel (16.19%) while control had the least rooted percentage (2.1%). IBA and AV are the best hormones for the propagation of *Nauclea latifolia* cuttings.

Keywords: cuttings, propagation, *Nauclea latifolia*, rooting ability, hormones.

Non-coffee plants species diversity and their ecological status under field conditions in Noun Division, West Region of Cameroon

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The current work assessed the non-coffee plant species (NCPS) diversity and their ecological status in Robusta coffee orchards in Noun Division, due to the lack of these valuable data in contrasting locations and/or knowledge related to agroecological services/environmental preservation. To reach that goal, the transverse study has been carried out within 17 Robusta coffee plantations, 7 villages and 3 sub-divisions of Noun Division. NCPS were identified using relevant dichotomous keys whereas their recovery rate was estimated via Braun-Blanquet method. Biodiversity of NCPS was estimated using the specific richness and/or diversity indices while their ecological status and farmers's use/perception were determined through Dajoz (1982) modified method and structured questionnaires respectively. A total of 48 NCPS were inventoried and divided into 38 genera and 17 families. *Elaeis guineensis* was most abundant species, with 30.85% of occurrence while *Albizia adianthifolia*, *A. glaberrima*, *Antidesma laciniatum*, *Citrus medica*, *C. sinensis*, *Erythrophleum suaveolens*, *Ficus mucuso*, *F. polita*, *F. umbellata*, *Macaranga* sp., *Mangifera foetida*, *Piptadeniastrum africana*, *Pterocarpus erinaceus*, *P. milbraedii*, *Pycnanthus angolensis*, *Sarcocephalus diderrichii*, *Sterculia tragacantha*, *Trilepisium madagascariense* and *Voacanga africana*, were found rare, with 0.25% of occurrence each. NCPS circumference and recovery rate varied significantly (p<5%) between the studied plots, from 64.75 Â± 3.17 to 181.86 Â± 43.81 cm and 8% to 100% respectively. Plants abundance and specific richness/diversity also varied between plots, villages and sub-divisions, with respective values of 2 to 44 individuals, 28 to 117 and 91 to 177 (for abundance) versus 0.00 to 3.34, 0.57 to 5.04 and 0.58 to 7.54 (for specific richness/diversity). 66.66% of inventoried NCPS were abundant and 33.34% were extremely rare. Our findings revealed the need to take appropriate measures to preserve endangered species for sustainability environmental conservation of the studied agrosystems.

Keywords: specific richness/diversity, non-coffee plants trees diversity, robusta coffee agrosystems, environmental conservation

Evaluation of the typology of actors in the cocoa value chain in the conservation areas of Ngoyla and Yokadouma (East-Cameroon)

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Agriculture is facing two major challenges: fulfilling an ever-growing demand for food and preserving natural resources. Additionally, agricultural systems are facing an increase in climatic, economic and social disturbances. This study examines the actions of different actors on the sustainable development of the cocoa sector in Ngoyla and Yokadouma. More specifically, it was a question of identifying types of actors; to study the different interactions of the stakeholders involved and finally, analyze the impacts of these interactions in conservation areas. Primary data was collected through 21 household surveys, focus group discussions and platform meetings. Stakeholders in the cocoa value chain are recruited not only from the Baka but also from the local communities of Yokadouma and Ngoyla. These actors, both men and women, are 74.47% less than 50 years old. Regarding the level of education, 35.46% have a primary level, 48.23% secondary, 6.38% higher and 9.93% in non- formal education. There is an important typology of actors in the cocoa sector. In addition to administrative regulatory services, several stakeholders operate like cocoa producers, plantation tenants, coxers, sellers of phytosanitary products, loan sharks, buyers, peasant organizations as well as a discussion platform and negotiation. The profile of financial flows in the targeted sectors reveals that indigenous populations and local communities are in a position to dominate market transactions with private actors, their negotiating power is weak and they do not contribute to the definition of purchase prices. An average of 311 tons and 7246.46 tons of cocoa produced annually respectively in Ngoyla and Yokadouma. It results in a financial transaction of 264,350,000 FCFA and 6,811,673,528 FCFA. The conventional offer of financial services are unavailable while the demand for financial services is high but without response on the spatiotemporal scale; this led to the creation of Yana and the cocoa rental.

Keywords: Baka, Local communities, cocoa sector, conservation areas, East-Cameroon

Diversity of useful mushrooms and etnomycological knowledge of native people in the Adamaoua region of Cameroon

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Macrofungi are key members of all ecosystems as they contribute to the nutrient cycling and soil health and support of many organisms. In addition, they are useful to humans since many are used as food, medicine and income generation local communities that each have particular ethnomycological knowledge. However, the macrofungal wealth and their uses in many areas of Africa especially Cameroon. This is the case of Adamaoua that is one of the main pasture area of Cameroon and where no data on the diversity and uses of fungi exist. The present study was to document the macrofungi of grazing-land and ethnomycological knowledge of people of this region. Mushroom collections were done in April to October 2024 and collected samples identified base on the macroscopic characters while their substrate and mode life where noted. To document the knowledge, 500 structures questionnaires were assigned to Gbaya, peuls, Mbororo, Mboum, Moundang and Dii people in vina and Mbéré divisions. In total, 312 samples of mushrooms for 67 species, 46 genera, 16 families and 6 orders were collected. Species included Lignicolous (35,82%), coprophilous (31,34 %), ectomycorrhizal (25,37 %) and Termite associated fungi (7,46 %). Locals have different knowledge and level uses of species. However their uses include mainly food, income and medicine. *Chlorophyllum hortense* and *Macrolepiota* sp. are a coprophilous species these purposes and is said to treat indigestion and stomach ache. These results give and over view of mushroom wealth in the Sudano-Guinean agroecological zone of Cameroon and the huge of peoples of the areas. However biotechnological studies are needed to determine their potential application in industry.

Keywords: Macrofungi, diversity, ecology, ethnomycology, agroecological zone

Collection and analysis of data on threats to aquatic phytodiversity in the Mpem and Djim National Park (MDNP) (Centre – Cameroon)

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The aquatic phytodiversity of the MDNP is of capital importance for the aquatic life of this park, because it serves as shelter and food for mollusks, fish and crustaceans. However, this phytodiversity is at increasing risk over the years due to several threats which are of anthropogenic origin (agriculture, fishing, livestock farming, etc.) or natural (falling tree trunks on the bed of watercourses, etc.). Thus, the establishment of a monitoring and conservation plan for said phytodiversity requires an upstream inventory of the different threats they face, their spatial distribution, their frequency and their intensity. This study was based on systematic sampling of the two main watercourses (Mpem and Djim) of the MDNP. To do this, these watercourses were followed on foot, from downstream to upstream, and all activities or phenomena whose effects are likely to have a negative impact on the aquatic phytodiversity of this park were noted on a previously designed data collection sheet. The major threats that could contribute to the rapid degradation of aquatic phytodiversity in the MDNP are: agriculture (18%), livestock farming (18%) and fishing (15%). These major threats to aquatic phytodiversity are all of anthropogenic origin. As a result, more effective and efficient conservation strategies for this phytodiversity must be developed, awareness-raising methods and management policies for this protected area improved.

Keywords: Phytodiversity, aquatic, MDNP, threat, conservation

SESSIONS 5 & 6: BIODIVERSITY AND MULTIDISCIPLINARY; BIODIVERSITY AND INTERNATIONAL COLLABORATION

Eco-Literary Perspectives: Bridging Literature and Environmental Justice in Biodiversity Conservation

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In the face of escalating environmental crises, African literature emerges as a vital medium for exploring the intricate relationships between biodiversity, cultural identity, and social justice. This study investigates how selected African literary texts articulate the significance of biodiversity and critique the socio-political dynamics threatening ecological integrity across the continent. The aim is to highlight the unique perspectives of African authors that can influence environmental policies and practices, addressing a significant gap in understanding the contributions of African literature to biodiversity conservation and social justice discourse. Employing a qualitative descriptive methodology, this research conducts content analysis of key texts, including Colin Diyen's *The Earth in Peryl*, Albert Samah's *Weeping Environment*, Chris Abani's *The Hungry Earth*, Ayi Kwei Armah's *The Last Tree*, and Nkemngong Nkengasong's *God Was African*. The theoretical lens of ecocriticism will be applied to examine thematic representations of biodiversity conservation and environmental justice. Close readings will identify patterns of representation and symbolism, while comparative analyses will explore how different cultural narratives shape perceptions of these issues. Preliminary findings indicate that these literary works reflect indigenous knowledge systems and advocate for sustainable practices. They serve as powerful tools for raising awareness about ecological issues and fostering community engagement in conservation efforts. This research underscores the importance of integrating literary insights into environmental discourse, advocating for a holistic approach that respects both ecological systems and human rights. The study bridges literary analysis with environmental studies, thereby fostering interdisciplinary dialogue that informs sustainable practices and promotes a just relationship between humanity and the natural world. Ultimately, African literature emerges as a vital catalyst for action towards preserving biodiversity for future generations.

Keywords: Ecocriticism, preserving biodiversity, environmental justice, African Literature, Indigenous Knowledge, sustainable practices

Oral Narratives and the Conservation of Biodiversity in Cameroon

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Economic growth, along with the relentless exploitation and pollution of our environment, has posed significant threats to our survival. Although the Cameroonian government has initiated various efforts to preserve the environment such as tree-planting campaigns, legislation, and forest conservation these initiatives have not fully addressed the underlying issues. We believe this is largely due to the insufficient consideration of the ecological perspectives of the Cameroonian people. Oral narratives serve as reflections of community belief systems, significantly influencing attitudes toward the environment and playing a vital role in biodiversity conservation. This study seeks to explore the importance of oral narratives in the conservation of biodiversity in Cameroon. These narratives are an integral element of the cultural identity of the people, revealing valuable insights about local flora, fauna, and traditional environmental beliefs. They have historically functioned to transmit values and shape how communities interact with their surroundings. We operate under the premise that effective biodiversity conservation, which is essential for sustaining human life, can only be realized by incorporating indigenous narratives that embody the belief systems that have long protected biodiversity.

Keywords: Culture, oral narratives, conservation, biodiversity

Comparative study of Volatile Organic Compounds of Three Species of the Genus *Rigidoporus* (Basidiomycota, Polyporaceae)

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Fungi produce a wide variety of volatile organic compounds (VOCs) which play an important role in their metabolic mechanisms and can help in species discrimination. The hexane and chloroform extracts of three species from the genus *Rigidoporus: Rigidoporus vinctus* (DM 537), *Rigidoporus ulmarius* (DM 551) and *Rigidoporus microporus* (DM 1023) were analyzed by Two-Dimensional Gas Chromatography with Time-Of-Flight Mass Spectrometer (GCxGC-TOF-MS). Five chemical groups of volatile organic compounds are obtained: aliphatic compounds, esters, carbonyl compounds, carboxylic acids and alcohols. The hexane extracts showed that the Polypores analyzed are largely made up of aliphatic compounds: 45.11% in *Rigidoporus vinctus* (DM 537); 63.46% in *Rigidoporus ulmarius* (DM 551); 85.83% in *Rigidoporus microporus* (DM 1023). While the chloroform extracts made it possible to identify esters, carbonyl compounds, carboxylic acids and alcohols as the majority in the following proportions: 54% in *Rigidoporus vinctus* (DM 537); 81.6% in *Rigidoporus ulmarius* (DM 551); 74.72% in *Rigidoporus microporus* (DM 1023). Among these compounds, very few with fungicidal effect were detected such as triazoles (3,4-Diamino-4H-1,2,4-triazole; 4H-1,2,4-triazole, 4methyl-; 2,4-bis (methylethyl)-2-methyl-2,5-dihydro-1H-imidazole). The comparison of the chemical profiles resulting from these analyzes revealed clear differences between the three species of *Rigidoporus* among themselves, thus proving the importance of chemotaxonomy as means of identifying species and a useful means to contribute to the conservation of fungi.

Keywords: Fungi, volatile organic compounds, species discrimination, chemical groups, chemotaxonomy.

Water quality and presence of intestinal parasitic forms, responsible for a weak sanitation status in Dimako (East-Cameroon)

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The presence of viable infective forms of helminths and protozoa in surface water systems in Dimako owing to the lack of sanitation leading to the transmission of vector-borne diseases such as cholera, diarrhea, hepatitis A and typhoid fever. This study aimed to evaluate the impact of quality of water and water bone diseases on the sanitation status in a rural area. Water samples for physicochemical and biological analyses were collected once per season at twenty stations each from Dimako watercourse, from Mai 2022 to April 2023. Physicochemical parameters were measured following standard methods. The sedimentation and the Faust technics were used to identify and count the resistance forms of intestinal parasites. Biological analyses revealed the presence of 17 parasite infective forms belonging to two main groups: Protozoans (*Entamoeba hystolytica*, *Balantidium coli*, *Crytosporidim spp, Microspora sp.*, *Cyclospora sp., Giardia intestinalis,* and *Isospora belli*) and Helminths (*Ascaris lumbricoïdes*, *Tania sp.*, *Schistosoma heamatobium*, *Enterobius vermicularis*, *Strongyloides stercoralis*, *Trichostrongylus* sp., *Trichuris trichiura*, *Toxocara canis*, *Toxocara leonina*, *Fasciola sp.*). Physicochemical analyses indicated that the waters are slightly acidic (6.7±0.57), rich in organic matter (19±7.9 mg/L) with an average temperature of 25 ±1.3°C. The occurrence of intestinal parasitic forms suggests faecal contamination of the waters. The proximity to pollution sources and fragile sanitary conditions may be accountable for the low water quality. This study was conducted to provide baseline data to allow public authorities as well as stakeholders involved in environmental management to establish sustainable measures aimed at effectively protecting Dimako populations.

Keywords: Water quality, intestinal parasitic forms, sanitation condition, Dimako.

Engaging Communities through Eco-Pedagogy: Teaching Literature for Biodiversity and Environmental Justice

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This study explores the integration of eco-pedagogy into literature education as a means to promote community engagement, biodiversity conservation, and environmental justice. The aim is to develop pedagogical methods that enhance students' understanding of literary texts while empowering them to actively participate in their communities' environmental initiatives. Despite the growing recognition of eco-pedagogy in educational discourse, there remains a gap in practical applications that connect literary studies with community engagement and environmental action. This research addresses this gap by proposing innovative teaching strategies that utilize literature as a tool for fostering ecological awareness and social responsibility. The methodology employs a mixed-methods approach, combining qualitative analysis of literary texts with participatory action research in local communities. Students will engage in community-based environmental projects, performing excerpts from selected literary texts through the Theatre of the Oppressed, forum theatre, spec-acting, reflective writing, and humorous methodologies. Focused group discussions will facilitate dialogue between students, educators, and community members, allowing for collaborative exploration of local biodiversity issues. Selected works will include contemporary African literature addressing themes of environmental degradation, the importance of biodiversity, and social justice. Preliminary findings indicate that engaging with literature through an eco-pedagogical lens cultivates empathy and critical thinking among students, enabling them to connect personal narratives with broader environmental contexts. This approach enhances literary appreciation and encourages students to advocate for sustainable practices within their communities. In conclusion, this research emphasizes the importance of integrating eco-pedagogy into literature education to bridge academic learning with real-world environmental challenges. Literature can serve as a powerful catalyst for promoting biodiversity conservation and environmental justice when interdisciplinary collaboration and community engagement are fostered. This critical lens not only highlights the urgency of addressing ecological crises but also empowers students to take meaningful action in their local contexts.

Keywords: Eco-pedagogy, community engagement, biodiversity conservation, environmental justice, participatory action research, critical pedagogy

Effects of Different Substrates on the Growth, Metabolites and Productivity of *Pleurotus ostreatus* P. Kumm and Comparative Study of *Pleurotus* Species for Heavy Metals and Contaminants

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Mushroom cultivation holds significant potential as an environmentally sustainable alternative for food production. *Pleurotus ostreatus,* oyster mushroom is widely consumed for their nutritional value and culinary versatility. This study aims to investigate the impact of different substrates on growth, metabolites and productivity of *Pleurotus ostreatus* and analyze it for heavy metals and metabolites. Various substrates, including agricultural waste, organic materials and synthetic mixtures were evaluated for their suitability in promoting optimal growth and productivity. Each substrate type was prepared with specific combinations and supplemented with necessary minerals and vitamins. Rice straw + Rice bran, Saw dust + Corn cobs + Peanut pulp + Palm cone + Beans straw + Rice straw + Rice bran, Peanut pulp + Rice bran, Palm cone + Rice bran, Saw dust + Corn cobs + Rice bran, Beans straw + Rice bran, Saw dust + Peanut pulp + Rice bran, Corn cobs + Rice bran and Corn cobs + Peanut pulp + Rice bran. Growth performance, productivity parameters, metabolites efficiency and heavy metals levels were assessed through measurements of mycelia colonization, fruiting body development, and biochemical composition. The mean spawn run time ranged from 36.33 ± 1.633 (days) in SD+RB (100% saw dust) and BS+RB (100% bean straw) which were higher to 28.33 ± 0.816 (days) in SD+CC+PP+PC+BS+RS+RB and PP+RB which were lower compared to SD+RB which was the control. Lead was seen to be more present in wild 1 (12.4±0.528mg/kg) and saw dust and rice bran with mean of 11.3± o.484mg/kg. The lowest value seen in Rice straw +rice bran (5.01±0.214mg/kg). The level of primary metabolites (proteins and carbohydrates) for example was higher in the wild edible mushrooms than the cultivated *Pleurotus ostreatus*. The results revealed that substrate composition significantly influenced the growth, metabolites and productivity of *Pleurotus ostreatus* mushrooms. *Pleurotus ostreatus* showed higher nitrogen uptake efficiency when cultivated on substrates enriched with organic nitrogen sources. *Pleurotus ostreatus* has been studied for their potential in bioremediation. Overall, these findings highlight the importance of substrate selection in optimizing the growth, metabolites and productivity of *Pleurotus ostreatus*. From the results, the substrates used were classified from the least to the best thus: RS+RB < SD+CC+PP+PC+BS+RS+RB < PP+RB < PC+RB < SD+CC+RB < BS+RB < SD+PP+RB < CC+RB < CC+PP+RB. This mean that corn cobs mixed with peanut pulp is recommended as good substrate for mushroom cultivation.

Keywords: *Pleurotus ostreatus*, substrate, growth, metabolites, heavy metals, analysis.

Assessment of leaf spot disease on water leaf (*Talinum triangulare* (jacq.) Willd and *in vitro* effect of three medicinal plant extracts on pathogen(s) in the Northwest Region of Cameroon

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Cultivation of waterleaf improves the life quality of families and provides additional income for farmers. However, waterleaf production in Cameroon has suffered a major blow from leaf spot disease. Ten farms with dimensions of 4 m by 3 m each in Nkwen, Bamenda, Cameroon were surveyed for leaf spot disease of *Talinum triangulare*. Disease incidence and severity were assessed by surveying the farms after every fourteen days for three months. Small pieces of infected leaf parts were inoculated on prepared plates of potato dextrose agar. After 7 days of incubation, pure cultures were made, and isolated fungi were identified according to recommended references. Aqueous extracts from *Moringa oleifera* (Leaves), *Ocimum gratissimum* (Leaves) and *Zingiber officinale* (Rhizomes) were evaluated for *in vitro* antifungal activities on *Alternaria* and *Cercospora*. Data collected for disease incidence and severity showed varying intensities at the different locations. Two fungi species were isolated from the diseased leaf samples collected from 5 farms and were identified as *Alternaria* spp. and *Cercospora* spp. All the extracts had inhibitory activities on the test fungi with the highest inhibition (79.6%) obtained from *Zingiber officinale* (Rhizomes) extract and the lowest inhibition (4%) obtained from *Ocimum gratissimum* extract.

Keywords: Identification, incidence, severity, leaf spot, plant extracts, waterleaf.

Effect of Angular Leaf Spot Disease on Bean Inter-cropped with Maize in Foumbot and Bambili, Cameroon

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The ability to increase beans output at local levels is often hindered by farmer's ability to control angular Leaf sport disease caused by *Phaeoisariopsis griseola*, in the field. Studies were carried out in Foumbot and Bambili, using a Randomized Complete Block Design (RCBD) with four treatments and four replications to assess the impact of intercropping on angular leaf spot disease. Two varieties of bean were used (white dwarf and red dwarf marked beans). Treatments one and two consisted of mono-cropping of white dwarf and red dwarf marked bean varieties while treatments three and four consisted of the same varieties of beans inter-cropped with maize respectively. The data on disease incidence, disease severity, number of pods and pods weight were recorded in mono-cropped and inter-cropped fields. Pathogenicity assessment was carried out in the screen house by inoculating healthy plants with fungal isolate (3×104 spores / ml), during which the lesion diameter was measured. Beans varieties inoculated with spores' suspension of *P. griseola* in the screen house showed symptoms identical to that of infected plants in the fields. The results obtained for disease severity and yield revealed that there was a significant difference (Pd≥0.05) on the different treatments and in the different fields. The best yields and least disease severities of beans were observed in fields inter- cropped with maize because wind and rainfall splashes were intercepted by the plant which is not a host to *P.gliseola* thus a reduction of disease in the inter-cropped fields' plant which is not a host to *P.gliseola* thus a reduction of disease in the intercropped fields. This shows that intercropping beans with maize can be used as a best management option to control angular leaf spot disease for the two varieties of beans used in this study.

Keywords: Angular leaf spot disease, beans, intercropping, maize

Effects of Seed Pre-Treatment and Substrates on Germination and Early Growth of *Tetrapleura tetraptera* (Schum. & Thonn.) Taub (Fabaceae)

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This study was carried out to investigate the effects of seed pre-treatment and substrates on germination and early growth of *tetrapleura tetraptera (schum.&thonn.) taub* (Fabaceae). Despite its socio-economic importance, traditional and medicinal value of *Tetrapleura tetraptera,* the cultivation of this plant is not popular owing to the difficulty in seed germination. investigations were undertaken on germination requirements and substrates tolerance of seeds. Four substrates were used: soil, sand, a mixture soil and sand (75:25) and mixture of soil and biochar (75:25) and 4 pre-germination treatments including a control (T0), a mechanical scarification (T1), heat treatments which were done by soaking seeds in hot water (100 °C) for different lengths of time 3min (T2), 9min (T3), 27min (T4), 81min (T5), and acid scarifications which were done by soaking seeds in either sulfuric acid and sodium hypochlorite for different lengths of time 3min (T6), 9 min (T7), 27min (T8), 81min (T9), were tested for their effect on seed germination. The data collected consisted of latent period, germination percentage, number of leaves, collar diameter and shoot height. Data collected were entered into Microsoft Excel and subjected to Analysis of Variance (ANOVA) using the statistical programme XLSTAT, 2016 where the least significant differences (LSD) between the mean were detected and separated at $p \leq 0.05$. Results showed that mean percentage germination was higher on soil and in mixture of soil & sand (57.3 ± 38.5%) than on sand 37.5% and lowest mixed soil & biochar 26.0% tested. While seeds soaked in sulphuric acid irrespective of the duration of treatment failed to germinate, seed dormancy was successfully broken by either mechanical (soaking seeds in hot water and peeling using sand paper) or chemical scarification (soaking of seeds in sodium hypochlorite's). Soaking seeds in either hot water or sodium hypochlorite for 3 min were the most effective treatments in breaking dormancy, with 68.75% and 62.5%. This study shows that to germinate *Tetrapleura tetraptera* seeds, it is recommended that dried seeds be soaked in either hot water or sodium hypochlorite for 3 min, substrate composed of soil, sand and mixture of soil and sand (75:25).

Keywords: *Tetrapleura tetraptera*, pre-germination treatment, substrates, germination, seedling growth.

The Effects of Storage Methods and Substrates on the Germination and Early Growth Parameters of *Prunus africana* (Hook sf.) Kalkman (Rosaceae)

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Prunus africana for the past several years is selectively exploited for the treatment of prostrate related diseases and unsustainable exploitation for exportation is causing the plant rare or vulnerable. The reason why this research work was conducted was to assess the effects of storage methods and different substrates on the germination and early growth parameters of the seeds of *Prunus africana*. To attain this objective, the seeds of this plant were collected and put under different storage methods which were; freezer, deep freezer, room temperature air tight container, room temperature perforated container and control for a period of two weeks. These seeds were then germinated in different substrates (soil independent, sand independent, a mixture of soil and sand, and a mixture of soil and biochar). A total of 600 seeds were used for this work with each treatment consisting of 120 seeds. Among the storage method treatment, the highest germination rate was recorded from seeds stored in the freezer (13.33%) while the lowest germination was recorded from seeds stored under room temperature in perforated container (0.83%). Seeds that were sown in soil had the highest germination rate (11.33%) and the lowest germination rate was recorded from seeds sown in sand (0.83%). The soil substrate recorded the highest mean number of leaves and the highest mean shoot height while the sand substrate recorded the lowest mean number of leaves and the lowest mean shoot height. The room temperature air tight container recorded the highest mean number of leaves while the freezer and control treatment recorded the least mean number of leaves. This study shows that to germinate *Prunus africana* seeds, it is recommended that the seeds should be stored in the freezer for two weeks and germinated in soil, a mixture of soil and sand and a mixture of soil and biochar to obtain a high germination rate

Keywords: *Prunus africana*, Storage methods, Substrates, Germination, Early growth.

POSTER PRESENTATIONS

P01

Identification and phylogenetic relationship of fungi species associated with potato aphids in Bamenda, Northwest Region of Cameroon

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Potato (*Solanum tuberosum* L.) is one of the world's most important cultivated tuber crops in Cameroon. Potato aphids remain a major pest to potato plant thus greatly reducing its productivity. Inadequate information still exists on identification of fungi species associated with potato aphids. The aim of the study was therefore to identify fungi species associated with aphids of potato using molecular techniques to determine the entomopathogenic species which can be used to control potato aphids to increase potato productivity as well as increase food security. One hundred samples of aphid's cadavers were collected monthly from the field, put in zip lock bags and preserved in coolers. These samples were then transported to the laboratory and cultured on potato dextrose agar. After a period of 7 days, they were sub-cultured to obtain pure cultures. The pure cultures were obtained and molecularly identified using the ribosomal ITS and TEF regions. Results from cultural identification revealed fungi belonging to three genera: Fusarium, Aspergillus and Penicillium with different species in these genera. Sequence data analysis from the ITS gene regions revealed 6 fungi species namely, Fusarium oxysporum Aspergillus sydowii, *Aspergillus niger*, *Curvularia affinis*, *Microascus murinus* and *Trochoderma erinanaceum*. Also, 6 species with the translation elongation factor (TEF) were identified namely, *Cladosporium cladosporoides, Fusarium oxysporum*, Fusarium *babinda*, *Trichoderma gamsii*, *Chaetomium cochiloides* and *Aspergillus niger*. Phylogenetic analysis produced a phylogram consisting of sequences of samples collected from the study area together with those from the GeneBank. Some of these fungi species have been reported to be entomopathogenic. Further research will screen entomopathogenic isolates that will serve as a biocontrol strategy against potato aphids which is an environmentally friendly method of pest control compared to synthetic pesticides.

Keywords: Potato, Aphids, Fungi, Identification, Food, Security

P02

Assessing the Efficacy of Upland Rice/Beans-based Intercropping System at Different Plant Population Densities Bambili

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Plant spacing of the associate crop directly affect intra-specific competition and crop yield in intercropping system. The study was designed to determine the most appropriate plant spacing for the component plant in a rice-beans intercropping system. A field experiment was conducted with treatments Sole rice (T1), Sole beans (T2), rice35%/beans 65% (T3) rice 40%/beans 60% (T4) rice 45%/beans 55% (T5) and rice 50%/beans 50% (T6) in a Randomized Complete Block Design with four (4) replicates. Data were collected from vegetative, yield parameters and disease incidence and the yield parameters were used to compute competitive indices and subjected to ANOVA to separate the treatments. Means were separated using LSD. The results from this study showed that intercropping rice and beans at different plant population had an effect on plant height, number of grains per panicle, percentage filled grains, disease incidence and competitive indices. The combined yield advantages in terms of net income were greatest in rice 45%/beans 55% (T5) (12,140cfa). The best intercrop indices measured; Land Equivalent Ratio (LER) (1.55), Area Time Equivalent Ratio (ATER) (1.81), Land utilization Efficiency (LUE) (167), Effective Monetary Advantage Index (EMAI) (0.4), competitive Ratio (CR) (0.25) and Income Equivalent Ratio (IER) (1.06) showed the best values that indicate yield advantage in T5 (rice 45%/beans 55%), followed by T4 (rice 40%/beans 60%) and T6 (rice 50%/beans 50%). This is to say that, T5 (rice 45%/beans 55%) intercropping system gave the highest net income, LER, ATER, LUE, EMAI and IER. Based on the results, upland rice farmers are advised to intercrop rice and beans at 30x30cm and 25x25cm respectively for optimum productivity and sustainability.

Keywords: Rice, beans, intercropping, plant population, Bambili.

P03

Arbuscular mycorrhizal biofertilizer (*Scutellospora gregaria)* induced changes on growth, physiological pnarameters and productivity of black bean (*Phaseolus vulgaris* L.) under saline conditions

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Soil salinity hamper crops production in coastal and drought-affected regions in the world. The study was conducted to investigate the changes induced by arbuscular mycorrhizal biofertilizer (AMF) on growth, some physiological and agronomic parameters of Black bean (*Phaseolus vulgaris* L.) under saline conditions. Seeds were planted in polythene bags that were previously filled with sand, 25 g of Biofertilizer and supplied with a nutrient solution during four weeks in a completely randomized design in the greenhouse. Plants were subjected to NaCl treatments (0, 50, 100 and 200 mM). 0 and 50 mM NaCl were tested in the farm with treatments NaCl only and NaCl+ Biofertilizer. The flowering time, number of flowers per plant and pod yield were evaluated. Results: The results showed that the supply of intake doses of NaCl in the culture medium significantly decreased ($P< 0.001$) the dry biomass, stem height, leaf area and chlorophyll content respectively from 100 mM NaCl. The different metabolites (proline, Soluble carbohydrates, and total phenolic contents significantly increased ($P< 0.001$) from 50 mM NaCl. The findings indicate that AMF positively influenced the growth and agronomic parameters of common bean under salinity. Conclusion: AMFs inhibit the negative effects of NaCl on the studied parameters by improving osmotic adjustment, metabolites content and stabilizing plant homeostasis. Impact of the study: The planting of common bean (Dor 701) and the use of AMFs in salt affected soils could be encouraged for better development and improvement of crop production in salty areas.

Keywords: *Phaseolus vulgaris*, growth parameters, metabolites, salinity, pod yield

P04

Changing People-Nature Relationships: Insights from Forest-Edge Communities in West Africa

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Externally driven conservation interventions, like market integration, can change in unintended ways local communities' relationships with Nature. However, little is known about the current people-Nature relationships among forest-edge communities in West Africa, a rapidly changing rainforest region. Using focus-group discussions with village elders, we investigated nature contributions to people (NCP) and perceived changes in community forests in eleven sites with diverging market integration and conservation interventions. We found that in general, communities showed a mix of instrumental, relational, and intrinsic values of Nature. Communities with greater market integration identified fewer cultural NCP, but there were few differences between externally driven conservation and non-conservation sites. Degradation of community forests was reported from all sites, including in conservation sites. Overall results highlight the strong cultural connection most communities still have with their community forests, but this does not seem to be protecting such forests from multiple threats.

Keywords: Socio-cultural assessment, tropical forests, forest use, forest degradation, local communities

P05

Reducing the Impact of Soil Salinity on Growth, Metabolites and Productivity on Two Varieties of Roselle (*Hibiscus sabdariffa* L.) Using Biofertilizers (Arbuscular Mycorrhiza Fungi, Compost and Biochar)

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Soil salinity is one of the major abiotic factors rendering crop production difficult, hence constituting major hindrances to the development of the agricultural sector in the world. This study aimed to evaluate the influence of soil amendments; compost, biochar and arbuscular mycorrhiza fungi on growth, metabolites and productivity of two varieties of roselle (*Hibiscus sabdariffa* L.) under saline stress conditions. Red and white varieties of roselle were subjected to four salinity levels (0, 50, 100 and 200 mM). They were grouped into 5 blocks with 5 replications each per variety. Seedlings in the first block were subjected to NaCl only, those in the second block were inoculated with NaCl + 2 % of arbuscular mycorrhiza fungi [(*Gigaspora margarita* + *Acaulospora tuberculosa*) and (*Scutellospora gregaria*)], NaCl + 2 % of biochar in the third block, 4% compost in fourth block, and lastly NaCl + 1% each of biofertilizers combined in the fifth block. The seedlings were observed for a period of 6 weeks in the greenhouse. Data were presented in terms of mean ± standard deviation. All data were subjected to analysis of variance (ANOVA). Results obtained showed that treatments with the various amendments had better growth compared to NaCl only. The different seedlings also varied with different salt concentrations. The growth rate was observed to decrease with increase in salt concentration. Best growth per treatment was observed in the control (00 mM) and at 50 mM concentrations. Per variety, the best growth was observed with NaCl + compost followed by the NaCl + combined biofertilizers (mycorrhiza + biochar + compost), NaCl + Myco, NaCl + Biochar and lastly NaCl Only. Various analysis such as ionic distribution, nutrient uptake, biochemical constituents, non-enzymatic antioxidants, chlorophyll a, b, (a+b) and dry biomass were done in order to evaluate how the different biofertlizers could help attenuate salt stress in plants. Therefore, the application of compost to saline soil could serve as sustainable and environmentally safe treatment to enhance salinity tolerance in roselle plants in order to improve plant growth. Hence, roselle plant could be cultivated in saline soils of the semi-arid and Littoral and Northern regions of Cameroon.

Keywords: Biofertilizers, NaCl, roselle, salinity, tolerance

P06

Inventory of the Ichthyofauna of the Mpem and Djim National Park (Center, Cameroon) Provides Baseline Data for a Conservation Project

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The intense anthropization of the Sanaga basin requires an acceleration of research on biodiversity and the conservation of its aquatic resources. In this framework, the ichthyofauna of the Mpem and Djim National Park (MpDNP) has been inventoried for the first time. The fish were sampled from 2017 to 2021 using diverse experimental fishing gears. A total of 79 species classified into 39 genera, 14 families, and 8 orders have been identified in the MpDNP. This ichthyofauna represents 46.7% of the 169 freshwater fish species known in the Sanaga basin. It contains 15 (62.5%) of the 24 endemic species reported in this basin, among them two Endangered and three Vulnerable species known on the IUCN Red List. Furthermore, two non-indigenous species have been inventoried. Siluriformes (36%) and Characiformes (22%) are the most represented in the MpDNP. It is suggested that the issues for conservation in this park must be focused as a priority on 15 endemic species, which may be ranged into two national protection classes A (5) and B (10), then on those in class C, which will be identified posteriorly as supplementary priorities for the offset of the residual impacts of the Nachtigal upstream hydropower plant development.

Keywords: freshwater; conservation; fish diversity; native; endemic; non-indigenous

P07

The Role of Customary Laws in the Management of Forested Wetlands Floristic Diversity in Fundong Sub-Division, North West Region, Cameroon

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Forested wetlands are common ecosystems across the landscape areas of Cameroon, and provide many functions. These systems provide habitat for fish and wildlife, retain, remove, and transform nutrients and pollutants, sequester carbon in soils and biomass, export carbon to support aquatic food webs, recharge groundwater in dry summer months. Over the years, traditional norms and customs have mandated all socio-economic users of the wetlands to keep protecting the ecological integrity of forests because it is regarded as the dwelling place of the gods. This study aimed to examine the floristic diversity status of forested wetlands, analyze the strengths and weaknesses of customary laws in the management of forested wetlands and to determine the anthropogenic drivers of biodiversity loss in the forested wetlands of Fundong Subdivision. A purposive sampling technique was used to know the forested wetlands of the study area, through open-ended interview guides. The collected data were subjected to descriptive statistics and analysis of variance to test the effect of disturbance on diversity indices between highly disturbed and lowly disturbed wetlands. Data on woody species and number of individual species were collected from a two levels of anthropogenic disturbance forest sites using quadrats of 10m x 10m each. Results indicated that a total of 283 of individual woody species belonging to 10 families were recorded. The highly disturbed site had 118 of the tree species and 165 in the lowly disturbed site. The most common tree species were *Sida acuta and Blumea balsamifera* while Malvaceae, Asteraceae and Myrtaceae were the dominant families. Twenty-five (25%) of the species were categorized as either rare, occasional or frequent. It was inferred from the scale of Shannon and Wiener (1949) that the highly disturbed site was of low diversity while the lowly disturbed site was of moderate diversity. Margalef index was (30.94432) for the lowly disturbed and (23.68633) for the highly disturbed site, indicating an insignificant difference between the wetlands. The Sorensen similarity coefficient showed that the two levels were 62.5% similar. The study identified some customary laws such as sacred springs, hunting, Ndo-awoi, Tiifam, and Purity of self which helps to preserve the forested wetlands. A SWOT analysis template was successfully used to analyze the strengths, weaknesses, opportunities and threats of the identified customary laws. Lastly, economic drivers (like need for fuelwood, timber, agricultural and grazing lands), proximity, weak law enforcements and population increase, were the main anthropogenic causes of biodiversity loss identified, and pushing the riparian communities into the forested wetlands. This study highly recommends that serious actions should be taken by the concerned stakeholders to contain the damaging effects of anthropogenic activities on the biodiversity of forested wetlands in Fundong, reinforcing conservation education and capacity building for proper management of the forest wetlands.

Keywords: Forested wetlands, anthropogenic disturbance, biodiversity loss and woody species.

P08

Diversity and Dynamics of Ciliate Protozoa in the Abiergué River, Yaoundé Cameroon: Influence of Abiotic Parameters

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Watercourses in urban areas have become major receptacles for waste of all kinds that degrade their quality. The abiergué is no exception. In order to determine the state of health of the latter, a study based on the diversity and abundance dynamics of ciliated protozoa was carried out from October 2019 to October 2020. Physico-chemical parameters were measured using standard methods. Ciliated protozoa were collected using appropriate techniques at monthly intervals. The physico-chemical analyses show that the waters of the Abiergué stream are moderately oxygenated (50.93±13.98%), slightly basic, and have a high oxygen content.(7.14 ±0.47 UC), rich in organic matter (3.43 ±1.64mg/L) and highly coloured (353.52 ± 245.28 Pt-Co). A total of 1,511 organisms were collected, divided into 2 sub-phyla, 10 classes, 21 orders, 29 families and almost 50 species. The Oligohymenophora class is the most abundant and diverse. The order Peniculida is the most abundant and diverse. The family Parameciidae is the best represented and the species Paramecium caudatum is the most diverse. The saprobic index indicates that the waters of Abiergué are ß mesosaprobic.These results sufficiently demonstrate that the waters of the Abiergué stream are subject to anthropogenic pollution, thereby degrading its quality, determine the state of health of the watercourse Abiergué using ciliated protozoa as bioindicators.

Key words: Ciliate protozoa, Abiergué, diversity, dynamics.

P09

Agromorphological Characterization of two Varieties of Sunflower (*Helianthus annuus*) Under Different Fertilizers Supplies in Bambili –Cameroon

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Sunflower is ranked the fourth most important oilseed crop after soybeans, rapeseed, and safflower, and it is the most profitable and economic oilseed crop. This study was carried out to investigate the effect of some fertilizers (organic and inorganic) on some growth and agronomic parameters of two varieties (black and strip) of *Helianthus annuus*. Beds were made with the dimension of 5m in length and 1m in width. In each bed 8 holes were dogged with a distance of 50cm apart on the middle of the bed. The farm was partition into 12 plots, each plot containing 12 beds and in each plot each treatment was replicated twice. Six plots were for variety one(black) and six was for variety two (strip). After the preparation, the beds were then labeled and fertilizer applied according to the treatments which were; supergro, IMO, Tithonia, NPK, mixture of all the manure, and control. After six weeks of germination, morphological parameters such as; plant height, number of leaves, stem diameter and number of tillers and agronomic parameters were 1000 weight of seed, fruitification period and head diameter were taken. The results obtained showed that the growth and yield studied parameters significantly increase ($p<0.001$) with manure compared to the control. A significant increase ($p<0.005$) of supergro was observed compared to IMO, Tithonia and NPK in all studies parameters. The black variety significantly increased ($p<0.001$) in morphological parameters while Strip variety significantly increase ($p<0.001$) in agronomic parameters. Sunflower cultivation can be improved by using fertilizer and particularly supergro, to obtain more yield at a time black variety is recommended while strip variety is for fast yield. This research will help to encourage farmers to cultivate sunflower in Bamblili and Cameroon at large using fertilizer and to choose wisely the variety to cultivate. Conserving sunflower is important as it act as a natural air purifier, reducing air borne pollutants and creating a cleaner atmosphere.

Keywords: Sunflower varieties, fertilizer, morphological and Agronomic parameters, ex situ conservation

P10

Non-coffee Plants Species Diversity and Their Ecological Status Under Field Conditions in Noun Division, West Region, Cameroon

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Lack of valuable data in contrasting environments and/or knowledge linked to agroecological services/environmental conservation. To reach that goal, the transverse study has been carried out within 17 Robusta coffee plantations, 7 villages and 3 sub-divisions of Noun Division. non-coffee plant species were identified using relevant dichotomous keys whereas their recovery rate was estimated via Braun-Blanquet method. Non-coffee plant species circumference and recovery rate varied significantly (p<5%) between the studied plots, from 64.75 Â± 3.17 to 181.86 Â± 43.81 cm and 8% to 100% respectively. Plants abundance and specific richness/diversity also varied between plots, villages and sub-divisions, with respective values of 2 to 44 individuals, 28 to 117 and 91 to 177 (abundance) versus 0.00 to 3.34, 0.57 to 5.04 and 0.58 to 7.54 (specific richness/diversity). Our findings revealed the need to take appropriate measures to preserve endangered species for sustainability environmental conservation of the studied agrosystems.

Keywords: Specific richness/diversity, Non-coffee plants trees diversity, Robusta Coffee Agrosystems, environmental conservation

P11

Prevalence of Intestinal Parasites in Relationship to Some Environmental Factors in Yaounde III

Koga Mang' Dobara[1], Moumbagna Mboutngam[1*], M., Mamboune[1] S.M., Pierrou[1] M., Mengue Ntoa G.A.[1], Ajeagah, G.A.[2], Mahob R.J[1].

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Intestinal parasites remain a significant public health problem in the tropic and subtropical regions. This study aimed to investigate the prevalence of intestinal parasites among residents of the Yaoundé III District, a densely populated area in the capital city of Cameroon. A cross-sectional study was conducted from May to August 2024. Fifty (50) soil samples and 83 stool specimens were collected from five different waste disposal sites in Yaoundé 3, as well as from inhabitants aged 1 to 28 years. Soil samples were analyzed using the sedimentation method while stool samples were analyzed using two techniques: Direct wet mount technique, which allowed us to observe both vegetative and dissemination forms of parasites, and the Kato-Katz technique which was used to detect various helminths (worms) species. During our study, 66 out of 83 subject were found to be infected with one or more parasites species, yielding an infestation rate of 80%, while 17 subjects tested negative, either 20% of the individual examined. The most abundant protozoa was Entamoeba histolytica (40%) and the most abundant helminth was Ascaris lumbricoides (20%). The difference in prevalence between genders were not statistically significant ($p>0.05$). We also found out that parasites observed in the soil were also present in the stool samples of infected individuals. In this study, we found that inadequate sanitation is a major cause of intestinal parasites, contaminated soil plays an important role in the transmission of these parasites within the population.

Keywords: Intestinal parasites, Prevalence, Protozoa, Helminths, Soil samples, Stool specimens.

P12

Sources, Preservation, and Quality Status of Some Locally Cultivated Vegetable Seeds in Ndop, Northwest Region, Cameroon

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Vegetable production is a key economic activity, particularly in the peri-urban and rural regions of Cameroon. However, declining seed health is contributing to reduced yields across the country, and specifically in Ndop. This study aimed to explore the sources, preservation methods, and quality of locally cultivated vegetable seeds in the Ndop Central Subdivision of the Northwest Region of Cameroon. Seeds were collected from local farmers, agro-shops, markets, and neighbors in the villages of Bamessing, Bamali, Bamunka, and Bambalang. Data on seed sources and preservation techniques were gathered through questionnaires and interviews, while seed quality was assessed in a laboratory setting. Fungal identification utilized Potato Dextrose Agar, and bacterial identification was conducted with Nutrient Agar. Viability tests were performed using blotter and germination methods. Approximately 48% of respondents reported obtaining seeds from local farmers, 37% from markets, and 15% from agro-shops. Farmers commonly used *Ocimum gratissimum* for seed preservation, and seeds were also stored in dry containers such as calabashes, clay pots, and bottles. The identified fungal species included *Saccharomyces cerevisiae, Aspergillus niger, Fusarium oxysporum, Penicillium digitatum,* and *Rhizopus nigricans*, while the bacteria consisted of various rod-shaped and coccobacilli forms. These fungal and bacterial species may contribute to the diseases affecting vegetable seeds in Ndop. Regarding seed viability, the blotter method revealed germination rates of 87.78% for *Brassica rapa* and 56.67% for *Solanum nigrum*, with *B. rapa* germinating first in the fewest days after plating.

Keywords: Bacteria, Fungi, locally cultivated vegetables, Seeds, Sources.

P13

Productivity of *Cucurbita maxima Duch* 1786 (Cucurbitaceae), an alternative for food security in the Sudano-Sahelian zone of Cameroon.

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Cucurbita maxima is a cultivated plant species of the Cucurbitaceae family native to South America whose consumption scale is large in Europe, the United States, China and Japan. Insects are responsible for the pollination of more than 80% of cultivated plants and represent the most numerous and most effective pollinators. The floral activity of pollinating insects promotes the reproduction of Angiosperms and a quantitative and qualitative increase in the yields of these plant species. Given its economic and medicinal importance, the preciousness of its fruits in human food and considering the need to maintain and increase its fruit and grain production, we studied the entomophilous pollination of *Cucurbita maxima*. Five treatments of 30 female flowers each were established according to whether they were protected from insect visits (T0) or benefited from one (T2), two (T3), three visits (T4) each or were free (T1). The foraging parameters as well as the agronomic parameters related to the foraging activity of Apidae were evaluated. Results: Hymenoptera (85.58%) in general and Apidae (82.06%) in particular were in the majority; they were represented by *Apis mellifera* (82.06%) and *Lasioglossum sp*. (3.52%). The daily activity of Apidae was effective between 6 - 13 h with a morning peak of activity (6 - 7 h). The fruiting rate attributable to the pollinating activity of bees was 0% in treatment T0, 93.33% in treatment T1; 43.33% in T2; 56.66% in T3; 73.33% in T4. Overall, the fruit and grain production of *Cucurbita maxima* depends closely on the pollinating activity of Apidae; without it, no fruit or seed is formed. The preservation and conservation of bee biodiversity makes it possible to optimize pumpkin yield.

Keywords: *Cucurbita maxima*; productivity; Apidae, pollination and food security.

PRE-CONFERENCE WORKSHOP AGENDA

Sample collection, processing, identification, databasing and iNaturalists Mobile App Training

Monday 13th January 2025
Somatel Monté Aurore Hotel Conference Hall
Number of Participants: 45 Maximum

Time	Topic	Facilitator
8:00-8:30	Registration	Secretariat
8:30-8:45	Opening remarks	Prof. Tonjock Rosemary Kinge (MC)
8:45-9:00	Workshop objectives and self introduction	Prof. Tofel Haman Katamssadan
9:00-10:15	Presentations on: Sample collection and processing: An overview (Fungi, Plants, Insects, Animals)/ databasing	Dr. Oba Romuald, Dr. Nkemnkeng Francoline, Prof. Tofel Haman, Dr. Pricelia Tumenta, Dr. Hyppolite Aignon
10:15-10:30	**Coffee Break**	
10:30-11:30	Practical sessions on Sample Collection and processing (04 working groups: Plants, Fungi, Insects, Animals)	Dr. Nkemnkeng Francoline, Dr. Oba Romuald, Dr. Hyppolite Aignon , Prof. Tofel, Dr. Pricelia Tumenta , Mr. Egbe Confidence Kedjuanji
11:30-12:30	Practical on: Databasing of plants, fungi, insects, animals (04 working groups)	Dr. Nkemnkeng Francoline , Dr. Hyppolite Aignon, Prof. Tofel, Dr. Pricelia Tumenta, Mr. Egbe Confidence Kedjuanji
12:30-13:30	Practical on: Identification of Plants, Fungi, Insects, Plants (04 working groups) Plant net, Indexfungorum etc	Dr. Nkemnkeng Francoline , Dr. Hyppolite Aignon, Dr. Oba Romuald, Prof. Ahmed Abdel-Azeem, Dr. Eric Nana, Prof. Tofel Haman, Mr. Egbe Confidence Kedjuanji
13:30-14:15	**Lunch Break**	
14:15-16:15	Use of iNaturalist mobile APP for biodiversity data collection and sharing/ Practical/ Questions and Answers	Dr. Beatrice T. Nganso
16:15-17:15	Panel Discussion Summary on: Sample collection, storage, databasing and identification Questions and Answer	Prof. Ahmed Abdel-Azeem, Dr. Nkemnkeng Francoline, Tofel Haman, Dr. Hyppolite Aignon, Dr. Oba Romuald, Dr. Pricelia Tumenta

		Moderator: Prof. Tonjock Rosemary
17:15-18:00	Evaluation/ Vote of thanks/award of certificates/ networking /**Coffee Break**	All Facilators

CONFERENCE AGENDA

Conference on Biodiversity and Conservation for Students and Early Career Scientists

January 13 – 15, 2025
SOMATEL MONTE AURORE HOTEL
YAOUNDE, CAMEROON

15:00-18:00: **Sunday 12th January, 2025** **Arrival**	
8:00 – 18:30 **Monday 13th January, 2025** **Registration** **Pre-conference Workshop** **Award of Certificate**	
Tuesday 14th January, 2025	
8:00 – 8:30am 8:30 – 9:30am	Meeting Start: Registration ***Opening Ceremony* coordinated by Prof. Tofel Haman** Welcome from Bamenda University of Science and Technology by Prof. Balgah Azibo Welcome from Conference Organizer, Prof. Tonjock Rosemary Kinge Conference Overview from the Committee Chair: **Prof. Tonjock Rosemary Kinge** **Who's here and why:** Acknowledging those present, reviewing the knowledge, talent and expertise in the room **MC Prof. Tonjock Rosemary Kinge/ Ms Boloba Endam Sandrine** **Getting to know each other: Exchange of pleasantries** **GROUP PHOTOS**
9:30 -10:00am	Coffee Break
10:00 – 13:00	**Session 1: Biodiversity Systematics and Conservation** **Session Chairs:** **Prof. Tonjock Rosemary**, University of Bamenda, Cameroon **Prof. Mbouobda Hermann**, University of Bamenda, Cameroon **Dr. Eric D. Nana**, University of Oxford, United Kingdom/ IRAD, Yaounde

	Keynote talk on: Save the Forgotten Kingdom in Africa **Prof. Ahmed M. Abdel-Azeem,** Suez Canal University, Ismalia Egypt **Presenter 1:** Dr. Hyppolite Aignon, University of Parakou, Benin **Presenter 2:** Dr. Nkemnkeng Francoline, University of Bamenda, Cameroon **Presenter 3:** Dr. Dong Etchike Alex Bruno, University of Dschang, Cameroon **Presenter 4:** Azinue Clementine Lem, University of Bamenda, Cameroon **Presenter 5:** Mercy Korir, University of Pwani, Kenya **Presenter 6:** Bih Joan Ndeh, University of Bamenda, Cameroon **Presenter 7:** Moforcha Lilian Zemenjuh, University of Buea **Presenter 8:** Nsah Francoline, University of Bamenda,Cameroon **Presenter 9:** Dr. Eric Febnteh Bemuh, University of Bamenda, Cameroon **PANEL DISCUSSION 1**
13:00- 14:00	Lunch
14:00- 15:30	**Session 1 Continue: Biodiversity Systematics and Conservation** **Session Chairs:** **Prof. Ahmed M. Abdel-Azeem,** Suez Canal University, Ismalia Egypt **Prof. Njouonkou Andre Ledoux**, University of Bamenda, Cameroon **Prof. Balgah Roland Azibo**, University of Bamenda/BUST **Presenter 10:** Sirri Vera Nsoh, University of Bamenda, Cameroon **Presenter 11:** Mercy Veyeh, University of Bamenda, Cameroon **Presenter 12:** Lifita Victorine Kinge Molonge, University of Buea, Cameroon **Presenter 13:** Cedric Leonel Nanfack Tiati, University of Yaounde 1, Cameroon **Presenter 14:** Nfor Wildson Ndzi, University of Bamenda, Cameroon **PANEL DISCUSSION 2**
15:30- 17:00	**Roundtable discussion on**: Tips on obtaining scholarships, fellowships and grants/ Available scholarships, fellowships and grants by Prof. Ahmed, Prof. Mbouobda Hermann, Prof. Balgah Roland, Prof. Tofel Haman, Dr. Suiven John Paul, Dr. Nganso Beatrice, Prof. Njouonkou Andre, Dr. Tumenta Pricelia, Dr. Hyppolite Aignon and Dr. Eric Nana Questions/Answers **Moderator**: Prof. Tonjock Rosemary
17.00-18.00	**Poster Session and networking/ Coffee break** **PO01 to PO13 (**Chia Genevieve, Baba Conscience, Yong Cecile, Nsonwi Paly, Christaine Mayoungo, Bassirou Hassan, Ekanya Geogette, Momnjoh Edna, Moumbagna Mboutngam Mouhamadou, Ngalamou Chamberline, Koga Mang'Dobara, Titah Charles Pindeh, Hebri Sanda)

Wednesday 15th January, 2025	
8:00- 8.30	Attendance Meeting Start Opening remarks/ Announcements/Recap of the previous day

8:30- 11.30	**Session 2: Biodiversity and Ecosystem Conservation and Services** **Session Chairs:** **Dr. Suiven John Paul Tume**, University of Bamenda, Cameroon **Dr. Hyppolite Aignon**, University of Parakou, Benin **Dr. Nkemnkeng Francoline Jong,** University of Bamenda **Keynote talk on:** Climate smart agriculture and preservation of biodiversity**: Dr Beatrice Nganso**, ICIPE, Kenya **Presenter 1:** Dr. Djeuani Aristride Carole, University of Yaounde 1, Cameroon **Presenter 2:** Fai Collins Ndi, University of Bamenda, Cameroon **Presenter 3:** Tsipmejio Temfack Ingrid, IRAD, Yaounde **Presenter 4: Dr.** Kenfack Voukeng Sonia Nadege, University of Yaounde 1/Green Connexion, Cameroon **Presenter 5:** Mariam Messie Djegome, University of Yaounde 1 **Presenter 6:** Charnelle Prudence Nanga, University of Yaounde 1, Cameroon **Presenter 7:** Seidou Melo Forchu, University of Bamenda, Cameroon **Presenter 8:** Sikounmo Tami Yvana, University of Yaounde 1, Cameroon **Presenter 9:** Wokdjou Romulus Carven, University of Yaounde 1 **Presenter 10:** Moutamal Djem Rose, University of Yaounde 1 **PANEL DISCUSSION**
11:30-12:00	**Coffee Break**
12:00-14:30	**Session 3 and 4: Biodiversity and Climate Change, Biodiversity and Indigenous Knowledge for Conservation** **Session Chairs:** **Prof. Tofel Haman**, University of Bertoua, Cameroon **Dr. Loveline Nsahlai**, University of Bertoua, Cameroon **Dr. Oba Romauld,** University of Yaounde 1, Cameroon **Keynote talk on:** Biodiversity and Conservation in a changing climate **Dr. Eric Nana**, University of Oxford, United Kingdom/ IRAD Yaounde **Presenter 1:** Dr. Suiven John Paul Tume, University of Bamenda, Cameroon **Presenter 2:** Gregory Ndip Bate, University of Bamenda, Cameroon **Presenter 3:** Tchomcheni Aude Jolie, Green Connexion, Cameroon **Presenter 4:** Jane Iyinji Anyi, University of Bamenda, Cameroon **Presenter 5:** Moumbagna Mboutngam Mouhamadou, University of Yaounde 1 **Presenter 6:** Engoulou Constantin, University of Yaounde 1, Cameroon **Presenter 7:** Zouberou Mouanfon, University of Ngaoundere, Cameroon **Presenter 8:** Abena Etoga Christina Fifi, Green Connexion, Cameroon **PANEL DISCUSSION**
14:30-15:15	**Lunch**

15:15-17:45	**Session 5 and 6: Biodiversity and Multidisciplinary: Biodiversity and International Collaboration** **Session Chairs:** **Dr. Nganso Beatrice**, ICIPE, Kenya **Dr. Pricelia Tumenta,** University of Dschang, Cameroon **Prof. Mendi Grace,** University of Bamenda **Keynote talk on: Biodiversity and Multidisciplinary** Prof. Tofel Haman, University of Bertoua **Presenter 1:** Prof. Eunice Fondze-Fombele, University of Buea, Cameroon **Presenter 2:** Prof. Frida Menkan Mbunda-Nekang, University of Buea **Presenter 3:** Dr. Oba Romauld, University of Yaounde 1, Cameroon **Presenter 4:** Mbassi Mbida Marcelle-Blanche, University of Yaounde 1 **Presenter 5:** Louisa Lum Mary, University of Douala, Cameroon **Presenter 6:** Peter Chungong, University of Bamenda, Cameroon **Presenter 7:** Clara Anembom, University of Bamenda, Cameroon **Presenter 8:** Salamatou Mboh, University of Bamenda, Cameroon **Presenter 9:** Maikem Kelly, University of Bamenda, Cameroon **Presenter 10:** Yufenyuy Mariam, University of Bamenda, Cameroon **PANEL DISCUSSION**
17:45-18:00	**Announcements/ Evaluation session**
18:00-18:30	**Prizes to best oral and post presenters/Vote of thanks/Award of Certificates /Closing** **Coffee Break**
	END

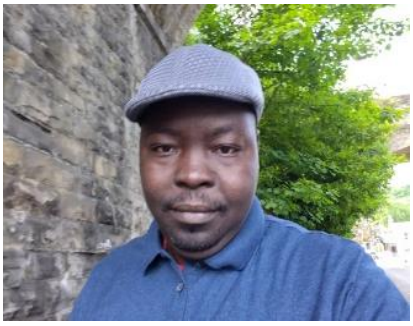
COMMITTEE CHAIRS

Prof. Tonjock Rosemary Kinge

Tonjock Rosemary Kinge is an Associate Professor of Mycology and Phytopathology and the Head of Department of Plant Sciences, Faculty of Science in the University of Bamenda, Cameroon. Her research is focused on; food security, fungi diversity, fungi pathology, biodiversity conservation and multidisciplinary. She is the leader of the Fungal Biodiversity, Ecology, Ethnomycology and Phytopathology research group. Rosemary is the Next Einstein Fellow Ambassador in Cameroon and the British Society for Plant Pathology Ambassador. Rosemary was a TWAS-CAS postgraduate fellow from Kunming Institute of Botany, China from 2008-2009, a postdoctoral fellow from the University of the Free State, Bloemfontein, South Africa from 2016-2017. A Fulbright scholar from the University of Florida, USA from 2017-2018 and an Alexander von Humboldt experienced research fellow from the University of Bayreuth, Germany from 2021-2022. Rosemary is the coordinator for the western zone for Cameroonian Professional Research Oriented Women (CaPROWN) and a mentor for higher women in Cameroon. She is a member of several scientific organizations including the Cameroon Academy of Young Scientists (CAYS) where she is the technical and logistic secretary. She is an Affiliate of the African Academy of Sciences (AAS), an affiliate of TWAS Young Affiliate Network (TYAN) and a member of OWSD. Also, Rosemary is a fellow of the African Science Leadership Programme (ASLP). Rosemary received the Humboldt Alumni Networking Award in 2024 to promote female academic excellence in Science, Technology, Engineering and Mathematics (STEM). She mentors females in STEM and is passionate in capacity building of the younger generation. She is editor of Conservation Letters and reviewer for many journals. She has published over 50 articles in international peer-reviewed journals.

Prof. Roland Azibo Balgah

Roland Azibo Balgah is a Full Professor of Development Studies at the University of Bamenda (UBa), Cameroon. He holds a doctorate of Agriculturarum from MLU, Halle-Wittenberg, Germany. Prior to engaging with UBa, he coordinated several (NGO-led) development projects in Africa, and was a research officer and Dean of Studies at the Pan African Institute for Development in West Africa (PAID-WA). His research focuses on human-nature interactions and the sustainability of both, with a special thrust on natural and manmade hazards, community-based risk management, and livelihoods. Balgah is Associate Member of the Center RISK at the Military University, Munich, and an editorial board member for several journals. Balgah is credited with experiences from three Volkswagen Foundation – postdoctoral research projects (2012 – 2021), and several articles and books. He currently coordinates the EU-funded project on Integrated and Circular Technologies for Sustainable city region FOOD systems in Africa (INCiTiS-FOOD) for Cameroon, and is project lead for 'Changing livelihood strategies and economic resource dynamics of persons internally displaced by the Anglophone conflict in Cameroon', a subcomponent of 'Conflict-induced displacement and socio-economic resilience: Learning from neglected conflicts in Cameroon and Myanmar', coordinated by the Cologne International Forum (CIF), at the University of Cologne, where he is a guest scholar.



Prof. Tofel Haman Katamssadan

Tofel Haman Katamssadan is an Associate Professor of Entomology, Head of Division of Continuous and e-learning and Chair of Department of Phytosanitary Protection at Higher Institute of Agriculture, Wood, Water resources and Environment (ISABEE) of the University of Bertoua, Cameroon. He obtained his PhD in Entomology from the University of Ngaoundere Cameroon and the Julius Kuehn Institute Berlin, Germany. He was visiting scientist at the Global Academy of Agriculture and Food Systems of the University of Edinburgh, UK. His research works focus on the development of alternatives, which are eco-friendly, for the protection of stored products and cultivated plants. Tofel Haman is a member of several scientific organizations notably the Cameroon Bioscience Society (CBS) where he is the Vice president, the Cameroon Academy of young Scientists (CAYS), the Royal Entomological Society (RES), the British Society of Plant Pathology (BSPP). He is an alumnus of German Academic Exchange Service (DAAD).

BIOGRAPHY OF KEYNOTE SPEAKERS

Prof. Ahmed Abdel-Azeem

Ahmed (Zemo) is a Full Professor of mycology at the Botany and Microbiology Department, Faculty of Science, Suez Canal University in Egypt. He is the founder and president of the Arab Society for Fungal Conservation and an executive committee member of the International Mycological Association (IMA). He was a founding member of the International Society for Fungal Conservation, a member of the European Mycological Association, and a member of the Mycological Society of America. Abdel-Azeem is the president of the African Mycological Association (AfriMA), and he founded Egypt's National Fungus Day, African Annual Fungus Day, International Microorganisms Day for Egypt, and many mycologists' networks, including Egyptian, Iraqi, Algerian, Libyan, and Pakistani networks. He is the founder of Pan Arab Mycologists. Abdel-Azeem is particularly interested in ecology, taxonomy, biology, secondary metabolites, endophytes, climate change & fungal biodiversity and conservation, with a particular focus on members of the phylum Ascomycota. Abdel-Azeem studies the fungal deterioration of cultural heritages like Abydos Middle Cemetery, Cheops Ceremonial Unveiled Boat, Al-Aqsa Mosque in Occupied Palestine and San El-Hagar stony monuments. Abdel-Azeem has the necessary vision combined with proven experience leading and successfully completing more than 15 complex and ambitious local and international projects. Abdel-Azeem is a guest professor in many international universities in USA, Italy, Malta, Romania, Spain, Greece, South Africa. In 2013, he was awarded the President's FUNGAL CONSERVATION AWARD. He is a member of the IUCN Species Survival Commission Specialist Group for Cup Fungi, Truffles, and Their Allies. He is also a member of the IUCN's Fungal Conservation Committee (FunCC). He has published more than 120 research papers in international journals, 60 book chapters in international publisher books, and 15 books.

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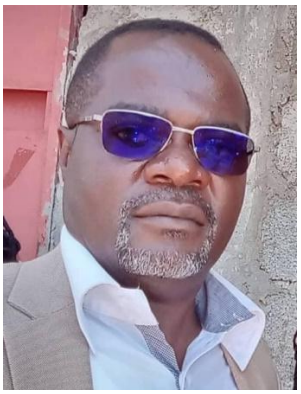
Dr. Beatrice T. Nganso

Beatrice is a Bee Research Scientist in the Environmental Health Theme at the International Centre of Insect Physiology and Ecology (*icipe*), Nairobi, Kenya. Her research on African bee health examines the impacts of biotic and abiotic stressors at the molecular, physiological, and behavioural levels, and explores how bees' resilience to these stressors can be enhanced through improved colony management practices. Before joining *icipe* as a Research Scientist, she worked as a Postdoctoral Fellow (2019–2022) at the Agricultural Research Organization, Volcani Center, Israel, where she elucidated the functional significance of olfactory genes on the interaction between honey bees and their deadly parasite, the *Varroa destructor* mite, using RNAi technology under the mentorship of Dr. Victoria Soroker. In 2019, she was the recipient of the early Career Researcher Award (shared with another candidate) for the best paper by an early career researcher published in Parasitology in 2018. In 2018, Beatrice was the recipient of the icipe Governing Council Award for second best published science paper. In 2017, she was the recipient of the Best Oral Presentation Award at the 19th International Conference on Apiculture and Bee Health, Rome, Italy. In 2015, she was the recipient of the *icipe* Governing Council award for best science poster presentation. She obtained her PhD in Entomology from the University of Pretoria, South Africa in 2015 under the auspices of the African Regional Postgraduate Program in Insect Science (ARPPIS) based at *icipe* under the mentorship of Prof. Baldwyn Torto at icipe and Prof. Christian Pirk and Dr. Yusuf at the University of Pretoria, South Africa. She obtained her M. Phil in Entomology from the University of Ghana in 2012 under the mentorship of Prof. Obeng-Ofori Daniel and Dr. Rosina Kyerematen and was the recipient of Prof. J. N. Ayertey Prize for the Best M. Phil Student in Entomology for the 2010/2011 Academic Year. She obtained her BSc. in Zoology from the University of Buea in Cameroon in 2009.

Dr. Eric Djomo Nana

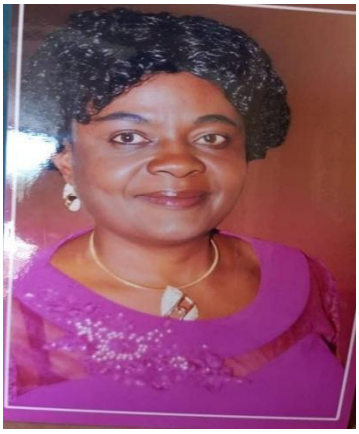
Dr. Eric Djomo Nana is a conservation biologist and Senior Research Officer from Cameroon. He holds a PhD in Ecology from Charles University in Prague, in the Czech Republic and is at the Head of the Wildlife Research Unit at the Institute of Agricultural Research for Development (IRAD) in Cameroon. He is also a research associate at the Department of Biology at the University of Oxford in the U.K, and a lecturer at the Higher Institute of Environmental Sciences in Cameroon. He is the current Cameroon Program Director of the Society for the Preservation of Endangered Carnivores and their International Ecological Study (S.P.E.C.I.E.S), as well as the President of Cameroon's Chapter of the Society for Conservation Biology (SCB). He is an Affiliate of the African Academy of Sciences and The World Academy of Sciences. His current research interests are centred around the illegal wildlife trade with a focus on *Bushmeat*. He uses scenario modelling to understand how conservation interventions could elicit behaviour change among key actors. Through this research supported by the University of Oxford in the U.K and CIFOR-ICRAF, he coordinates a recently formed Community of Practice, the Central Africa Bushmeat Research into Policy (CA-BRIP) group, bringing together Central African researchers from 4 countries (Cameroon, DRC, Congo Brazzaville, and Gabon) and organisations to tackle the threats of unsustainable hunting and wildlife trade.

BIOGRAPHY OF SESSION CHAIRS



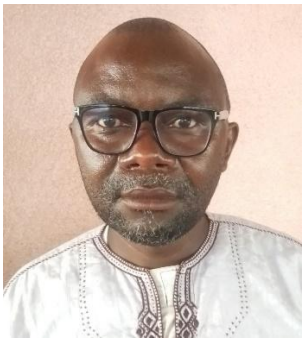
Prof. Mbouobda Hermann Desire

Mbouobda Hermann Desire is an Associate Professor of Biochemistry/Biotechnology and Phytopathology. He is currently Vice-Dean Programming and Academic Affairs, Faculty of Science, the University of Bamenda, Cameroon. His research is focused on; Use of local microorganism's manures and Endophytes to improve some local crops; Phytoprotection (formulated biopesticides and biomannures); plants and pathogen biodiversity; Plant defense mechanism, stimulation and inoculation. Founding member of the Laboratory of Phytoprotection and Valorisation of Genetic Resources, Biotechnology Center, University of Yaounde 1 and Laboratory of Biology, Department of Biology, Higher Teaching Training College (HTTC), University of Bamenda. He is member of several scientific organizations notably Financial controller of Cameroon Bioscience Society (CBS), member of Bioveg (Plant Biotechnology: plants improvement and food security) of AUF. He did his Post graduate in the University Caddi-ayad, Marrakech Morocco (2007-2008). Resource Person for the elaboration of a document on the situation of the environment in Central Africa commented by the International Union to Nature Conservation (UICN) Ref: 0892/09 (2008-2009): Resource Person for the elaboration of sectorial national review of Chad (Protection des végétaux et gestion des pesticides, Africa Emergency Locust Project [Chad], commented by Chad Government in collaboration with Work Bank. Ref: N°275/MAI/SE/SG/AELP/l0. (2010): Consultant to finalize the report on the environment in Central Africa commentate by International Union to Nature Conservation (UICN) (2011) External Expert to evaluate Global Environment Outlook Africa (GEO-6), Healthy Planet Healthy People, by United Nations Environmental Programme (UNEP) (2015). He is reviewer for some journals, has published more than 50 articles in international peer-reviewed journals. He is currently supervised many PhD and master Students in some Cameroon States Universities.



Prof. Mendi Grace Anjah

Mendi Grace Anjah is an Associate Professor in Forest Silviculture and Biology. She holds a PhD in Forest Resources Management from the University of Ibadan. She has been teaching and carrying out research activities both at the Universities of Dschang and The University of Bamenda, all in Cameroon. Her academic expanse has seen her occupying several positions especially in the University of Bamenda as the Vice Dean of the Faculty of Science from 2013 to 2018, and from 2018 to present date, the Deputy Director of the College of Technology, COLTECH. As a staff member, she has been actively involved in drawing up, participating and revising academic programs in the areas of Forestry and Plant Biology, having had a BSc Honours in Botany. In 2018, her appointment as a Deputy Director coincided with the creation of the Department of Forestry and Wildlife of COLTECH where she contributed in developing the program in Forestry. Within the Framework of the RUFORUM Project she participated in Curriculum Revision in 2022. She's credited with more than fifty scientific publications, supervised close to 3 PhD with more than 10 on-going, about thirty MSc Theses, DIPET 1 and 11 dissertations and several BSc Theses. She was the Cameroonian lead researcher in an AFORNET project where Postgraduate students were sponsored subsequently obtaining MSc degrees. She is the President of "CIASMANA', member of AFF and MORFO, partners with RETAFOR and ERASMUS collaboration with the Department of Forestry and Management of Environment and Natural Resources, Orestiada, DUTH Greece.

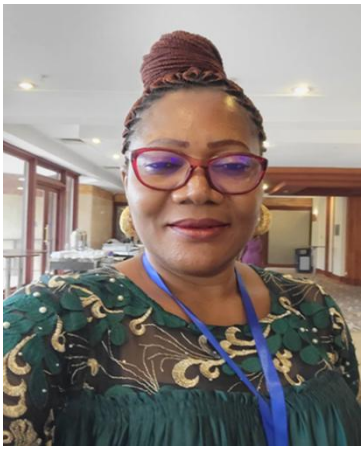


Prof. Njouonkou Andre Ledoux

Njouonkou André Ledoux, is a holder of a PHD in Plant Biology, opinion Botany and Ecology, specialty in Mycology at University of Yaoundé 1 in Cameroon. He is currently an Associate Professor at the university of Bamenda, Faculty of Science, Department of Plant Sciences. He is continuing his research works in the trend of Botany and Ecology with more focusing in Mycology and Plant Ecology. In Mycology, he is interested on the diversity and valorisation of tropical Africa fungi especially those of Cameroon. Thanks to collaboration with researchers of many institutions in Cameroon, Africa and Europe he is contributing to the documentation of the poorly know diversity of fungi especially mushrooms of tropical Africa and the determination of their potential uses in various biotechnological and industrial aspects for the good of the humanity. Professor Njouonkou and his collaborators are interested plant diversity and conservation as well as their contribution to ecosystem services in the framework of climate changes. Hence, they are involved in studies of the impact of human activities on plant diversity, agrobiodiversity and carbon stock in natural (savannahs and forests) and anthropogenic (farmlands, urban areas and forest plantations) ecosystems. Other aspect of research works of Professor Njouonkou Andre Ledoux include among others Ethnobotany, phytopathology. The researcher is supervising Master and PhD research works of students in Cameroon, South-Africa and USA. He is co-authors of 37 research articles published in national and international peer-review journals.

Dr. Suiven John Paul Tume

Suiven John Paul Tume is a Lecturer at the Department of Geography and Planning at The University of Bamenda. He specializes in Applied Agro-Hydro Climatology and the first PhD in Geography and Planning from The University of Bamenda, Cameroon (2019). Dr. Tume teaches courses in Meteorology, Climatology, Hydrology and Water Resources, Natural Resources Management, Environmental Impact Assessment, Biogeography and Ecology. His research focuses on Climate Change and Natural Resources Management, particularly the Climate-Food-Water Security Nexus. He has published extensively in local and international peer-reviewed journals, as well as book and book chapters. Dr. Tume is co-editor of 'Climate Change Perception and Changing Agents in Africa & South Asia', published by Vernon Press Wilmington, Delaware, USA. Dr Tume serves as the Head of Service, Research, and Cooperation at the Higher Institute of Transport and Logistics of The University of Bamenda. He was admitted into the College of Social Sciences of the Cameroon Academy of Young Scientists (CAYS) in May 2021. Dr Tume is a Fellow of the Cameroon Geographic Society (CGS).



Dr. Pricelia N. Tumenta

Pricelia N. Tumenta is a Lecturer in the Department of Forestry, University of Dschang, Cameroon. She holds a PhD in Conservation Biology and has been involved in teaching, research and wildlife conservation actions in protected areas for over 20 years. She is a trained wildlife professional with experience in wildlife ecology, inventory, behaviour and monitoring as well as the use of technology for spatial mapping of wildlife movement and distribution. Her research activities focus especially on ecology and conservation of the African lion as well as factors threatening its survival. She uses technology such as GPS Satellite collars and radio telemetry to study lions. She is passionate about conservation of top predators generally, finding solutions for a sustainable coexistence with local communities by characterizing human wildlife conflict in communities abutting protected areas. She is committed to bridging the gap in knowledge and expertise on lion conservation and research in Central Africa through research and capacity building in young Cameroonians. She is a grantee of National Geographic Big Cat Initiative, WWF INNO the Netherlands, Leo Foundation in collaboration with Lion Recovery Fund for research and conservation of the African lion. She has equally received grants for conference and capacity building from WWF Education for Nature, The African Network of Scientific Technological Institutions and the Operating Unit of the United Nations University Institute for Natural Resources in Africa. She was a mentor in the Silva Carbon program of the US government to enhance capacity of women in carbon monitoring. Pricelia has served the IUCN SSC as a Steering Committee member and Regional Vice-Chair for Africa. She is a member of the IUCN, CAT Specialist Group, the Society for Conservation Biology (SCB), African Lion Working Group (ALWG), Cameroon Professional Research Oriented Women Network (CAPROWN) and Women for the Environment Africa (WE Africa).

Dr. Nsahlai Loveline Kongla

Nsahlai Loveline Kongla holds a Ph.D. in Human Geography from the University of Yaounde 1- Cameroon. She is a senior lecturer/researcher at the Higher Teacher Training College of the University of Bertoua. Loveline is a fellow of the Cameroon Professional Women Research-Oriented Network (CaPROWN); Cameroon Geographic Society (CGS); Association of African Universities (AAU) and Junior Dean of the College Social Sciences - Cameroon Academy of Young Scientists (CAYS). She holds international certificates in International Development Studies and in Sustainable Development Goals and cultural transformation from Oslo International Summer School and Bergen International University respectively. She is the author of several articles published as book chapters and in peer-reviewed journals. Her areas of expertise are sustainable rural development, agricultural diversification, poverty alleviation, gender, and issues of rurbanisation and periurbanization though she moves out of these to carry out interdisciplinary research.

Dr. Aignon Lougbegnon Hyppolite

Aignon Lougbegnon Hyppolite has a PhD in Tropical Mycology in 2021 in the Faculty of Agronomy, Univeristy of Parakou, Benin. He is the executive director of Land, Environment and Global Life NGO (www.legle-ngo.org). His research is focused on the diversity, evolution, and phylogenetic relationships of fungi, utilizing approaches that integrate molecular biology, systematics, and ecology. I study the interactions between fungi and other organisms, particularly their key role in ecosystems, including their symbiotic relationship (mycorrhizae) with forest trees. To date, I have published 10 scientific papers and described 10 new species of fungi. My skills include conservation project management, environmental education, working with rural communities, and applied mycology research. Through my leadership, I have established strong partnerships with local authorities, scientists, and international organizations. I can coordinate complex field initiatives, fostering community engagement for the protection of natural resources.

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Dr. Nkemnkeng Francoline Jong

Nkemnkeng Francoline Jong is a Lecturer at the Department of Plant Sciences, The University of Bamenda Cameroon. He obtained his PhD in Plant Systematics and Ecology at the University of Dschang, Cameroon. His research focus is in Plant Systematics and Ecology, Plant Propagation, Forest Silviculture and Biology, Biodiversity Conservation and Management. Currently working on strategies for the conservation of some non-timber forest products in the Lebialem Highlands and the Western Highlands, Cameroon. Member of International association of plant taxonomy and has won the Ideawild equipment grant. He has supervised a number of undergraduate research project as well as MSc dissertations. He has 13 publications in peer review journals and one book chapter.

Dr. Oba Romuald

Dr. Oba Romuald is a post-doctoral researcher in the Cryptogams Laboratory of the University of Yaoundé 1 and temporary lecturer in the Department of Plant Biology of the same university and in the Higher Institute of Technologies Le Bon Berger in Yaoundé. He earned a Master of Science in Botany – Ecology and PhD in Mycology from the University of Yaoundé 1. His scientific interest includes: fungi diversity, fungi bioactive compounds, fungi enzymology and chemotaxonomy, mushroom domestication and conservation. He is author and co-author of nine (09) peer-reviewed scientific articles and has participated in eight (08) national and international conferences and workshop. In 2018, he earned a travel grant from IRD (French Research Institute for Development) for 3-month research stay in South Africa. He is a member of the European Society of Clinical Microbiology and Infectious Diseases (ESCMID) since December 2023 and has recently been accepted as a Scientist Associate of the Society for the Protection of the Underground Networks (SPUN) in August 2024.

Mr. Egbe Confidence Kedjuanji

Egbe Confidence Kedjuanji is a Lecturer at the College of Technology, Department of Forestry and Wildlife, University of Bamenda, Cameroon. He is a PhD Fellow in the Department of Animal Biology and Conservation, University of Buea, Cameroon. His research focus is on Wildlife Population, Ecology and Conservation. His Skills and expertise: Biodiversity Conservation, Wildlife Conservation, Biodiversity Monitoring, Behavioural Ecology, Wildlife Biology, Protected Areas Management, and Wildlife Management. Currently working on the Status of Nigeria Cameroon Chimpanzee and the Dynamics of Bushmeat hunting at Ndokbou forest North East of Ebo Forest Littoral Region, Cameroon. Member of the Africa Primatology Society and has won funding grants from International Primatology Society, Rufford Foundation and Ideawild. He is fluent in English Language and average in French Language.