

**DAVIS EXPEDITION FUND
REPORT ON EXPEDITION/PROJECT**

Expedition/Project Title: Preliminary Botanical Survey of Lavushi Manda National Park

Travel Dates: 29 September to 20 November 2010

Location: Lavushi Manda National Park, Zambia

Group Members: James Byng

Aims: To provide a preliminary checklist to Lavushi Manda NP

OUTCOME (not less than 300 words):-

The Vegetation and Preliminary Checklist of the Vascular Plants of Lavushi Manda National Park, Zambia

Introduction

This work describes the major vegetation types and provides a preliminary species list of vascular plants of Lavushi Manda National Park, Mpika District, Zambia. It is based on fieldwork undertaken October-November 2010 and on herbarium collections of Royal Botanic Gardens Kew (K). Prior to fieldwork by the author in 2010 little plant collecting had taken place with the total number of vascular plants recorded in Lavushi Manda amounting to 85 species and this was a result of only brief collecting by M. Bingham in the 1990's.

Location Description

Lavushi Manda National Park (LMNP) is situated in Mpika District of the Northern Province of Zambia. The park covers an area of 1500 km². The park roughly lies on the boundary of the North-Eastern Plateau to the southeast and the Bangweulu Basin to the northwest. It is characterised by a 47 kilometres long stretch of rock hills and cliffs in the southern part of the park, surrounded by vast stretches of *miombo* woodland intercepted by *dambos*, seasonally flooded grasslands which form the headwaters for numerous seasonal and permanent streams and rivers. Soils are basically granite rocks or derivatives from that. All rivers drain into the Bangweulu basin. The main river is the Lukulu which runs through the central part of the park basically from the southeast to the northwest. Other permanent rivers include the Lulimala in the southwest, the Lutimwe in the central-south, the Musangashi in the southeast and the Lumbatwa in the north. All of these rivers form parts of the boundaries of the park. The altitude ranges from around 1225 metres in the northern and western tips to 1808 metres at the top of the Lavushi Manda Hills, with most of the park being between 1250 and 1450 metres.

Methods

Fieldwork predominantly took place along the existing tracks and walking trails in the hills, and covered the current vegetation types in the park. In each area surveyed, different tree and shrub species were sought primarily and briefly described, photographed, and identified (either immediately or specimens taken for identification at RBG Kew). All flowering or fruiting herbaceous material was also collected and documented.

Preliminary Analysis

In total, 190 herbarium specimens were collected with duplicates for K and E herbariums of all fertile material and woody species not identifiable in the field. This has resulted in a checklist containing c. 215 species so far. The vast majority of specimens collected have been identified and documented in LMNP in our preliminary checklist, with approximately a further 50 unidentified taxa remaining to be identified at K and added. Further collecting at different times of the year, preferably in April-May at the end of the dry season. A publication containing a complete checklist along with detailed vegetation notes will be finished in September 2011, combining work in Kasanka NP undertaken in 2009 and supported by the Davis Expedition Fund as well. A copy will be deposited in the library at RBGE and University of Edinburgh.

Acknowledgements

I would like to thank the Zambian Wildlife Authority (ZAWA) for permission to work in Zambia, the staff of Kasanka National Park and scouts of Lavushi Manda for supporting the fieldwork in 2010. In addition, thanks are due to Mike Bingham for providing his collecting information in the area, Tom Johnson and Evelyn Roe for helping with some or all of the fieldwork.

APPENDIX

Preliminary checklist of the vascular plants of Lavushi Manda National Park, Zambia

Families are arranged according to *Flora Zambesiaca*.

Taxon

ACANTHACEAE

Crabbea velutina S. Moore
Justicia sp.

AMARYLLIDACEAE

Boophone disticha

ANACARDIACEAE

Lannea edulis (Sond.) Engl.
Lannea stuhlmanni
Ozoroa reticulata var. *reticulata*
Rhus longipes

ANNONACEAE

Annona senegalensis Pers.
Artabotrys sp.
Hexalobolus monopetalus var. *obovatus* Brenan
Xylophia katangensis De Wild.
Xylophia sp.

ARECACEAE

Raphia farinifera (Gaertn.) Hyl.

ASPARAGACEAE

Asparagus flagellaris

APOCYNACEAE

Carissa edulis (Forssk.) Vahl
Diplorhynchus condylocarpon (Mull. Arg.) Pichon
Landolphia parvifolia K. Schum.
Rauvolfia caffra Sonder

BIGNONIACEAE

Kigelia africana (Lam.) Benth
Markhamia obtusifolia (Baker) Sprague
Stereospermum kunthianum Cham.
Tecomaria capensis (Thunb.) Spach

BORAGINACEAE

Trichodesma ambacense ssp. *hockii*

CAPPARIDACEAE

Boscia mossambicensis Klotzsch

COMMELINACEAE

Commelina sp.

COMPOSITAE (ASTERACEAE)

Haplocarpha sp.
Crassocephalus nitens
Elephantopus scaber L.
Emilia integrifolia Baker
Senecio sp.
Vernonia suprafastigiata Klat

CELASTRACEAE

Maytenus undata (Thunb.) Blakelock

CHRYSOBALANACEAE

Magnistipula butayi subsp. *bangweolensis*
Parinari curatellifolia Planch. ex Benth.

CLUSIACEAE (GUTTIFERAE)

Garcinia huillensis Welw. ex Oliv.
Garcinia livingstonei T. Anders.
Garcinia smeathmannii (Planch. & Triana) Oliv.
Psorospermum baumii Engl.

COMBRETACEAE

Combretum celestroides
Combretum collinum Fresen.
Combretum fragrans F. Hoffm.
Combretum molle R. Br. ex G. Don
Combretum mossambicense (Klotzsch) Engl.
Combretum zeyheri Sond.

Terminalia mollis Laws.

Terminalia sericea Burch. ex DC.

CONNARACEAE

Rourea orientalis Baill.

CYPERACEAE

Ascolepis capensis (Kunth) Ridley
Ascolepis protea Welw. var. *anthemidiflora* Welw.
Ascolepis protea Welw. var. *splendida* K.Schum.
Carex sp. aff. *C.cognata* Kunth
Cyperus denudatus L.f.
Fuirena coerulescens Steudel

DROSERACEAE

Drosera sp.
Drosera sp.
Drosera sp.
Drosera sp.

DIPTEROCARPACEAE

Marquesia macroura Gilg
Monotes discolour R.E.Fr.
Monotes katangensis (De Wild.) De Wild.

EBENACEAE

Diospyros abyssinica var. *abyssinica*
Diospyros batocana Hiern
Diospyros lycioides subsp. *sericea* (Bernh.) de Winter
Diospyros mesipiliformis Hochst. ex A.DC.
Diospyros zombensis (B. L. Burt) F. White

ERICACEAE

Agauria salilifolia (Lam.) Oliv.

ERYTHROXYLACEAE

Erythroxylum emarginatum Thonn.

EUPHORBIACEAE

Antidesma venosum E. Mey. ex Tul.
Bridelia micrantha (Hochst.) Baill.
Euphorbia sp.
Hymenocardia acida var. *mollis* (Pax) Radcl. Sm.
Flueggea virosa (Willd.) Voigt
Maprounea africana Müll. Arg.
Margaritaria discoidea (Baill.) G.L. Webster
Phyllanthus polyanthus Pax
Pseudolachnostylis maprouneifolia Pax
Uapaca kirkiana Müll. Arg.
Uapaca nitida var. *nitida*
Uapaca sansibarica Pax

IRIDACEAE

Gladiolus atropurpureus
Gladiolus dalenii Van Geel

IXONANTHACEAE

Phyllocosmus lemaireanus Th. & H.Dur

LAMIACEAE

Acrocephalus sericens
Aeollanthus engleri Briq.
Leonotis pole-evansii Hutch.
Plechranthus thyrsoides (Baker) B. Mathew

LEGUMINOSAE (FABACEAE)

CAESALPINIOIDEAE
Azelia quazensis Welw.
Brachystegia boehmii Taub.
Brachystegia floribunda Benth.
Brachystegia longifolia Benth.
Brachystegia manga De Wild.

Brachystegia spiciformis Benth.
Brachystegia stipulata De Wild.
Bracystegia taxifolia Harms
Brachystegia utilis Burt & Hutch.
Brachystegia sp.
Burkea africana Hook.
Cassia abbreviata
Erythrophleum africanum (Benth.) Harms
Isobertinia angolensis Hoyle & Brenan
Julbernardia paniculata (Benth.) Troupin
Julbernardia globiflora (Benth.) Troupin
Piliostigma thonningii (Schumach.) Milne-Redh.
Senna singueana (Delile) Lock

MIMOSIOIDEAE

Acacia sieberana DC.
Albizia adianthifolia (Schumach.) W. F. Wight
Albizia antunesiana Harms
Albizia glaberrima (Schumach. & Thonn.) Benth.
Albizia versicolor Welw. ex Oliv.
Amblygonocarpus andongensis Exell & Torre
Entada abyssinica Steud. ex A. Rich.

PAPILIONOIDEAE

Abrus melanospermus subsp. *Suffruticosus*
Aeschynomene abyssinica (A. Rich.) Vatke
Bauhinia petersiana subsp. *petersiana*
Crotalaria sp.
Dalbergia fischeri Taub.
Dalbergia nitidula Baker
Desmodium sp.
Droogmansia pteropus (Baker) De Wild.
Eriosema sp.
Erythrina abyssinica Lam. ex DC.
Flemingia grahamiana Wight & Arn.
Humularia sp.
Philenoptera violacea (Klotzsch) Schrire
Pericopsis angolensis forma *angolensis*
Pterocarpus angolensis DC.
Swartzia madagascariensis Desv.
Tephrosia sp.
Xeroderris stuhlmannii Mendonça & E.P. Sousa

LOGANIACEAE

Strychnos cocculoides Bak.
Strychnos innocua Del.
Strychnos pungens Solered.
Strychnos spinosa Lam.

MALVACEAE

Azanza garckeana (F. Hoffm.) Exell & Hillcoat
Hibiscus rhodanthus

MELASTOMATACEAE

Dissotis princeps (Kunth) Triana

MELIACEAE

Ekebergia benguelensis Welw. Ex C.DC.
Khaya anthotheca Stapf ex Bak. f.
Turraea sp.

MELIANTHACEAE

Bersama abyssinica subsp. *englerana* F. White
Bersama sp.

MORACEAE

Ficus sp.
Ficus sycomorus L.

MYROTHAMNACEAE

Myrothamnus flabellifolius Welw.

MYRSINACEAE

Maesa lanceolata Forssk.

MYRTACEAE

Eugenia malangensis (O. Hoffm.) Nied.
Syzygium cordatum Hochst. ex Krauss
Syzygium guineense subsp. *afromontanum* F. White
Syzygium guineense subsp. *guineense*
Syzygium guineense subsp. *macrocarpum* F. White
Syzygium guineense subsp. *huillense* (Hiern) F. White
Syzygium owariense

OCHNACEAE

Ochna pulchra
Ochna richardsiae N. Robson
Ochna schweinfurthiana F. Hoffm.

OLACACEAE

Olax obtusifolia De Wild.
Ximenia americana L.
Ximenia caffra var. *caffra*

OLEACEAE

Schrebera trichoclada Welw.

ORCHIDACEAE

Eulophia horsfallii (Bateman) Summerh.

POACEAE

Andropogon chinensis (Nees) Merr.
Andropogon sp.
Aristida recta Franch.
Brachiaria bovonei (Chiov.) Robyns
Elionurus tripsacoides Willd.
Eragrostis capensis (Thunb.) Trin.
Eriochrysis pallida Munro
Heteropogon melanocarpus (Ell.) Benth.
Sacciolepis rigens (Mez) A.Chev.
Tristachya superba (De Not.) Schweinf.
Zonotriche inamoena (K.Schum.) Clayton

PODOCARPACEAE

Podocarpus latifolius (Thunb.) Mirb.

POLYGALACEAE

Securidaca longipedunculata Fresen.
Polygala sp.

PROTACEAE

Faurea saligna Harv.
Protea angolensis Welw.
Protea gagedi G.F. Gmel.
Protea welwitschii Engl.

RHAMNACEAE

Berchemia discolor (Klotzsch) Hemsl.
Ziziphus abyssinica Hochst. ex A. Rich.

RHIZOPHORACEAE

Ansiophyllea pomifera Engl. & Von Brehm.
Cassipourea mollis (R. E. Fr.) Alston

ROSACEAE

Oncoba spinosa Forsk.

RUBIACEAE

Fadogia homblei De Wild.
Fadogia sp.
Gardenia ternifolia var. *jovis-tonantis* Aubrév.
Gardenia subcaulis Stapf & Hutch.
Keetia gueinzii (Sond.) Bridson
Keetia venosa (Oliv.) Bridson
Keetia zanzibarica subsp. *cornelioides* Bridson
Keetia sp.
Oldenlandia sp.
Pavetta schumanniana F. Hoffm. ex K. Schum.
Rothmannia fischeri (K. Schum.) Bullock
Rothmannia engleriana (K. Schum.) Keay

Rothmannia whitfieldii (Lindl.) Dandy
Spermacoce dibrachiata Oliv.
Tricalysia revolute Hutch.
Vangueria infausta subsp. *infausta* Verdc.
Vangueriopsis lanciflora (Hiern) Robyns

RUTACEAE

Zanthoxylum chalybeum Engl.

SAPINDACEAE

Allophylus africanus Beauv.
Allophylus sp.
Zanha africana (Radlk.) Exell

SAPOTACEAE

Mimusops zeyheri Sonder

SCROPHULARIACEAE

Sopubia sp.

STERCULIACEAE

Dombeya rotundifolia (Hochst.) Planch.

THYMELEACEAE

Craterosiphon quarrei Staner
Gnidia chrysantha
Gnidia sp.

VERBANACEAE

Vitex buchananii Baker ex Gürke
Vitex doniana Sweet
Vitex madiensis Oliv.
Vitex mombassae Vatke
Vitex sp.