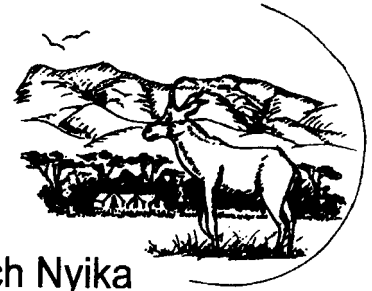


Biosearch Wildlife Expeditions 2010



Scientific Exploration of the Nyika National
Park and Vwaza Marsh Wildlife Reserve,
Malawi, Central Africa

C.P. and M. J. Overton



Biosearch Nyika

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**Malawi,
Central Africa**

2010

Edited by C. P. and M. J. Overton

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Cover photographs by Marianne Overton:
Front - View near the North Rumphu Bridge looking east.
Back – Lauren Smith viewing bark damage



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FOREWORD

C Peter Overton

The expedition to Malawi covered three weeks over Christmas, the wet season. The team arrived in Lilongwe early to enable me to meet people and get the expedition off to a good start. It was also to enable our aspirant vet to experience working with the vets in the Lilongwe Wildlife Sanctuary.

Since we first made contact with the Department of National Parks and Wildlife back in 1995 we have now made fifteen expeditions to the Nyika National Park. Initially we focused on the northern hill zone because it was, and still is, largely unvisited there being no road access and more days need to be allocated to a foot expedition than most visitors are willing to commit. In recent years we have spent more time on the plateau itself, studying interesting areas such as the Chisanga Falls, Juniper and Mwenembwe Forests and Mwanda and Vithinza mountains.



This year the field work focussed on the south-east quarter of the Nyika National Park, covering a similar area to 2008 and 2009 for comparison in a different season. With limited fuel, we adapted our work locations to reduce the distance travelled on the plateau. Two five-day field camps were in Runyina and Dembo Bridges, a night was spent in Chilinda, two at Lake Kasuni in Vwaza, and two nights at the Lake shore at Chinteche.

As in previous years, we had to face the early challenge of lack of availability of fuel from the point of our arrival in Lilongwe. We could not have set off without a substantial reserve with us and our driver spent a considerable amount of time touring the empty filling stations in the city before we decided to risk the trip to Mzuzu, being prepared to turn round again if that proved to be dry. We did have a three hour wait there but finally secured our requirements which meant the expedition could go ahead more or less as planned but with a careful assessment of every kilometre travelled for our work. Perhaps this is the way it should be. However, both the cost and the inconsistent availability of fuel must be a major problem for the fledgling tourism concession on the Nyika. Visitor numbers remain tiny in this remote outpost of Malawi.

“Be wary of going at Christmas,” I was warned. “It will be wet and you may have problems with access and find yourself tent-bound at best with torrential rainfall!” We had not visited at this

season before and having between us experience of wet tropical rainforests where getting on with the job took precedence over wondering what the weather would do, we were determined to do this trip. We arrived on the Nyika after a week of heavy rain and enjoyed two almost completely dry weeks, losing only a few hours on our last day in the bush to a morning downpour. Perhaps we were lucky but without going at this season we would have missed experiencing the Nyika possibly at its best. Spring has arrived, birds are active and we had some good success with our nets which we opened up each dawn and late afternoon.

The team from the UK was small and enriched by Malawians who not only more than doubled the size of the expedition but also gave us substantial scientific strength. We were well supported by the Museums of Malawi and the Forestry Research Institute. As in recent years, we collected seeds for the Millenium Seeds Bank. Surveys included birds, small and large mammals, herpetology and insect collections. Consequently, we spent more time on netting and small mammal trapping to study diversity. However, we still managed to collect enough large mammal survey data to give an indication of the populations, rather than the widespread coverage as in previous years. We also co-operated with a small group from FRIM in Zomba, which included a professional tree climber who had the job of collecting seed specimens from high up in the canopy. This vertical expeditioning is something that we had not experienced before.



On Christmas Day we returned to Thazima and had a meeting with the headmaster and many of his children at the school. Marianne had given talks in schools in Lincolnshire in England and brought letters to set up an exchange with Thazima School. One of the Lincolnshire schools has received replies from Malawi and organised some fund-raising for them.

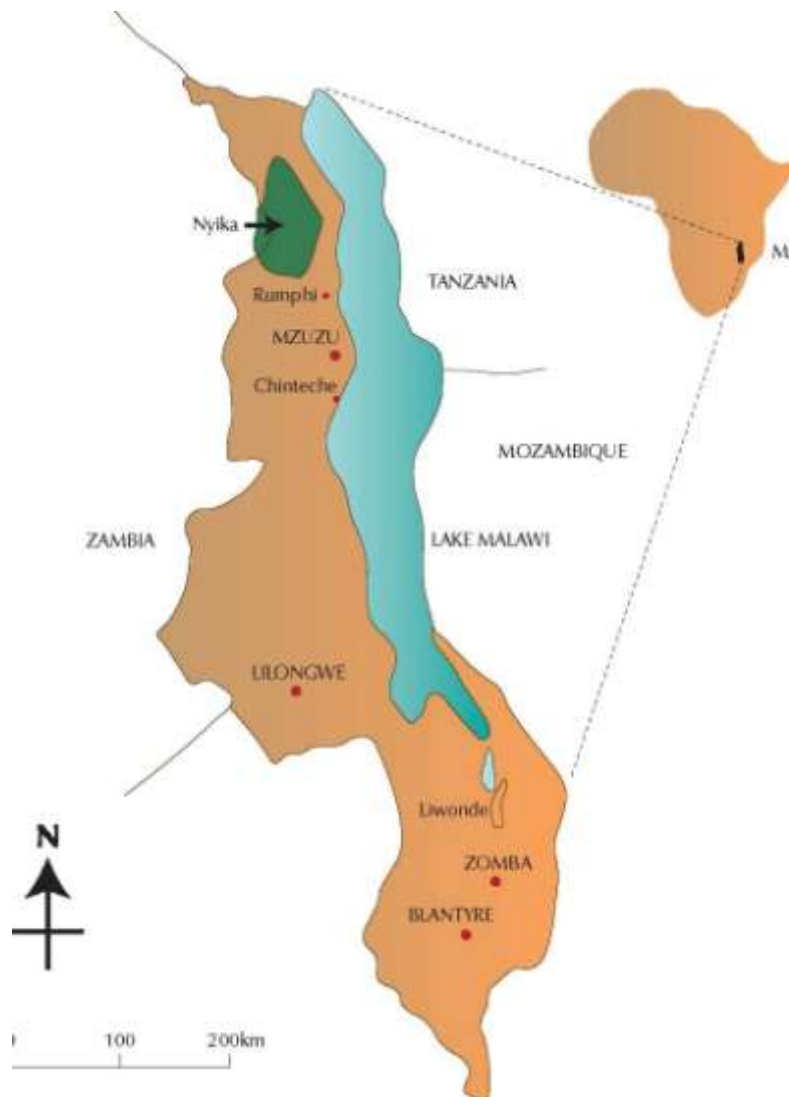
Later in the day we arrived at Kasuni to find, surprisingly, the lake largely shrunk to a mud pan. Although the rain had started to fall on the Nyika, the South Rukuru River is long and winding through

many small holdings on its way down to Vwaza and it takes some time for the lake to start to fill. Possibly as a result of this, the large elephant herd that normally frequents the area appeared to have headed off west to better conditions.

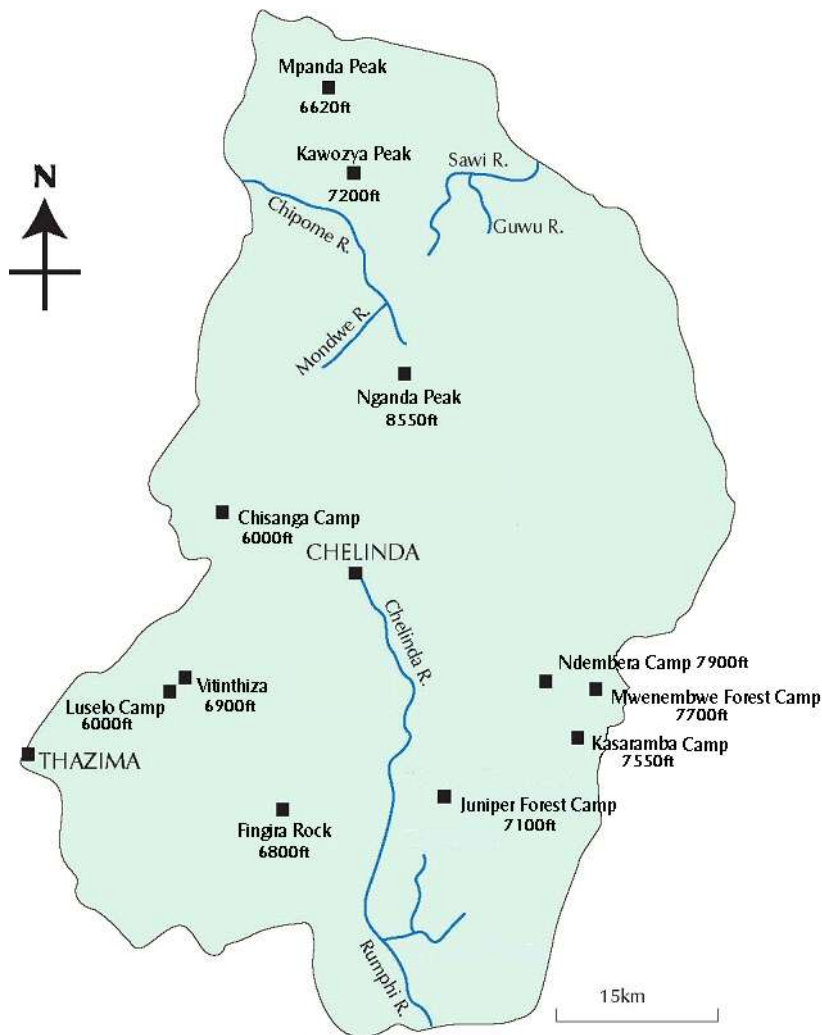
We thank the staff of the Department of National Parks and Wildlife who as usual supported our work and gave a great Malawian welcome. We would like to make special mention of Richard Nyirenda, who over fifteen years has proved that his powers of observation are simply amazing and he is an exceptional scout. And finally our thanks to Leonard Sefu, Director of National Parks and Wildlife over more than a decade, who consistently takes time to support us on our arrival despite his huge responsibilities and hectic schedule.

MALAWI

Landlocked Malawi lies at the southern end of the Great Rift Valley and is bounded by Mozambique, Zambia and Tanzania. It lies between 9° and 17° south of the equator. The climate may be loosely described as sub-tropical but varies considerably, being much influenced by altitude and Lake Malawi, which forms much of the country's eastern border. The dry season is from May to November. Malawi has a rural economy based on subsistence farming and fishing on the lake but also with large tobacco and tea estates. The country is one of the world's poorest and is slightly smaller than England at 45,747 square miles. As more of the population migrates from the countryside, the towns are growing fast. The population, living mainly in the south of the country, is around 14.3 million, with an average life expectancy of 44 and very low survival rate for under 5's. The varied countryside is characterised by a string of high plateau regions from the north to the south of the country, of which Nyika is one, and isolated rocky intrusions which conspicuously stick out of the flat landscape.



MAP OF NYIKA NATIONAL PARK

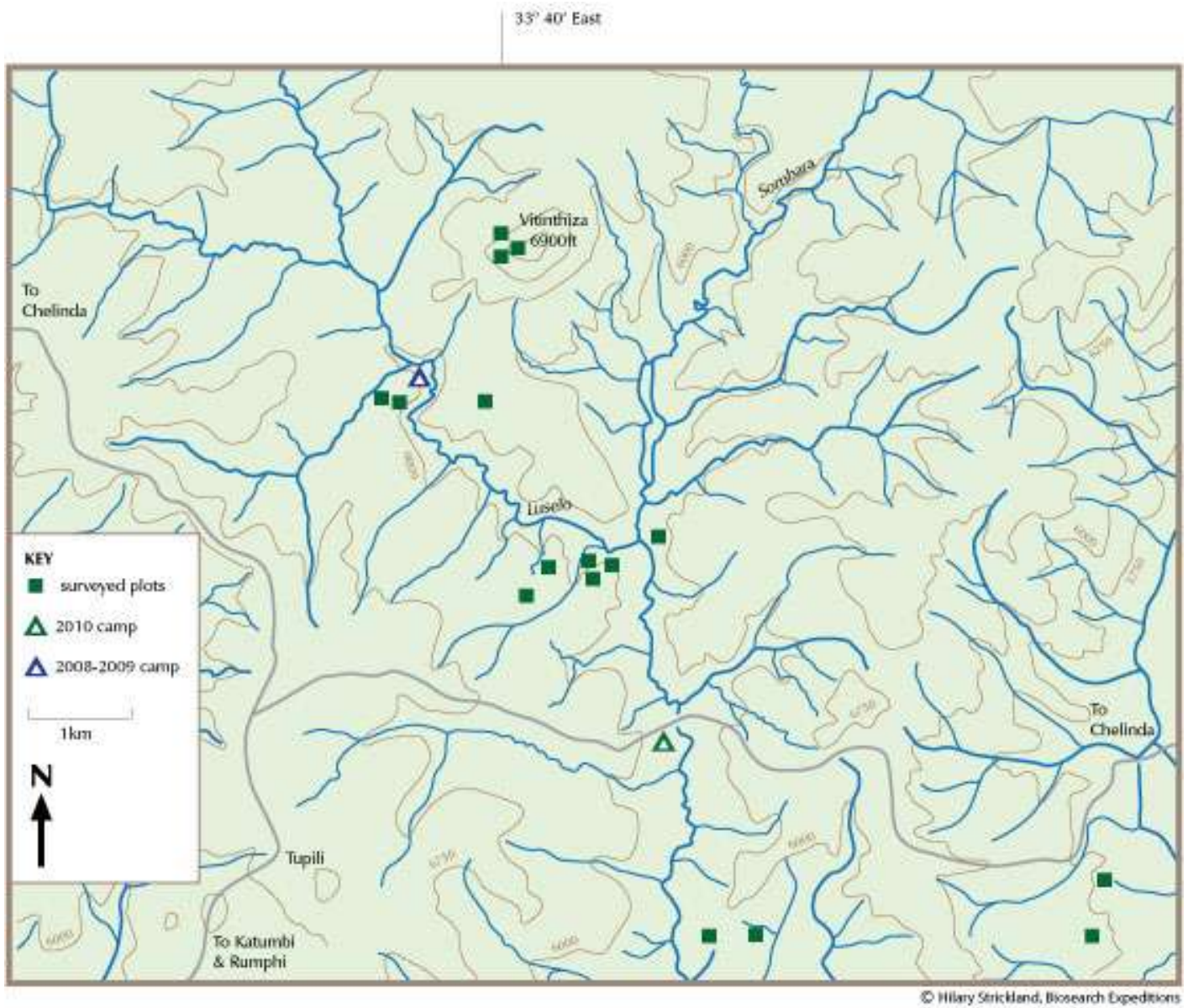


CAMPS DECEMBER 2010 - detailed locations shown next page

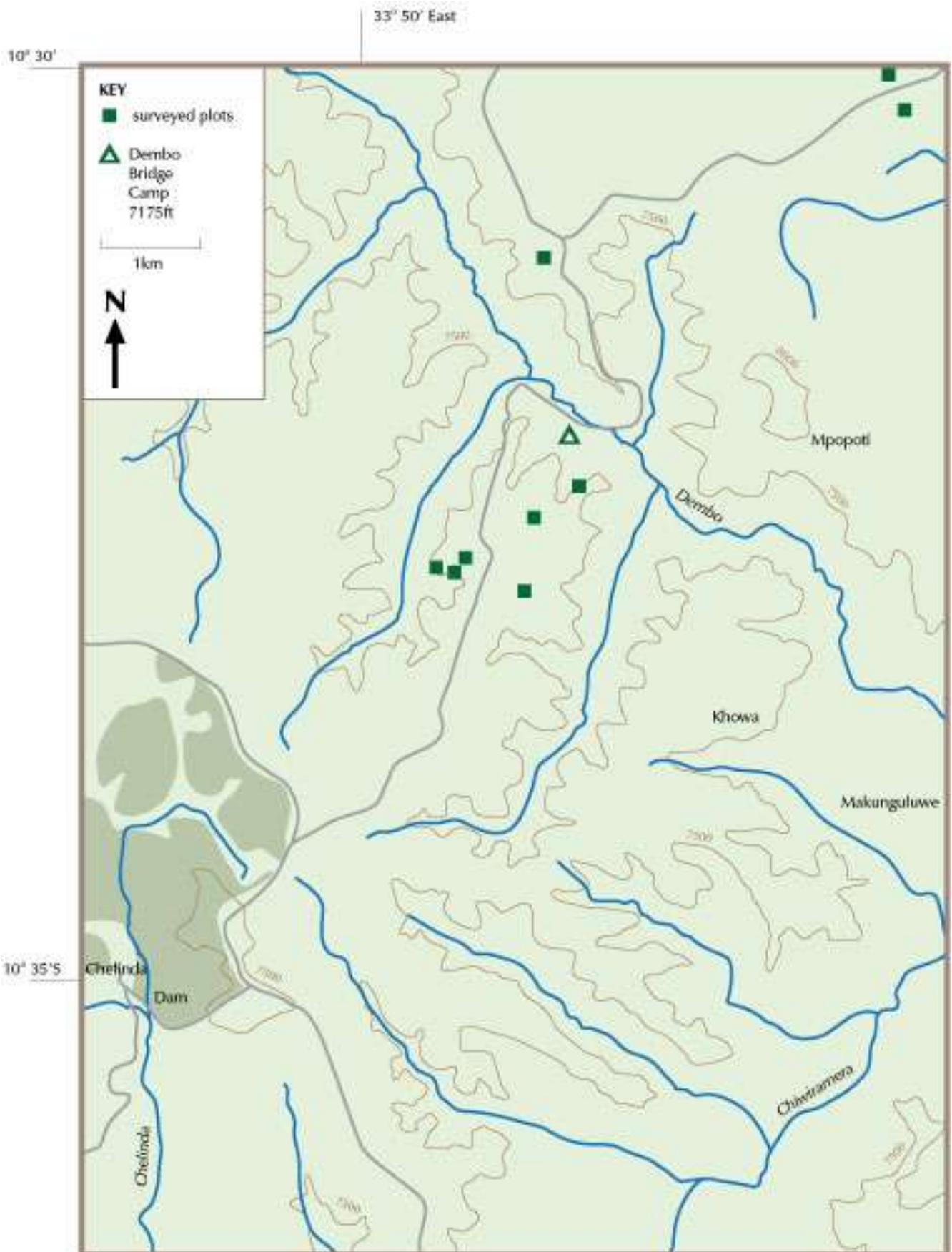
Date	Night Camps	Latitude	Longitude	Altitude m	Map ref
14-18 th	5 Runyina Bridge (5 km downstream from Luselo camp on map above)	10° 43.82'	33° 40.93'	1783	744 139
19 th	1 Chelinda Hostel			2307	885 305
20 th - 24 th	5 Dembo Bridge (10 km north east of Chelinda)	10° 32.155'	33° 51.297'	2207	935 356

SURVEY AREAS

Luselo River and Vintiniza Area)



Dembo Area



© Hilary Strickland, Biosearch Expeditions

THE EXPEDITION TEAM

Our team included scouts, wildlife officers, young people for whom this was a career move, experienced field workers and adults on a first expedition experience. For some the priority was scientific success. Others were seeking challenge and adventure in this Central African wilderness, whilst making a useful contribution to wildlife conservation in this developing country. Below is listed the British and Malawian leadership of the team, followed by the rest of the team in alphabetical order and finally our two extra support scouts and two excellent drivers from Lilongwe.



C. PETER OVERTON BSc (Hons)

Project Director of Biosearch Expeditions. Peter joined the Wye College Nyika Expedition (1972) to the northern extension of the Park (as it now is). He has long experience in project organisation and management in the UK, including nearly 30 years involvement with the wild game industry. For the British Trust for Ornithology, Peter co-ordinates a regional team of voluntary researchers, contributing to national records and also sits on the Regional Network committee of the BTO to assist in the planning of nationwide surveys. He has organised all of the Biosearch expeditions since 1996 and personally led three of them.



MARIANNE OVERTON
BSC(Hons) PGCE CBiol MSB FRGS

Marianne, Biosearch leader this year and science co-ordinator since 1996. Marianne was raised in East and South Africa and enjoyed leading field research expeditions in the Amazonas, Kenya, Arctic Norway, Yukon, Queensland and this series of expeditions to Malawi with Biosearch Nyika. Each expedition involved a wide range of ecological surveys with various sized teams, the largest being 81 in the field! She is a fellow of the Royal Geographical Society and has twice been regional chairman for the Institute of Biology in the U.K. and was a governor on the Board of Trustees of the University of Lincoln.

Scientists



RAY MURPHY FRS

Ray Murphy, a Fellow of the Royal Entomological Society, has had a keen interest in Natural History all his life. He has collected insects widely in S America and Eastern Africa and has travelled up both the Amazon and the Orinoco. He went to Malawi in 1981 and has now retired there with the objective of finding which insects occur there and, in co-operation with specialists, get illustrated literature published on each group. He says that Malawi is the least explored, entomologically speaking, of all the African countries and that he is continually finding new species. The most astounding group has been the Metarbelid moths where 30 of the 50 species discovered there so far are new to science! On this expedition, two further new species were found.

CHRISTOPHER (KIT) CLAYTON

BSc (Hons)

This is Kit's third expedition with He is now working with entomologist Ray Murphy on a year placement to compile an illustrated catalogue of the whole collection of Malawian insects. This is a phenomenal collection and this work forms a great foundation for his career.



STEVEN MPHAMBA

Steven is a herbarium assistant at Zomba for the Forestry Research Institute of Malawi (FRIM). Since 2003 he has been collecting seeds for the International Seed Bank and worked with the Darwin Initiative in Mozambique. He joined our team in 2007, 2008 and 2009 and is a highly valued as a team member. He also sings with a very successful choir from Zomba.



YANKHO CHAPETA BSc(Hons) Science

Yankho is a newly recruited herpetologist at the Museums of Malawi in Blantyre. Yankho studies at Chancellor College in Zomba for four years and did a dissertation in the distribution of Chironomid larvae in Malawi. Fieldwork was completed jointly with a team from Japan over a three month period.



NYSON GAWANI

Technical assistant at the Museum of Malawi in Blantyre, where he has been working for over ten years. His training has included a course in Tanzania. Nyson comes from the Balaka District in the South of the Country and has a wife and two children.

“It was a good expedition which I enjoyed very much. I learned some different techniques and a lot about mammal surveys. Next time I will bring more traps because the catch rate was low. Also we should do more netting in the forest patches to identify new birds and bats. There are unique species here because the forests are so high and so wet.”



LAUREN SMITH

In 2010, Lauren graduated from the University of Lincoln with a 2/1 in Forensic Science. Allied to this, Lauren was especially interested in the evidence gathering to support the anti-poaching patrols. Lauren is aiming to pursue a career in research.

“The worst part was waiting at the airport for Dimitrios, who never came. The best bits were night-time at Vwaza and seeing the hippos so close. I really enjoyed the expedition, however much hard work it was. I did find the forest patches good fun.”

CALLUM MORAN

Callum (20) is in his second year at Nottingham Trent University studying Applied Biomedical Sciences. This was Callum’s first expedition where he found the close experiences with wildlife, especially birds and moths very interesting. In the long run, Callum is aiming for a career in the medical world.



SARAH MOODY

Sarah (16) completed 15 GCSE’s in 2009 and is now studying A levels in three sciences and Maths. Sarah’s passion is in animal welfare and she aims to become a vet.

“I enjoyed getting up early with everyone else as soon as it gets light. I liked getting round the campfire and learning about the Malawian way of life, especially from Yankho.”

JOE CHAZEWA

Joe (40) is a professional driver with fifteen years’ experience, four years with his current employer, Skywave. Joe is qualified to drive all kinds of vehicles and has driven in many countries, including South Africa, Swaziland and Zambia. Joe Chaweza lives in Lilongwe and joined us for the entire trip in 2009 and 2010, taking part in all aspects of the expedition.



Parks and Wildlife Staff

RICHARD NYIRENDA

Senior Parks and Wildlife Scout

This was Richard's ninth expedition with us, since joining us in 1997, with a particular interest in the bird life. This is a remarkable achievement and his all-round expertise is greatly appreciated. Richard is based in the Law enforcement Section of the Parks and Wildlife Department and is now based at Thazima Camp. Since his employment in August 1989, Richard has done a lot to benefit the Department of National Park and Wildlife at Chilinda, Uledi and Thazima, included assisting with many arrests.

"This research is helped by a new pair of binoculars from Peter Overton, which should be useful for many years to come."



ALIEL MOYO

Aliel is a Parks and Wildlife Assistant with the Department of Parks and Wildlife, where he has worked for three years. Aliel enjoys his work in research and planning, collecting and analysing data for different projects. Aliel trained in Liwonde for 12 weeks and studied in Tanzania in 2008.

Staff from Forestry Research Institute of Malawi (FRIM)

HUMPHREY CHAPAMA

Humphrey trained in Tanzania in 1968 in species identification and worked in Kafue National Park, Zambia for a year before taking a position at the Herbarium as a technician. Humphrey's original home is Mangochi by the lake.

MAUTENGA AYAMI

Mautenga has worked for fifteen years as the tree climber for FRIM.

LAURENT NYIRENDA

Laurent has worked as a driver for FRIM for about ten years.

RYLE SHADRACK

Ryle is responsible for research at Chilinda. He joined the Department of Parks and Wildlife in 2002 and worked in the extension project until 2006. Ryle joined Biosearch 2006 expedition and went on to a two year Diploma in Wildlife Management at the Malawi College of Forestry and Wildlife at Dedza.



“The team”

WILDLIFE SANCTUARY REPORT

Sarah Moody

Prior to the start of the expedition Marianne and I spent time at Lilongwe Wildlife Centre, the only sanctuary in Malawi for rescued, orphaned and injured animals. Other team members from England: Lauren and Callum also visited for varying amounts of time. Lilongwe Wildlife Centre aims to provide sanctuary to wildlife, promote conservation by working with local communities through education and outreach, and welcomes visitors to experience the benefits of conservation¹.

On arrival we were introduced to the team working at the centre, including Dr Catherine Wood the leading vet and her co-worker. We were offered a guided tour when species the sanctuary commonly works with were shown to us: vervet monkey, crocodile, hyaena, leopard and duiker. After expressing an interest in aiding the centre in their efforts we were delegated laborious but important tasks, such as litter picking tourists' waste and helping build a shelter. This became a kind of exchange to be able to work with the animals and have the opportunity to follow the vets closely.



Figure 1 On our guided tour; a bushbuck greets Marianne

Although a wildlife centre, the first cases we saw arrive were underweight and malnourished puppies, spotted by a passerby as their owner attempted to illegally trade them on the roadside.

Later that day a baby vervet monkey in a similar condition also arrived. All these animals were deemed to be at risk of re-feeding syndrome. Catherine briefly explained this while she worked, which sparked an interest in me and I was able to take note and research more about it when I returned home, where it became the basis for my AS biology coursework.

When a mammal, such as the puppies, has experienced a prolonged period of starvation, insulin levels are low, in accordance with carbohydrate intake. When food is consumed again in a substantial quantity a spike in insulin levels is caused, this stimulates an anabolic environment for the formation of ATP. Substrates required in this process mainly phosphate, magnesium and potassium are at a low concentration in cells due to the previous starvation, but serum concentrations are maintained. In the production of ATP substrates move from the blood into the cells, where they are rapidly used up, leading to a future deficit of serum and cellular concentration, and therefore in ATP production. ATP is required in almost every bodily system as a transporter of chemical energy².



Catherine explained the danger of this syndrome as the effects are not witnessed until 2-3 days later, by which time it is usually too late to act. The basic rule of feeding 'little and often' can save an animal's life, which is why the centre puts funds into education of the local community¹. In this circumstance, because the monkey was young it was established that he couldn't have been without food for a significant period of time, therefore the risk was minimised.

Work is done in the centre to try to maintain as natural a habitat and life for the animals as possible. Activities which encourage this are called enrichment. We pulled down branches to be used for natural foraging for monkeys in enclosed shelters and threw fruit over the fences of enclosures, which some skilled monkeys

took the opportunity to catch. An exciting but smelly enrichment took place when we fed the hyaena a cow's head; two keepers unsuccessfully attempted to throw it over the fence, much to our amusement; a tourist then volunteered in vain to do the same.

We witnessed the spectacular event of a lioness feeding. Sadly she was old and her rear sagged due to arthritis. She had a blotched coat surrounding her head. When we questioned the keeper, he explained she was also suffering from an ear infection requiring treatment with drops; this proved uncomfortable for her and she would shake her head, splashing some of the drops onto her coat.

On our final day at the centre a young baboon with a cut finger required an operation to close the wound. Keepers explained the injury could have been caused by another baboon. The baboon had to be separated from its mother, causing them distress. After separation the mother displayed changing emotions to her other child, switching between affection and aggression, *Nature - Inside the Animal Mind* explores the roles of these. The only available suitable surface for surgery was a chair; this demonstrates the still huge requirement for funding. All surgical tools, surfaces and the wound were disinfected with iodine solution to minimise the risk of infection. The juvenile was anaesthetised by an injection to the muscle. The skin was then surgically debrided with a scalpel, removing dead tissue; this process reduces the risk of infection and quickens the healing process. In comparison to other debridement methods surgery is faster and more selective, suitable for the small area of the wound and the limited time. Marianne and I were on duty to watch the head for any flicker of movement. The suturing was successful and it was hoped Manuka honey could be applied to the area before bandaging, however movement from the baboon was noticed and it was decided it would be best to bandage as quickly as possible before the baboon recovered from the anaesthetic. The high sugar content of the Manuka honey creates a waterless environment in which bacteria infecting a wound are unable to survive. Also an enzyme, glucose oxidase, contained in the honey is acidic, creating an environment with a low pH, unfavourable to some bacteria³.



Figure 3 Catherine Wood performing surgery on a baboon

Unfortunately, later that day we found a dead tortoise lying on the side of the path next to the electric fence. When tortoises feel pain their reaction is to retract into their shell, not to move away, this would have caused its death by electrocution. However the reptile's death did bring about an opportunity for dissection, which pleased both me and quite a lot of flies! I was amazed to discover that a tortoise like some other reptiles have no diaphragm, this is because movement of muscles around their front limbs instead acts to create changes in thorax pressure.

For me the main aim of my time at the sanctuary was to absorb all of the fascinating animal health issues, but it has been so much more than I could ever have imagined. Working with the locals; absorbing the culture and society of another country, I can confidently say that every moment here I have treasured; a real life experience in so many ways.

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³BBC news, 2004. *Harnessing honey's healing power.* [online] available at: <http://news.bbc.co.uk/1/hi/health/3787867.stm> [accessed June 2011]



Rare Blue Monkeys,

Bushbuck,

Hyaena,

Sara enriching the caged environment for the monkeys

Volunteer Dominic bringing calm to the newly rescued Vervet Monkey.



MEDICAL NOTES

Callum Moran

MALARIA

In 2009, there were 243 million cases of malaria, and malaria caused 781,000 deaths, according to the 2010 World Malaria Report. Hence it was important to know what to do to reduce the risk of acquiring malaria. Mosquitoes carry plasmodium that causes malaria and congregate near stagnant water, which we avoided. We took prescribed anti-malarial tablets just before, during and after the expedition. We used mosquito repellent such as deet spray and wore long-sleeved clothing to prevent skin exposure to mosquitoes, especially at dusk near the Lakes Kasuni and Malawi.

We remained vigilant in ensuring our tents were fully zipped up - except when getting in and out! The tents were also searched thoroughly with a torch before going to sleep. We had no cases of malaria on our expedition and Biosearch expeditions have had only a single case (in 1997).

WATER-BORNE INFECTIONS

There is a potential threat from consuming infected, unsterilized water so we took water from a fresh supply that is flowing and treated using chlorinated tablets or iodine. Organisation was important to ensure water is treated the night before ready for the following day.

VENOM

The overall risk is minimal though there is a low risk by being exposed to snakes, arachnids and insects that have the ability to produce poison. The golden rule of not putting your unguarded hands or feet where you cannot see was applied. Boots were tapped out before putting them on.

HAZARDS

Food was usually prepared before dark, the key point being to not obstruct the area around the fire, which may cause someone to trip and fall. Using the fire to cook was the only practical method, using fallen wood. Ensure that the handle of the pots or pans are directed away from the fire to prevent the handle from heating up.

DEHYDRATION

Dehydration is a key factor as it is important to keep hydrated, whilst out in the field it is important that a bottle of water is close to hand at all times. It is necessary to consume water even when you feel you cannot take anymore. It is misunderstood that thirst is the first sign of dehydration, though dehydration occurs well before thirst is experienced.

SUN/HEAT/HUMIDITY

It is vital that care is taken to prevent sun stroke or heat exhaustion. To minimise this, we avoided exposure at peak times and wore cotton clothing to keep cool. We kept hydrated, wore a hat and sunglasses during the day and stayed in the shade as much as possible. High factor sun cream was applied frequently.

TREATMENT

Treatment for dehydration was simple; rehydrate by drinking water, in small sips to prevent vomiting. Rest and stay in a cool and shaded area until full health was regained. This same procedure can be applied for heat exhaustion and sun stroke.

It was advised to carry anti-histamine cream and tablets to treat bee or wasp stings. Treatment included use of antihistamine cream and tablets but not taken together.

Stomach upsets are caused by many factors such as, food, water and side effects to anti-malarial medication. Generally, the cause is irrelevant as the treatment is the same. Rest and drink plenty of fluids.

MEDICAL ISSUES THAT WERE RAISED

Anti-malarial tablets causing side effects – skin sensitivity, mainly to the hands

Dehydration

Stomach upset

Mosquito/insect bites

Bee sting

Heat exhaustion/sun stroke



Just to show that Nyika millipedes are not dangerous, this is Lauren's foot after she stood on a giant millipede in her sock! It looks dreadful, but was only a stain which eventually washed off!

PROVISIONS

Peter Overton

INTRODUCTION

A comprehensive appraisal of providing rations for the team was published in 2009 and with minor adjustments has been reproduced below. The full provisions list has been adjusted to reflect the exact purchases made on this expedition. The notes section may prove useful as a supplement following our 2010 expedition experience. We have also added an inventory of unconsumed rations that were distributed to the supporting scouts and others at Vwaza prior to our departure. This means that with our careful management of fresh food and menus, virtually nothing was wasted; which is of course as it should be.

PURCHASING

We completely revised the 2009 provisioning list to suit realistic requirements for our particular team size and individual requirements. With the planned itinerary giving us access to basic food supplies as the vehicle passed through Rumphu and Bolero during the course of the expedition, it was possible to plan provisions more precisely. We needed less contingency stocks than if we had, for example, spent the entire period in the northern valleys of the Nyika National Park or at Uledi in the north. With the costs and risks to the vehicle of unnecessary movements it is always best to overshoot a little since any surplus stocks are given away to the scouts and their families at the end. However, we are equally concerned that no food should be wasted. This is a matter of good stock management and having someone in charge of menus to make sure that perishable supplies, especially, are used up at the correct time – even if it involves a heavily laden tomato stew at some stage!

SHOPPING

All fresh fruit and vegetables can be obtained from the street market; the quality, availability and price is good and it helps local people directly. The best meals are always made from fresh ingredients, which also happen to make a much cheaper menu so there is little point in bringing more convenience packs than can be usefully employed for the trekking phases of the expedition. When we are based at fixed camp locations, as in 2010 the need is further reduced.

Good quality fresh meat for the first three days of the expedition can be ordered in advance and the supplier will keep it in a fridge for collection on departure day. When obtainable, it is a good idea to take some vacuum packed meat, which can be brought out as a treat after the first forays, since it will keep well in a cold box kept cool under a streamside tree.

It is easier to purchase most supplies, other than fresh items, from a single source in Lilongwe before departure. We used Shoprite in the centre of Old Town. This is not the cheapest source of stock; tinned imported products are especially expensive. However, for bush trekking tinned fish, one of the higher cost items, is particularly useful due to its light weight and energy richness. Time is often a factor pre-expedition and searching round town for different items is rather impractical with only a day to get things together.

Milk powder, maize flour, porridge oats, rice, sugar, tea, dried fish, potatoes, tomatoes, onions, dried beans, cabbages and carrots, cooking oil and various flavourings are the key ingredients to provide an interesting and nutritious menu for the three weeks. Fresh fruit in the form of oranges or grapefruits, which keep well, or the ubiquitous banana should be added. Hard boiled eggs are one of the most useful of fast foods and a stock of fresh eggs will last the duration of the expedition. We find we usually share our preferred menus as the expedition progresses and the nsima (maize flour) and dried fish are the only ingredients which seem to be rather culturally exclusive to the game scouts.

'Snack foods' as the scouts rightly describe some items, serve mainly to get salt into the system and have limited energy value when a day's trekking is in store. Although weight is an issue, it is

quite normal to throw the odd onion or potato into one's pack when leaving on a five day trek; it means much more than a chocolate bar at the end of the day!

It is rare for us to run short of food but there are some items, which if they are missing can give that impression. Cooking oil, salt and tea have on occasion given us cause for concern but fortunately these are all items that can be obtained from roadside huts in the remoter areas. The scouts, on their 15 day duty patrols manage very well on nsima and dried beans, with tea and plenty of sugar for support so it is important not to get too carried away with what is 'necessary'. Over the years we find the quality of our meals has gone up as we have focused more on the basics and found interesting ways of preparing them.

LIST OF PROVISIONS

The list on page 21 is an allowance for 10 team members including scouts. We added to this list some top-ups with a few fresh items when the opportunity presented itself. These items included fresh bread and tomatoes. Additions to the initial basic stock purchases, which were made because we did not feel the need for much contingency this year, have been included in the full list for completeness. It is very difficult to calculate exactly what any particular expedition will eat, with varying appetites and a few food preferences, so if we felt we would be unable to do any reprovisioning we would add around 15% to the quantity bought.

LESSONS LEARNED

Porridge proved very useful again – Malawians will eat it when we need to get going early and group is small but would obviously prefer nsima.

Coffee – nobody drank it and Milo and tea provide sufficient variety with Sobo drink

Increase Sobo allowance to 1 litre per head for duration of 15 day expedition in the bush. Most team members like to add it to the water for the day treks.

Five litre containers useful for good quality drinking water to be carried from Nyika to Vwaza, where supplies are still a problem.

Loose tea not necessary; tea bags more convenient, provided broken up for composting.

Tuna more popular than sardines but retain both.

Vegetarian 'Mince' available from Shoprite. Suitable for Vegans

Margarine melted and became a nuisance. Not recommended.

Sweet biscuits were all given away as gifts – none consumed on expedition.

Vacuum packed steak kept well for the first week and probably could have kept longer if in a bucket in a stream from the start. Meat balls are not popular and are best deleted from list

Oranges and Grapefruit out of season at Christmas. Pineapples keep well.

Dried potatoes were unnecessary with plenty of fresh available.

Tomato ketchup was unused.

We used little rice but could have used more if we had not bothered with the potatoes. It is popular with the scouts for lunch.

PROVISIONS LIST

	10 people 15 field days
Apples	40
Avocados	15
Bananas	30
Cabbages	10 large
Carrots	7 kg
Cornflakes	1kg
Grapefruit	Not available
Green beans	2 kg
Red beans	1 kg
Green peppers	6
Papaya	2
Pineapples	2
Baked beans	20 tins
Biscuits (sweet)	2 packs x2 kg
Bread	5 loaves
Bread Rolls	40
Cooking oil	7 litres
Cheese - cheddar	15 pks x 300g
Chocolate drink - Milo	4 x 500g tins
Coffee	1 x 500g
Custard powder	1 tin
Eggs	60
Fish –kapenta dried	2 kg
Fish – from market	2 kg
Flour for bread	1 x 2.5kg
Flour self-raising	1 kg
Fruit dried mixed	5 x 500g
Fruit cocktail	12 tins
Herb mixture	1 small pots
Juice – passion fruit	3 litres
Juice – guava	3 litres
Macaroni	3 x 500g pks
Maize flour	2 x 10 kg
Margarine	2 x 500g tubs

Marsh Mallows	3 packs
Matches	1 x 6 box
Meatballs in gravy	6 tins
Milk – liquid sterilised	18 litres
Milk powder – NIDO	2 x 900g tubs
Onions	7 kg
Orange squash-Sobo	8 x 2l bottles
Oranges	Not available
Peanut butter	10 pots
Peanuts	1kg
Processed Peas	8 x 400g can
Pepper	1 x 100ml pot
Porridge oats - Jungle	5 x 1kg bags
Potato dried	10 packs
Potatoes	15kg
Potatoes -sweet	2 kg
Provita biscuits	6 packs
Rice	2 x 5kg bags
Rusks	10 x 500g box
Salt	1 x 500g
Sardines/tom	10 tins
Sauce - chilli	1 bottle
Spaghetti	5 x500g packs
Steak - vacuum sealed	3 kg
Sugar - brown	2 kg
Sugar - white	10 x 1kg
Sweets	5 packs
Tea Bags	160 bags
Tomato Sauce	1 bottle
Toilet rolls	20
Tomatoes	6 kg
Tuna	15 x 170g tins
W/U liquid	1l conc.
Yeast dried	2 sachets
Water in bottles	30 x 0.5 litre

HARDWARE

Item	Quantity
Candles	4
Bowl plastic large red	1
Bowl plastic large blue	1
Bowl plastic small red	1
Bucket – green plastic	1
Bucket – red plastic	1
Grill /Mesh for fire	1
Trays – plastic	3
Machetes	3
<i>Hoe</i>	1
Ladle	1
Large platters	1
Birthday candles	1 box
Cheese grater	1
Chopping boards	2
<i>Sharp vegetable knives</i>	3
Food bags reseal	1 pack/pers

Fish slice	1
Frying pan	1
Insulated box	1
Potato Peeler	2
Colander spoon	1
Omo powder	2 x 1kg
Pan scrubber	20 pack
Nest of Cooking pans	1x6
Mosquito net	1
Fire gloves	2 pr
AA batteries	Pack of 20
AAA batteries	4x2
Disinfectant - Dettol	1 bottle
Refuse Bin Liners	1 roll
Bucket – 5 gallon	1
<i>Base camp tin opener</i>	1
<i>Potato Masher</i>	1



Figure 1 Yankho cooking the biggest, most delicious steaks you ever saw!



Figure 2 A vegan lunch at basecamp

BIRD REPORT

Peter Overton and Richard Nyirenda

SUMMARY

Having spent four years organising the Breeding and Wintering Bird Atlas in the United Kingdom and seen the publication of the much less intensive but excellent atlas 'The Birds of Malawi' (see Reference below), we felt it was high time that we published our lists in a form that may prove useful to future bird monitoring surveys. We have thus introduced a simple atlas system by putting in 1km square map references wherever we have them. Organisation of a multidisciplinary expedition and conducting a bird survey do not easily fit together, as has been mentioned in previous reports, but we feel that publication of limited information is far better than publishing none. Thus our records in no way reflect what an intensive bird survey expedition of similar length may discover in the Nyika National Park and at Vwaza. However in 2010 with the help of the mist nets from the Museum of Malawi operated by Nyson Ngwani we had one of our best bird survey expeditions since 2005, when we had a dedicated ornithologist working with us in the team. Furthermore our choice of the Christmas season undoubtedly helped considerably by avoiding dull sunless periods in late July where getting good views of birds in the bush can be a challenge.



Many birds are specific not only to particular habitats but to particular areas within a habitat which may seem to the casual observer as being similar if not identical. There is great value in putting birds on the map in terms of species conservation. Sadly many species worldwide are declining, largely due to loss of suitable habitat and its associated food resource. If there are known populations in given areas then conservation efforts can at least be focused on these particular sites to create reservoirs from which they can hopefully expand in the future. Bird atlas work is now recognised internationally not only as a fascinating source of information for eco-tourism but as one of the best conservation tools at our disposal.

On the Nyika there are species of conservation concern and species and sub specific genetic pools which are unique to the area. These should be mapped to keep a watch on their continuing status. We hope that future expeditions, especially those dedicated to bird surveys will choose mapping methods and submit them for publication so that a simple bird watching visit can make a real contribution to the conservation of the Nyika.

METHOD

We had two main netting sites during the two week expedition period, enabling the mist nets to be put in place and left for a few days at each of them. Inspections were made from dawn until mid-morning and again in the late afternoon, with the nets being closed during the day while walking out to conduct large mammal tracking and poaching recording work and entering all 'roving records' for birds at the same time. Birds caught in the mist nets were weighed and wing measurements taken before they were photographed and released back into the wild. There were no injuries to the birds and no specimens were taken back to the museum. The data gathered is entered in Tables 1 in the following pages. Some of our catches are shown in the photographs below.



Pygmy Kingfisher *Ispidina picta*



Tropical Boubou, *Laniarius aethiopicus*



Heuglin's Robin *Cossypha heuglini*



Common Waxbill *Estrilda astrild*



Scaly-throated Honeyguide *Indicator variegatus*



Jameson's Firefinch *Lagonosticta rhodopareia*



Streaky Canary *Serinus striolo*



Fiscal Shrike *Lanius collana*



Malachite Sunbird m. *Nectarinia famosa*



Malachite Sunbird f. *Nectarinia famosa*



Mountain Marsh Widow f. *Euplectes psammocromius*



Mt Marsh Widow m. *Euplectes psammocromius*



Tambourine Dove *Turtur dymnorrhinus*



Banded Martin *Riparia cincta*





Churring Cisticola *Cisticola njombe*



Trilling Cisticola *Cisticola woosnami*



Eastern Forest Scrub Warbler *Bradypterus manae*



European Blackcap *Sylvia atricapilla*



Mountain Cisticola *Cisticola hunteri*



Yellow Mountain Warbler *Chloropetris semilis*



Red faced Cisticola *Cisticola erythrops*



ID Uncertain

FIELD NOTES

Once again the demands of running a multi-disciplinary team meant considerable compromise with doing a comprehensive bird survey. Nevertheless the seasonal effect and the opportunity to net the local birds added considerably to our achievements. Nyika is a great training ground for identification of swallows, of which there were many groups of several species, the most widespread probably being the Grey rumped Swallow. Swifts were trickier and we cannot say for certain whether we separated the various similar species that flew over the grassland, especially congregating in the evening. On 18th December around sunset there appeared to be an almost continuous stream of European and perhaps Black Swifts heading west near Vitinhiza, although it may well have been a local movement connected with feeding and the local air currents. It was a great sight and rather exhilarating as they passed very close to our heads as they came up over the rise with a rush of air from their fast beating wings. On the road, as it crosses the edge of Vitinhiza hill we spotted a nightjar in broad daylight, stopped the vehicle and waited for our keen photographer, Marianne, to crawl on her belly for a few yards to almost touching distance. So good is the camouflage that even at a distance of little more than one metre it is difficult to pick out the form although the eyes show well in this photograph.



SUPPLEMENTARY LIST

Richard Nyirenda has kindly supplied a bird check list of sightings during the early part of the year from his scout camp base at Njalayankhunda, on the eastern side of the park. It is published as Table 2 below. He is now equipped with high quality binoculars and field guides and intends to develop his expertise and report his findings at intervals.

REFERENCES

- British Trust for Ornithology Bird Atlas 2007-2011 Methods via www.birdatlas.net
Françoise Dowsett-Lemaire and Robert J Dowsett (2006) – *The Birds of Malawi. An Atlas and handbook*. Published by Tauraco Press and Aves a.s.b.l., Liege, Belgium
Medland, B. (1994) – *A Checklist of the Birds of Nyika National Park*. Published by the Wildlife Society of Malawi
Newman, K. (1983) – *Newman's Birds of Southern Africa*. Southern Book Publishers Ltd, Cape Town
Newman, K., Johnston-Stewart, N., Medland, B. (1992) – *Birds of Malawi. A Supplement to Newman's Birds of Southern Africa*. Southern Book Publishers (Pty) Ltd., Cape Town SA

Table 1: A checklist of birds recorded on the expeditions 2007-2010									
Common name	Species name	BOM	Nyika 2007	Vwaza 2007	Vwaza 2008	Nyika 2008	Nyika 2009	Nyika 2010	Vwaza 2010
Dabchick	<i>Tachybaptus ruficollis</i>	1				1	P		
Whitebreasted Cormorant	<i>Phalacrocorax carbo</i>	4						8830	
Great White Egret	<i>Egretta alba</i>	17							7068
Little Egret	<i>Egretta garzetta</i>	19			7068	7217			7068
Grey Heron	<i>Ardea cinerea</i>	20		7068	7068				7068
Black-Headed Heron	<i>Ardea melanocephala</i>	21		7068				8830	
Goliath Heron	<i>Ardea goliath</i>	22							7068
Hamerkop	<i>Scopus umbretta</i>	24	8142		7068				7068
White Stork	<i>Ciconia ciconia</i>	25							7068
Yellow billed Stork	<i>Mycteria ibis</i>	32			7068				
Sacred Ibis	<i>Threskiornis aethiopicus</i>	33			7068				7068
Hadeda Ibis	<i>Bostrychia hagedash</i>	34		7068					
Glossy Ibis	<i>Plegadis falcinellus</i>	35			7068				7068
Whitefaced Duck	<i>Dendrocygna viduata</i>	40		7068					7068
Egyptian Goose	<i>Alopochen aegyptiacus</i>	41			7068				7068
Knob billed Duck	<i>Sarkidiornis melanotos</i>	43			7068				
Yellow-Billed Duck	<i>Anas undulata</i>	46				P	P	8830	
Lappet-Faced Vulture	<i>Torgos tracheliotus</i>	55	8142/9146						
Whiteheaded Vulture	<i>Trigonoceps occipitalis</i>	56						9234	
White-Backed Vulture	<i>Gyps africanus</i>	57	8142			P		7226	
Pallid Harrier	<i>Circus macrourus</i>	60						9335	
Gymnogone	<i>Polyboroides typus</i>	63		7068					
Bataleur	<i>Terathropius ecaudatus</i>	64			5695			9047	
Brown Snake Eagle	<i>Circaetus cinereus</i>	66				P	7120	7413	
Redbreasted Sparrowhawk	<i>Accipiter fufiventris</i>	69						P	
African Goshawk	<i>Accipiter tachiro</i>	71				P			
Little Sparrowhawk	<i>Accipiter minullus</i>	73	8142						
Gabar Goshawk	<i>Micronisus gabar</i>	75				P			
Augur Buzzard	<i>Buteo augur</i>	77	9146/8830				7120	8830	
Steppe Buzzard	<i>Buteo buteo</i>	78			5695				
Long crested Eagle	<i>Lophaetus occipitalis</i>	79				P	7120		
Martial Eagle	<i>Polemaetus bellicosus</i>	81	7535		5695		7433		
Lesser Spotted Eagle	<i>Aquila pomarina</i>	88			7068				
African Fish Eagle	<i>Haliaeetus vocifer</i>	90		7068	7068				
Yellow Billed Kite	<i>Milvus migrans parasitus</i>	91	7631			7217	7336	9335	
Black Kite	<i>Milvus migrans migrans</i>	91a			7068			7413	
Black Shouldered Kite	<i>Elanus caeruleus</i>	94	9146			7118	P	9335	
Bat Hawk	<i>Macheiramphus</i>	95				P			
Lanner Falcon	<i>Falco biamicus</i>	97				7414		9047	7068
Peregrine Falcon	<i>Falco peregrinus</i>	98							P
Red necked Falcon	<i>Falco chicquera</i>	101			4792				
Dickinson's Kestrel	<i>Falco dickinsoni</i>	102				7118			
Eastern Red Footed Falcon	<i>Falco vespertinus</i>	103							Note 1
Rock Kestrel	<i>Falco tinnunculus</i>	106	9146			P	7635		
Shelley's Francolin	<i>Francolinus shelleyi</i>	109			5695		P	P	
Red-Winged Francolin	<i>Francolinus levaillantii</i>	110	9146			P	712	P	
Red necked Francolin	<i>Francolinus afer</i>	112			5695				
Common Quail	<i>Coturnix coturnix</i>	115	P	7068		P	P	P	
Helmeted Guineafowl	<i>Numida meleagris</i>	118		7068	5695/7068	7412			7068
Black Crake	<i>Amauornis flavirostris</i>	130				7412	7315		
Redknobbed Coot	<i>Fulica cristata</i>	139						8830	
Denham's Bustard	<i>Neotis denhami</i>	141	8142/8830/ 9146			P	7217		
Blacksmith Plover	<i>Vanellus armatus</i>	146		7068	7068				
Crowned Plover	<i>Vanellus coronatus</i>	148			5695				
Wattled Plover	<i>Vanellus senegallus</i>	150			7068				
Three banded Plover	<i>Charadrius tricollaris</i>	153			7068				
Killitz's Plover	<i>Charadrius pecuarius</i>	154			7068				

Table 1: A checklist of birds recorded on the expeditions 2007-2010 (cont 1)									
Common name	Species name	BOM	Nyika 2007	Vwaza 2007	Vwaza 2008	Nyika 2008	Nyika 2009	Nyika 2010	Vwaza 2010
Greenshank	<i>Tringa nebularia</i>	161		7068	7068				7068
Common Sandpiper	<i>Tringa hypoleucos</i>	165		7068	7068	7414			7068
Little Stint	<i>Calidris minuta</i>	174			7068				
Black Winged Stilt	<i>Himantopus himantopus</i>	178		7068	7068				
Water Dikkop	<i>Burhinus vermiculatus</i>	181		7068	7068				7068
Temminck's Courser	<i>Cursorius temminckii</i>	182				P			
Redwinged Pratincole	<i>Glareola pratincola</i>	184		7068	7068				
Rameron Pigeon	<i>Columba arquatrix</i>	194	7631			P	7120	9335	
Red Eyed Dove	<i>Streptopelia semitorquata</i>	197			7068				7068
Cape Turtle Dove	<i>Streptopelia capicola</i>	199		7068	7068	P			7068
Laughing Dove	<i>Streptopelia senegalensis</i>	200			7068				
Tambourine Dove	<i>Turtur dympanistria</i>	202						7414	
Blue Spotted Wood Dove	<i>Turtur afer</i>	203		7068	7068				
Green Spotted Wood-Dove	<i>Turtur chalcospilos</i>	204		7068	7068				7068
Green Pigeon	<i>Treron calva</i>	206			P				
Meyer's Parrot	<i>Poicephalus meyeri</i>	209			5695			7812	
Schalow's Lourie	<i>Tauraco schalowi</i>	211	8142				8190		
Purple-Crested Lourie	<i>Tauraco porphyreolophus</i>	212	9146		5695	P	P	P	
Grey Lourie	<i>Corythoides concolor</i>	213		7068	5695				7068
Redchested Cuckoo	<i>Cuculus solitarius</i>	218						7414	
Senegal Coucal	<i>Centropus senegalensis</i>	230						P	
Burchell's Coucal	<i>Centropus burchellii</i>	231		7068	5695				
Scop's Owl	<i>Otus senegalensis</i>	234		7068					
White faced Owl	<i>Otus leucotis</i>	235				7217			
Verreaux's Eagle-Owl	<i>Bubo lacteus</i>	238		7068	7068				
Marsh Owl	<i>Asio capensis</i>	243	9346			7118			
Fiery necked Nightjar	<i>Caprimulgus pectoralis</i>	245			5695				
Mountain Nightjar	<i>Caprimulgus poliocephalus</i>	246	9146			7217	7120	7217	
Freckled Nightjar	<i>Caprimulgus tristigma</i>	247				P			
Palm Swift	<i>Cypsiurus parvus</i>	253	7535	7068	7068				7068
Black Swift	<i>Apus barbatus</i>	256						7217	
Eurasian Swift	<i>Apus apus</i>	257						7217	
White rumped Swift	<i>Afus caffer</i>	260	7631						
Speckled Mousebird	<i>Colius striatus</i>	261	9146	7068		P	9809	P	
Bartailed Trogon	<i>Apaloderma vittatum</i>	264				P			
Giant Kingfisher	<i>Ceryle maxima</i>	265	P			7412			P
Pied Kingfisher	<i>Ceryle rudis</i>	266			7068	P			7068
Malachite Kingfisher	<i>Alcedo cristata</i>	268							
Pygmy Kingfisher	<i>Ispidina picta</i>	269						7414	
Woodland Kingfisher	<i>Halcyon senegalensis</i>	270				P	7535		7068
Striped Kingfisher	<i>Halcyon chelicuti</i>	271			5695				
Brown Hooded Kingfisher	<i>Halcyon albiventris</i>	272	7631						
European Bee-eater	<i>Merops apiaster</i>	274						7116	
Little Bee-eater	<i>Merops pucillius</i>	278			7068	P			
Swallow-tailed Bee-eater	<i>Merops hirundineus</i>	280			5695				
European Roller	<i>Coracias garrulus</i>	281						7812	
Lilacbreasted Roller	<i>Coracias cordata</i>	282			7068				
Hoopoe	<i>Upupa africana</i>	286	7631/6503	7068	7068	P		P	
Red Billed Woodhoopoe	<i>Phoeniculus purpureus</i>	287		7068	7068				7068
Scimitar-billed Woodhoopoe	<i>Phoeniculus cyanomelas</i>	288			7068				
Grey Hornbill	<i>Tockus nasutus</i>	289	8142	7068	7068				7068
Yellow Billed Hornbill	<i>Tockus flavirostris</i>	291			7068	P			
Crowned Hornbill	<i>Tockus albotoxinatus</i>	293					7535		7068
Trumpeter Hornbill	<i>Bycanistes bucinator</i>	294			5695				
Ground Hornbill	<i>Bucorvus leadbeateri</i>	296							
Blackcollared Barbet	<i>Lybius minor</i>	299			5695				
Yellowfronted Tinker Barbet	<i>Pogoniulus chrysoconus</i>	306						9234	
Scalythroated Honeyguide	<i>Indicator variegatus</i>	309						7414	
Greater Honeyguide	<i>Indicator indicator</i>	310			5695	P		7217	
Bennett's Woodpecker	<i>Campethera bennetti</i>	316			5695			P	
Rufous naped Lark	<i>Mirafraga africana</i>	325	P					P	

Table 1: A checklist of birds recorded on the expeditions 2007-2010 (cont. 2)								
Common name	Species name	BOM	Nyika 2007	Vwaza 2007	Vwaza 2008	Nyika 2008	Nyika 2009	Nyika 2010
Banded Martin	<i>Riparia cincta</i>	331						9335
European Swallow	<i>Hirundo rustica</i>	334						P
Angola Swallow	<i>Hirundo angolensis</i>	335	8946/7631					
Blue Swallow	<i>Hirundo atrocaerulea</i>	336					7120	9335
Wire tailed Swallow	<i>Hirundo smithii</i>	337		7068	7068			
Red Rumped Swallow	<i>Hirundo daurica</i>	342	8142					9639
Greater Striped Swallow	<i>Hirundo cucullata</i>	343					7120	
Lesser Striped Swallow	<i>Hirundo abyssinica</i>	344						9639
Greyrumped Swallow	<i>Pseudhirundo griseopyga</i>	345				P		P
Rock Martin	<i>Hirundo fuligula</i>	346	8142					P
House Martin	<i>Delichon urbica</i>	347						P
Eastern Saw-Wing	<i>Psalidoprocne pristoptera</i>	348	8946					7415
Black Saw-wing	<i>Psalidoprocne holomelas</i>	349		7068	7068			7415
Fork-Tailed Drongo	<i>Dicrurus adsimilis</i>	352		7068	7068	P		7414
Black-Headed Oriole	<i>Oriolus larvatus</i>	355		7068	7068	P	7535	P
Pied Crow	<i>Corvus albus</i>	357					P	8830
White-Necked Raven	<i>Corvus albicollis</i>	358	P	7068		P	P	7414/8830
Southern Black Tit	<i>Parus niger</i>	360			5695			
Arrowmarked Babbler	<i>Turdoides jadineii</i>	367			7068			7216
Black-Eyed Bulbul	<i>Pycnonotus tricolor</i>	371	P	7068	7068	P	P	P
Olive breasted M'tain Bulbul	<i>Andropadus tephrolaemus</i>	374	8142/7631				9809/9910	9237
Yellow streaked Bulbul	<i>Phyllastreps flavostriatus</i>	381						P
Common Stonechat	<i>Saxicola torquata</i>	384	P			P	P	9335
Arnot's Chat	<i>Thamnolaea arnoti</i>	388				P		
Mocking Chat	<i>Thamnolaea cinnemomeiventris</i>	389					P	
Olive flanked Robin	<i>Alethe anomalia</i>	397						P
Starred Robin	<i>Pogonostichla stellata</i>	400					9910	P
Cape Robin	<i>Cossypha caffra</i>	402						P
Heuglins's Robin	<i>Cossypha heuglini</i>	403				P	P	P
Kurrichane Thrush	<i>Turdus libonyanus</i>	407	7631			P	P	
Eastern Forest Scrub Warb.	<i>Bradypterus mariae</i>	412						9335
Yellow Warbler	<i>Chloropeta natalensis</i>	423					7535	P
Yellow Mountain Warbler	<i>Chloropeta similis</i>	424					P	
European Blackcap	<i>Sylvia atricapilla</i>	429						9335
Tawny flanked Prinia	<i>Prinia subflava</i>	434			P			
Barthroated Apalis	<i>Apalis thoracica</i>	436						9234
Bleating Bush Warbler	<i>Camaroptera brachyura</i>	442				P	9809/9910	P
Stierling's Barred Warbler	<i>Camaroptera sterlingi</i>	443				P	P	
Green capped Eremomela	<i>Eremomela scotops</i>	446				P		
Redfaced Cisticola	<i>Cisticola erythrops</i>	453						7414
Trilling Cisticola	<i>Cisticola woosnami</i>	455						7414
Mountain Cisticola	<i>Cisticola hunteri</i>	456	P			P	9809	9335
Churring Cisticola	<i>Cisticola njombe</i>	461						P
Ayre's Cisticola	<i>Cisticola ayresii</i>	467	9146					P
Ashy Flycatcher	<i>Muscicapa coerulescens</i>	471	7631		P			
Fantaile Flycatcher	<i>Myioparus plumbeus</i>	473				P	7635	
Slaty Flycatcher	<i>Melaenornis chocolatina</i>	474						7414
Black Flycatcher	<i>Melaenornis pammelaina</i>	475						P
Cape Batis	<i>Batis capensis</i>	478					P	P
Chin-spot Batis	<i>Batis molitor</i>	479	8142/7631		P			
White tailed Flycatcher	<i>Trochocercus albonotatus</i>	486					7120	
Paradise Flycatcher	<i>Terpsiphone viridis</i>	487				*		P
Puffback	<i>Dryoscopus cubla</i>	489				P		
Black-Headed Tchagra	<i>Tchagra senegala</i>	492	8142/7631	7068	P	P		P
Tropical Boubou	<i>Laniarius aethiopicus</i>	493	8142/7631	7068		P		P
Grey Headed Bush Shrike	<i>Melaconotus blanchoti</i>	498	8142	V		P		
African Pied Wagtail	<i>Motacilla aguimp</i>	503		V	7068			
Grassveld Pipit	<i>Anthus cinnamomeus</i>	505	8142/7631	V		P		P
Redbacked Shrike	<i>Lanius collurio</i>	514						7812
Fiscal Shrike	<i>Lanius collaris</i>	517		V		P		9335

Table 1: A checklist of birds recorded on the expeditions 2007-2010 (cont. 3)

Common name	Species name	BOM	Nyika 2007	Vwaza 2007	Vwaza 2008	Nyika 2008	Nyika 2009	Nyika 2010	Vwaza 2010
White Helmet Shrike	<i>Prionops plumatus</i>	519				P			
Red billed Helmet Shrike	<i>Prionops retzii</i>	520				P			
Waller's Redwinged Starling	<i>Onychognathus walleri</i>	521	7631						
Redwinged Starling	<i>Onchognathus morio</i>	522				P		P	
Slenderbilled Redwinged Starling	<i>Onchognathus tenuirostris</i>	523					9810		
Lesser Blue Eared Glossy Starling	<i>Lamprotornis chlorpterus</i>	524		V					7068
Greater Glossy Blue-eared Starling	<i>Lamprotornis chalybaeus</i>	525			V				
Plum coloured Starling	<i>Cinnyricinclus leucogaster</i>	527							7068
Yellow Billed Oxpecker	<i>Buphagus africanus</i>	530			V				
Olive Sunbird	<i>Nectarinia olivacea</i>	535				P			
Black Sunbird	<i>Nectarinia amethystina</i>	537				P			
Yellow bellied Sunbird	<i>Nectarinia venusta</i>	540					7635		
Greater Double Collared Sunbird	<i>Nectarinia afra</i>	541	P			P		9335	
Eastern Double Collared Sunbird	<i>Nectarinia mediocris</i>	543					9910		
Malachite Sunbird	<i>Nectarinia famosa</i>	547						9335	
Red tufted Malachite Sunbird	<i>Nectarinia johnstoni</i>	548					9809		
Bronze Sunbird	<i>Nectarinia kilimensis</i>	549	P			P		P	
African Yellow White-Eye	<i>Zosterops senegalensis</i>	550	7631			P	7535	P	
Baglafaecht Weaver	<i>Ploceus baglafaecht</i>	552						9335	
Lesser Masked Weaver	<i>Ploceus intermedius</i>	557							7068
Redbilled Quelea	<i>Quelea quelea</i>	566			7068				
Yellow-rumped Widow	<i>Euplectes capensis</i>	569			P				
Mountain Marsh Widow	<i>Euplectes psammocromius</i>	572	8142/9146			P	P	9335	
House Sparrow	<i>Passer domesticus</i>	578				Bolero			
African Firefinch	<i>Lagonosticta rubricata</i>	594	7631						
Jameson's Firefinch	<i>Lagonosticta rhodopareia</i>	595				P	6707	7414	
Blue Waxbill	<i>Uraeginthus angolensis</i>	596			7068				
East African Swee Waxbill	<i>Estrilda quartinia</i>	598					P		
Common Waxbill	<i>Estrilda astrild</i>	600				P		9335	
Rock Bunting	<i>Emberiza tahapisi</i>	610				P			
Yellow-eyed Canary	<i>Serinus mozambicus</i>	612		7068	7068		P		
Bully Canary	<i>Serinus sulphuratus</i>	614				7118			
Streaky Canary	<i>Serinus striolatus</i>	617						9335	
KEY									
Bold were caught in mist nets in 2010									
Four figure map references (bottom left hand of square)									
1:50 000 maps Nganda 1033B4; Vitiinzhiza 1033D1; Katumbi 1033D3; Chelinda 1033D2; Muhuju 1033D4; Vwaza 1033C4 and Lake Kasuni 1133B1.									
<i>Italics</i> indicate a reference is approximate. In these cases it is likely to be accurate on a 2 x 2 km square (tetrad) basis.									
P Records with no accurate location recorded or found at multiple sites within the relevant parks.									
BOM Birds of Malawi number. This useful supplement book to the Newman's Birds of Southern Africa is now out of print and copies are becoming hard to obtain.									
Note 1 Large flock of this species flying over Lilongwe Old Town at dusk hawking for insects. Number estimated at over 100									

Table 2. List of species recorded at Njalayankhunda early 2011

Richard Nyirenda, Parks and Wildlife Scout

Species	
Masked Weaver	White bellied Sunbird
Red headed weaver	Narina Trogon
Blue Waxbill	African Cuckoo
Hoopoe	European Nightjar
Tawny Eagle	African Golden Oriole
Long Crested Eagle	Black headed Oriole
Bateleur	White backed Mousebird
Yellow Billed Kite	Pied Kingfisher
Crowned Hornbill	Black crowned Tchagra
Grey Hornbill	Pied Manikin
Cape Turtle Dove	Paradise Whydah
Black Sunbird	Olive Woodpecker
Fork tailed Drongo	Brown Hooded Kingfisher
Long legged Buzzard	Pygmy Kingfisher
Eastern Honeyguide	Red Billed Helmet Shrike
African Broadbill	Green Pigeon
Black Collared Barbet	Long tailed Widow
Black eyed Bulbul	Black Finch
Mouse coloured Flycatcher	Yellow Rumped Widow
Puff Back	Yellow backed Widow
European Bee Eater	Greater Striped Swallow
Greater Honeyguide	Black Saw wing
Trumpeter Hornbill	Purple Crested Laurie
White Helmeted Shrike	Grey Waxbill
Plum coloured Starling	Swamp Boubou
Black breasted Snake Eagle	Fan tailed Flycatcher
Golden Breasted Bunting	Lesser Cuckoo
Scimitar billed Woodhoopoe	Yellow Wagtail
Striped Kingfisher	Livingstone's Laurie
Giant Kingfisher	Brown Fire Finch
Little Bee Eater	Thick billed Cuckoo
Bushveldt Pipit	Green backed Warbler
Natal Robin	Karoo Eremomela

PHOTO PAGES

Photos by Marianne Overton unless otherwise stated.

- 1 Welcome to the Nyika National Park, Thazima Gate
- 2 Sarah Moody soaking in the view from Mount Vitinthiza *Sarah Moody*
- 3 The Nyika Plateau
- 4 Richard's tent guarding the access at the Runyina River Camp, near Vitinthiza
- 5 Base Camp on the River Dembo
- 6 Warthog enjoying a snuffle in the wet dambo Children leaving school in Lilongwe *Sarah Moody*
- 7 Oxbow Wetland of the Runyina River with Vitinthiza behind
- 8 Dembo River
- 9 Richard leading through evergreen forest patch with tree hyrax (Ref 928372)
- 10 Elephants crossed our tracks
- 11 Lauren, Sarah and Callum at the viewpoint near Nganda overlooking the Mondwe Valley
- 12 Richard and Peter identify a new bird in a thin, steep forest patch
- 13 Lauren with Flap-necked Chamaeleon near old Katizi School
- 14 Callum releasing a bird after recording measurements
- 15 Nyson takes measurements of Epauletted Bat at our camp on the Runyina Camp
- 16 Steven recording and preserving specimen plants for the Millennium Seed Bank and the Herbaria
- 17 Just completed survey of a brilliant plot – lovely place!
- 18 Setting up camp at the bridge over the River Dembo
- 19 Identifying, measuring and recording birds caught at the Runyina
- 20 Richard with a female Malachite Sunbird
- 21 Steven points out last year's base camp at the foot of Vitinthiza, to Nyson
- 22 Steven the botanist at work
- 23 Joe, driver and brilliant cook
- 24 Lauren in a hole where an elephant's foot had dropped through into a disused termite colony
- 25 Lunch with a view above the River Dembo
- 26 Ancient and modern
- 27 Ray Murphy with his UV light traps at Vwaza
- 28 Nyson with his live small mammal traps
- 29 Richard on lookout duty overlooking the Mondwe Valley
- 30 Lauren (22) with bush birthday card and presents
- 31 Richard, Sarah, Lauren and Aliel leaving the Nyika on Christmas morning
- 32 Burchell's Zebra
- 33 Young male Bushbuck
- 34 Young Yellow Baboon in *Uapaca* Tree.
- 35 Female Reedbuck near Chelinda Pine Forest
- 36 Roan Antelope
- 37 Common Duiker in the Runyina oxbow wetland
- 38 Male Reedbuck close to our camp on the River Dembo
- 39 *Kniphofia grantii* Ashphodelaceae
- 40 *Gladiolus* above our Dembo River Camp
- 41 Frog on orchid
- 42 *Scadoxus multiflorus* (Amaryllidaceae) *Sarah Moody*
- 43 Butterfly
- 44 *Gladiolus* at River Dembo Camp
- 45 *Disa robusta* (Orchidaceae) and frog *Hyperolius pictus*
- 46 Frog
- 47 Frog *Hyperolius marmoratus* *Sarah Moody*
- 48 Burying Beetle

- 49 Burying Beetle burrowing
- 50 Caterpillar
- 51 Orange underwing moth
- 52 Acridae Butterfly
- 53 Long Horned Beetle
- 54 & 55 Moth and caterpillar
- 56 Grasshopper
- 57 Hemipternal Bug on *Erythrocephalum zambesianum* Asteraceae
- 58 Cockchafer Beetle
- 59 Callum, Lauren, Sarah and Aliel on Mt. Vintintha
- 60 Richard on guard *Lauren Smith*
- 61 Steven and Aliel
- 62 Schoolchildren visiting the Lilongwe Wildlife Sanctuary
- 63 Children carrying water
- 64 Buying cloth in Nkhata Bay
- 65 Joe roadside shopping Children at Thazima School
- 66 Fisherman
- 67 Sarah at the Lilongwe Wildlife Sanctuary
- 68-71 Christmas at Thazima
- On Christmas Day we met with thirty pupils of Form 8 at their school in Thazima. Some had walked long distances to see us. We shared experiences and brought letters from schools in England to arrange an exchange of correspondence to go on in future.
- Photos thanks to Lauren Smith
- 72 Callum leaping the riverlet at Vwaza
- 73 Vwaza Lake at Kasuni
- 74 End of the morning survey
- 75 Female Greater Kudu
- 76 Sunset
- 77 Hippos towards sunset
- 78 Yellow Baboon at Kasuni
- 79 Sunset at the Dembo River
- 80 Washing mangoes in puddles left at Lake Kasuni
- 81 Team at work on reports
- 82 Boat on shore of Lake Malawi *Sarah Moody*
- 83 Dragonfly visitor
- 84 White-fronted Cormorant
- 85 and 86 Young fishermen













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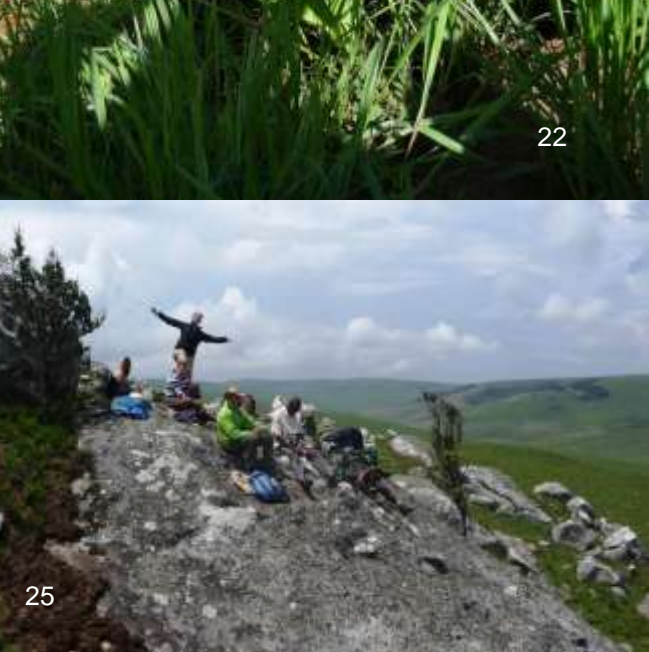
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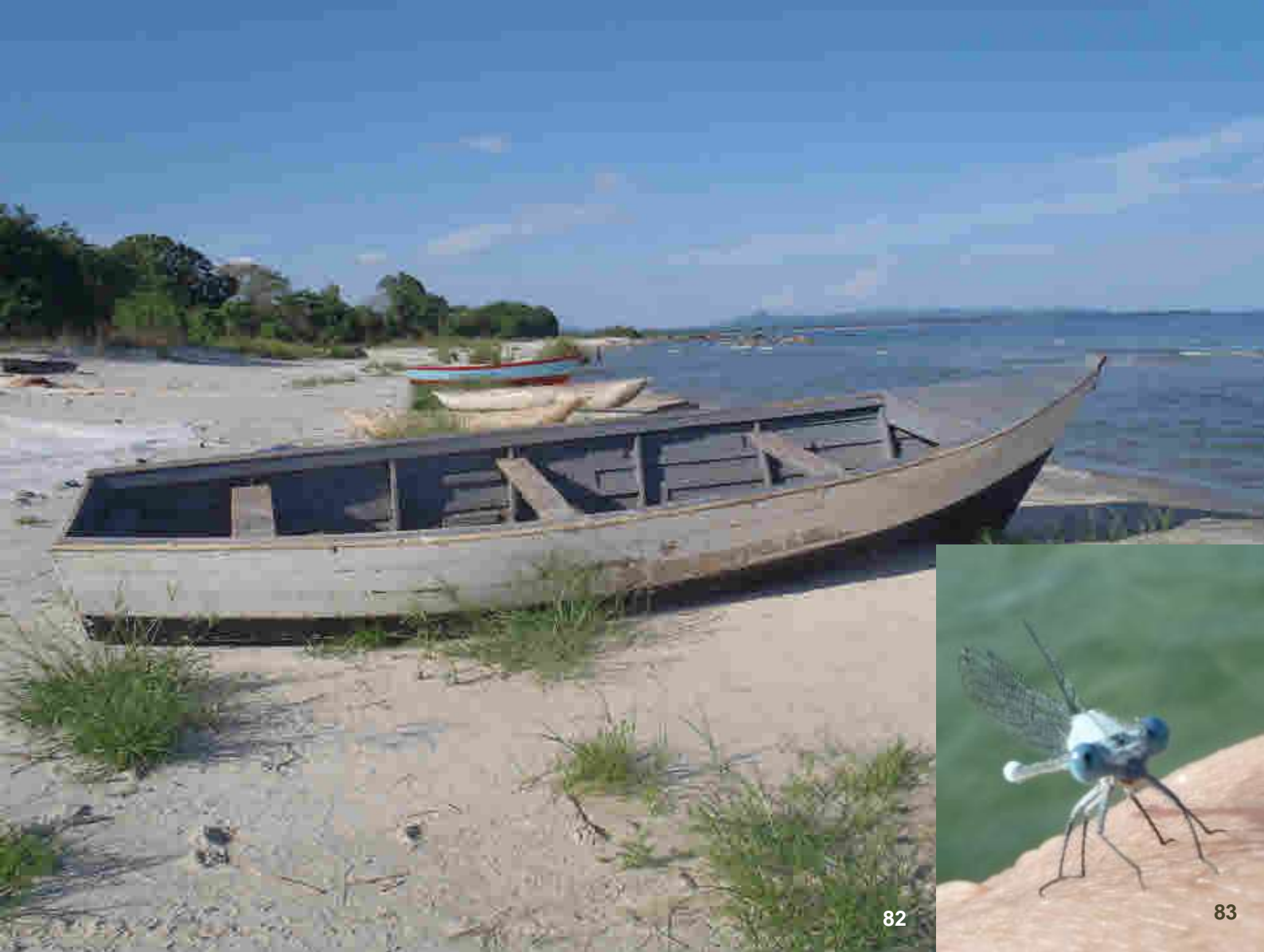


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REPTILES AND AMPHIBIANS

Yankho Chapeta with photos by Marianne Overton

INTRODUCTION

In the far north of Malawi, at an altitude around 2,500m, Nyika is a rolling plateau dotted with stunning mountain outcrops, (expertafrica.com). Nyika National Park is known to be beautiful and diverse, according to Overton (1999). It is located in the northern region of Malawi. The plateau covers approximately 1800km² above the 1800 contour level. The park is unique in the region in terms of biological diversity, landscape, scenery and climate.

Vegetation on the Nyika is unique in Malawi. Although it lies in Tropical dry or deciduous forest region on the map of the World Network of Biosphere Reserve, the park has the features of Tropical grassland and Savannah, (whc.unesco.org). Most of it is rolling hills covered in montane grassland at 1800m. The land below this altitude in valleys and escarpment edges is covered in light open miombo woodland and between the two types of vegetation there is *Protea* scrub.

The herpetofauna of the Nyika National Park has already proved to be both interesting and exciting as reported by Martin (1999). Nyika has a variety of habitats where members of both tropical and temperate faunas are represented. Although some work had been done to document the herpetofauna of the Nyika, it is still likely that many endemic species remain undiscovered, (Mazibuko, 2003).

AIMS OF THE STUDY

This study was aimed at collecting more data on the amphibians and reptiles of the Nyika so as to build up on what previous researchers have already reported on. Some work has already been done within the park, however it is still vast and diverse and therefore a lot more work needed to be done to find out more about other species that have not yet been documented.

METHODS AND MATERIALS

A study to collect data on diversity and distribution on amphibians and reptiles was conducted in the following locations within the Nyika National Park; Runyina Bridge, Katizi, Dembo Bridge, in the area of the old transmitter station near Nganda and in transit between these locations. The microhabitats that were targeted during sampling included bushes, trees, rocky crevices, rotting wood, grass, riverine and marshy areas. Taller bushes and trees were searched using binoculars.

Sampling of Amphibians

Sampling of amphibians was done during the day and where possible during the night in different habitats. These habitats included streams, ponds, reeds, water logged areas, trees, among leaves on forest floors, road side and other places. The main method that was used in collection of amphibian species was through free hand searching. Collected specimens were measured to collect relevant data. Additional information on sex, reproductive condition as well as habitat and date of collection were recorded. Identification of specimens was done on live specimens using identification materials such as *Amphibians of Malawi*, (Stewart, 1967) and *Amphibians of Central and Southern Africa*, (Channing, 2001). After identification the specimens were photographed and released where they were found.

Sampling of Reptiles

Collection of reptiles whose habitats range from aquatic amphibians fossorial, terrestrial through to arboreal (Kalk et al, 1979), was done using free hand searching with the aid of long sticks, head lamps and nets (Simbotwe, 1985). Bushes and trees were searched paying particular attention to bushes or trees, rocky crevices, termite workings, rotting wood, standing water or riverine areas. Logs were rolled and barks of trees lifted to expose reptiles that were hiding. These processes were repeated at different times of the day where possible. Once collected, a few selected specimens were taken to the camp for processing. Photographs of different specimens were taken before examining them using standard herpetological methods. (They were weighed and measured, and relevant ecological data on sex, and date of collection were recorded). After identification the specimens were released into the same place where they were found.

RESULTS

Table 1 Amphibians recorded

Species	Location	Altitude	Date
Long Reed Frog <i>Hyperolius nasutus</i>	Runyina Area	1790m	14 Dec
Margined Sedge Frog <i>Hyperolius marmoratus</i>	Runyina Area	1834m	15 Dec
Variable Reed Frog <i>Hyperolius pictus</i>	Dembo Bridge	2264m	20 Dec
Grassland Ridged Frog <i>Ptychadena porosissima</i>	Dembo Bridge	2264m	23 Dec
Kivu Reed Frog <i>Hyperolius kivuensis</i>	Up Dembo Bridge	2283m	24 Dec
Fenoulhert Toad <i>Bufo garmani</i>	Vwaza National Park	1060m	26 Dec
Square-marked Toad <i>Bufo regularis</i>	Runyina Area	1790m	14 Dec
Marbled Snout Burrower <i>Hemisus marmoratus</i>	L Kasuni, Vwaza	1060m	26 Dec
<i>Strongylopus fuelleborni</i>	North Rumphu	2305m	23 Dec



Figure 1: *Ptychadena porosissima*

Table 2 Reptiles recorded

Species	Location	Altitude	Date
Large-scaled Grass Lizard <i>Chamaesaura macrolepis macrolepis</i>	Up Dembo Bridge	2283m	24 Dec
Striped Skink <i>Mabuya striata punctatissima</i>	Vwaza National Park	1060m	26 Dec
Variiegated Skink <i>Mabuya variegata</i>	Katizi Area	1778m	17 Dec
Variable Skink <i>Mabuya varia</i>	Dembo Bridge	2264m	23 Dec
Wahlberg's Snake-eyed Skink <i>Panaspis wahlbergii</i>	Runyina Area	1834m	15 Dec
Boomslang <i>Dispholidus typus</i>	Lilongwe Wildlife Sanctuary		11 Dec
Nile Monitor <i>Varanus niloticus</i>	Mzuzu road		13 Dec
Rock Monitor <i>Varanus albigularis</i>	Vwaza marsh	1060m	26 Dec
Flap-necked Chameleon <i>Chameleoneo dilepis</i>	Katizi Area	1778m	17 Dec
Speke's Hinged Tortoise <i>Kinixys spekii</i>	Lilongwe Wildlife Sanctuary		11 Dec



Figure 2: Variable Skink



Figure 3: Large scaled grass lizard *Chamaesaura macrolepis*

in order of discovery



1 *Strongylopus fuelleborni*



2 *Strongylopus fuelleborni*



3 *Ptychadena mascareniensis*



4 *Hyperolius marmoratus*



5 *Hyperolius marmoratus*



6 *Hyperolius marmoratus*



7 *Hyperolius pictus*



8 *Hyperolius nasutus*



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in order of appearance



Reptile 7 *Trachylepis striata*



Reptile 8 *Varanus albigularis*

Amphibian 10 *Amietophrynus garmani*



Amphibian 11 *Amietophrynus garmani*

Amphibian 12 *Hemisus marmoratus*



1 *Trachylepis varia*



2 *Chameleo goetzei*



3 *Panaspis wahlbergii*



4 Flap-necked Chamaeleon
Chameleo dilepsis



5 *Trachylepis varia*?





Reptile 9 Boomslang *Dispholidus typus*



Reptile 10



Reptile 11 Speke's Hinged Tortoise *Kinixys spekii*



Reptile 11 Speke's Hinged Tortoise *Kinixys spekii*



Reptile 12 Nile Monitor *Varanus niloticus*

Species descriptions: Amphibians

Nyika National Park supports a very rich amphibian fauna. The amphibian species recorded in the Nyika National Park during this study were as follows:-

Long Reed Frog *Hyperolius nasutus*

This species was common at Runyina area. They could be heard calling a lot of times especially during the morning hours and late in the evenings.

Margined Sedge Frog *Hyperolius marmoratus marginatus*

This species was also in abundance at Runyina area. It, exhibits dichromatism and therefore we encountered it in its yellow colour and only twice did we find it in its dark colour.

Variable Reed Frog *Hyperolius pictus*

This species was found at Dembo Bridge along the Dembo River.

Kivu Reed Frog *Hyperolius kivuensis*

This species was encountered up Dembo Bridge, that is, an area between Chelinda and Dembo Bridge.

Grassland Ridged Frog *Ptychadena porosissima*

This species was recorded at Dembo Bridge.

Fenoulhert's Toad *Bufo garmani*

This species was recorded in the dried cracks of Lake Kazuni in Vwaza

Square-marked Toad *Bufo regularis*

This species was recorded at dusk at Runyina area in the grass.

Marbled-Snout Burrower *Hemisus marmoratus*

This species was recorded at the Vwaza campsite at dusk.

Strongylopus fuelleborni

This species was encountered in the tall grass of North Rumpfi.

SPECIES DESCRIPTIONS: REPTILES

The diversity of reptiles of Nyika is a reflection of the diversity of available habitats and corresponding lifestyles; grassland, aquatic, fossorial, arboreal and terrestrial (Mazibuko, 2003). Below is the Nyika reptile species account.

Large-scaled Grass Lizard *Chamaesaura macrolepis macrolepis*

This species was encountered in the grassland as we were going up a ridge around Dembo river.

Striped Skink *Mabuya striata punctatissima*

This species was very common in Vwaza. It was recorded on the rocks and this was on a sunny day.

Variable Skink *Mabuya varia*

This species was encountered in the green grass in the ridges just around Dembo Bridge.

Variegated Skink *Mabuya variegata*

This species was encountered at Katizi area among some dried leaves.

Wahlbeg's Snake-eyed Skink *Panaspis panaspis wahlbergii*

This species was encountered on the western side of Runyina area.

Rock Monitor *Varanus albigalaris albigalaris*

This species was encountered at Vwaza at dusk during our evening ride round the park.

Nile Monitor *Varanus niloticus*

This species was encountered on our way to Mzuzu in the middle of the road.

Flap-Necked Chameleon *Chameleon dilepis*

This species was encountered in the long grass of Katizi area at sunset.

Speke's Hinged Tortoise *Kinixys spekii*

This species was recorded at the Wildlife Sanctuary in Lilongwe.

Boomslang *Dispholidus typus*

This species was also recorded at the Wildlife Sanctuary in Lilongwe, just before departure for the Nyika expedition.

CONCLUSION

In conclusion, it is obvious from the above results that more work needs to be carried out on the herpetofauna of Nyika National Park. Further collections during the right seasons directed at herpetology are desirable on an ongoing basis. This in turn will help us know how much herpetofauna there is and how best to conserve it. As Ecclesiasticus xliii said; 'There are yet hid greater things than these be, for we have seen but a few of his works.'

ACKNOWLEDGEMENTS

I am very grateful to Peter Overton (Project Director of Biosearch Expeditions) for allowing me to participate in this expedition. Thanks again to Marianne Overton (Team Leader) for the support and encouragement rendered during the expedition. Thanks to Shaun Allingham for kind assistance with identification. I also would like to thank the Acting Director of the Museums of Malawi, Mr. L.C.J. Mazibuko for all the assistance given to me. And to all team members, thanks for everything; it was fun working with them all.

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Hyperolius marmoratus Sarah Moody

LARGE MAMMALS

Marianne Overton and the whole team

SUMMARY

This is a simple update on the work published previously, rather than a full report. The team surveyed 26 hectare plots of 100m x 100m, seventeen at 6000feet or above and nine below. The number of plots is a rather small sample size, relative to the variability. The variability is greater in the wet season and high relative abundance scores were achieved, particularly affected by the higher number of droppings evident in the wet season. There were a number of plots at 6000 feet, which in this warm, wet season may not be a significant boundary in any case, as temperatures and grazing are more favourable higher up. The results for above and below 7000 feet give exactly the same pattern of preference of altitude for each species, but the difference in abundance is more marked for all of the larger mammals. The difference was less for smaller burrowing mammals such as the Aardvark and Mongoose who, in the wet season, seemed able to inhabit the various altitudes equally.

In addition to the plot surveys, 23 foot and vehicle transects totalling 220km in the Nyika and 21km in Vwaza near Kasuni were also used to identify species not well recorded by other means. An estimated 459km² was surveyed by this means in the Nyika and 10km² in Vwaza.

INTRODUCTION

Large mammal surveys were carried out by the whole team of up to ten people between 15th and 26th December 2010. The Nyika National Park was our main focus with just two days at Vwaza, near Lake Kasuni. It was the first time Biosearch had surveyed the area in December, soon after the start of the warmer, wetter season. The Nyika had experienced a period of heavy and persistent rain immediately before we arrived, washing out all but the most hardened animal prints from previous years. Thus almost all tracks and signs were recent and the print-holding quality of the thin topsoil was good in all plots, except the rocky areas on top of Vitinthiza. The open grassland was all burnt earlier this year, in a huge sweeping fire. Only small sections high up on Vitinthiza and the riverine and forest patches escaped. The woodland and forest areas remained unburnt, except for some damage at the edges.

LOCATION

The Nyika National Park is described in detail in previous reports and key references. Suffice to say, the Nyika National Park is part of the Great Rift Valley, an area of 3,141km² at around 10° south of the equator and has an altitudinal range of roughly 3,500 to 8,500 feet. Two surveys were carried out in the Vwaza Marsh Game Reserve, a lowland park of some 900km², within reach of the Nyika by large mammals determined to run the gauntlet through a few kilometres of thinly populated land.

Limited by fuel availability, it was decided to first revisit the Runyina area, setting base camp a few kilometres downstream from our previous camp at Luselo. That enabled us to revisit Vitinthiza, Luselo and the Runyina areas. We passed Chelinda to our second base camp at the Dembo River Bridge, enabling exploration as far as the Nganda Tracker Station and beyond. Maps and map references are given at the beginning of the report. The two days at Vwaza were based at Lake Kasuni.

METHODS

As described in previous reports, it was decided to survey by plots as well as transect walks and drives. Sightings were always noted and when on foot, tracks and signs identified and recorded. Forest and riverine patches and rocky outcrops were also searched for species not otherwise recorded. Previous work has shown that 35-50 plots are needed at each altitude band to get a truly representative picture of the game populations. Thus we tended to work to get as many plots as we could in the medium and upper altitude bands; that is above and below 6000ft. We also aimed to get a representative balance of sample plots in terms of forest, open grassland, wetland and woodland. Biosearch has surveyed the Nyika in the wet season twice before, in April of 1997 and 2003.

PLOT SURVEY RESULTS

The data collected in December 2010 is shown in Appendix 1 and discussed in the conclusion. It is difficult to draw graphs of population changes, since previous expeditions have been at different times. However, the results show a useful picture of game in these areas of the Park at this time.

SIGHTINGS OF LARGE MAMMALS

Transect Sightings

Twenty-three transects by foot or vehicle were carried out by the team and large mammal sightings recorded. When on foot, tracks and signs made by large mammals were also recorded, to supplement the information collected in the plot surveys. Twenty one transects making a total of 220km were carried out on the Nyika National Park. Two more transects totalling 21km were carried out near Lake Kasuni in the Vwaza Reserve. Vehicle transects were carried out to and from the plot areas, so including early morning and early evening periods, with two late drives in the Nyika and one at Vwaza. The transect data is given in Appendix 2 for reference.

The transect data gives a density of population per kilometre, rather than just a relative abundance given by plot data. The biggest source of error is in estimating distance. We recorded the estimated distance between our transect line of travel and the animal itself. We also estimated the overall visibility distance for that animal, that is, how far away we could have spotted the animal. This averaged about 1.5km on the plateau. The overall visibility distance is particularly difficult in that an animal may be spotted 2km away according to the map, but the area in between may be in a well-treed hollow with the land dropping out of sight. That makes the area being surveyed particularly difficult to estimate. Visibility is often different on each side of the line, though this year we doubled the estimated visibility indicated. The density per kilometre is the total number of animals seen of that species, divided by the estimated area surveyed. The area surveyed is the average distance you can see from the transect line on both sides, multiplied by the length of that transect line. The route, habitat, start time and time taken were recorded for interest.

Animals that habitually stand out in the open were more visible and higher counts achieved for these animals. Herd sizes are a good indicator of the populations and can be estimated using this method, which is not possible when only recording tracks and signs. When groups of animals, such as Baboons are in wooded areas, estimates are inevitably less reliable.

In 2009 we identified that the transect method relying on sightings only missed some species, notably Elephant, Red Forest Duiker, Bushpig, Leopard, Jackal, porcupine, Aardvark and Mongoose. This year after the heavy rain of early December, animals seemed to be more active and three more species were seen, namely Elephant, Red Forest Duiker and Blue Duiker. We did also survey a larger area this year than last, recording over a distance of 59% more kilometres.

Elephant was seen three times (1,2 and 3 animals) and we had an excellent view of three elephant walking along the track approximately 10km East of Thazima, seen there for the first time in our experience. We watched a Red Forest Duiker glowing red in the early morning sunshine browsing outside of the forest, as we stopped to examine large numbers of Grey-rumped and other swallows feeding on the slope above the North Rukuru Bridge. (967390 Chelinda map) Another exciting find was a rare Blue Duiker which ran across the track in front of us and into a forest patch (c.792 299 Vithintha map). The wet season also allowed animals to be more active in the forests in the daytime, and we twice had actual sightings of Tree Hyrax. Whilst we stood discussing a likely hole at the base of a tree in a forest patch, a Tree Hyrax came bounding down a nearby sloping trunk from the canopy with all the style of a piglet anxious for dinner! (10° 31.149'S 33° 50.855'E 2300m 928 371 Chelinda map)

In this 2010 wet season survey, we saw 540 animals over 220km, compared with 282 over 139 km in the dry season of 2009, a 22% increase. However, one herd of Eland, estimated at 150 animals, has biased the results. Taking a more conservative estimate of say, 100 animals, would mean that the number of animals seen per kilometre travelled was the same in both years. Animals were again in the highest density and diversity near to the protected areas of Chelinda.

In 2009, only one herd of Eland was seen with 16 animals, where in the past very large herds were recorded. This year however, a herd of 100-150 Eland were seen close to Chelinda. There were signs of two groups of Baboon not seen this time, one at Vithintha and one at Katizi old school. The baboons near the Luselo turnoff and at Thazima Gate showed no discernable difference from 2009, but the herd of nine Roan Antelope seen above Luselo habitually in 2009 were not seen this year. Only a lone Roan was seen there.

At Vwaza, herd sizes were smaller and animals fewer than in 2009 as the rains had not yet filled the still shrunken Lake Kasuni. No elephant were seen there this time, compared to the three large herds seen previously. The hippos were crowded into the smaller remaining areas of the right depth and the two crocodiles from last year were nowhere to be seen. No Hartebeest was seen, but a single herd of eight Waterbuck were spotted in dense undergrowth near the end of the Lake furthest from the camp.

Figure 1: Large Mammals seen in December 2010
 Estimates of animals per km² based on sightings only

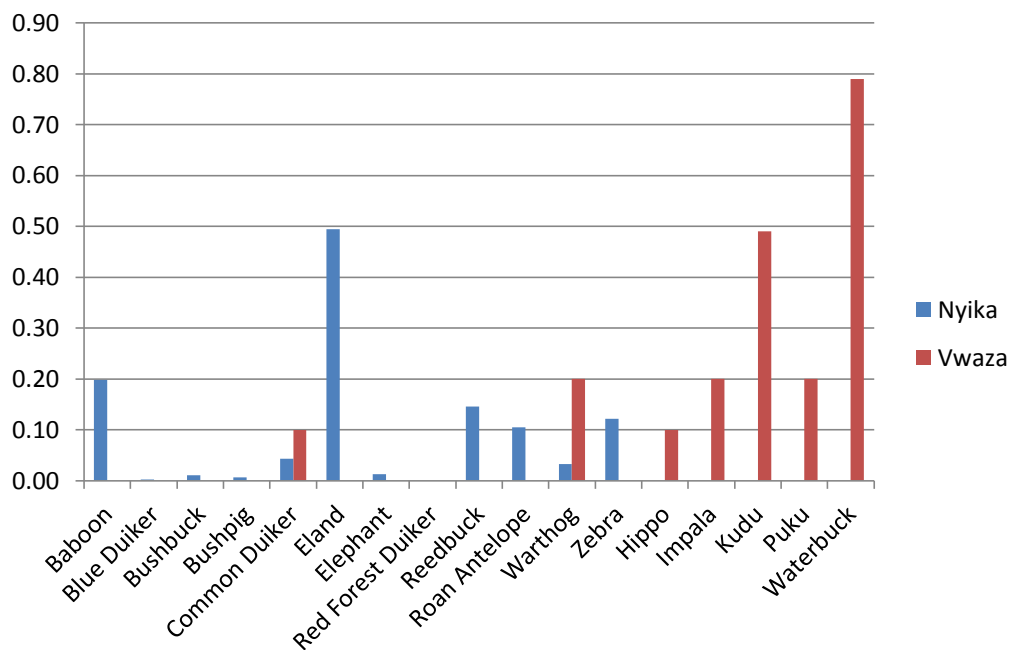


Photo 1: Elephant sighting on our first day in the Park. Sarah Moody



Table 1: Estimates of the number of Large Mammals in Nyika and Vwaza over the two years. Numbers per km² are calculated from sightings only. The Sanctuary is the protected fenced area, separate from the rest of Vwaza. A figure of 0.00 means it was seen, but the population is calculated at less than 0.01 animals per km².

	Nyika		Vwaza	
	2009	2010	Sanctuary 2009	Kasuni 2010
Baboon	0.23	0.20		
Blue Duiker		0.00		
Bushbuck	0.05	0.01		
Bushpig		0.01		
Common Duiker	0.06	0.05	1.42	0.1
Eland	0.11	0.49		
Elephant		0.01		
Red Forest Duiker		0.00		
Reedbuck	0.38	0.15	7.81	
Roan Antelope	0.27	0.11	2.13	
Warthog	0.07	0.03	0.07	0.2
Zebra	0.02	0.12		
Hippo				0.1
Impala			5.68	0.2
Kudu				0.49
Puku			4.26	0.2
Waterbuck				0.79
Hartebeest			4.26	

Relative abundance scores of populations calculated from transect tracks and signs

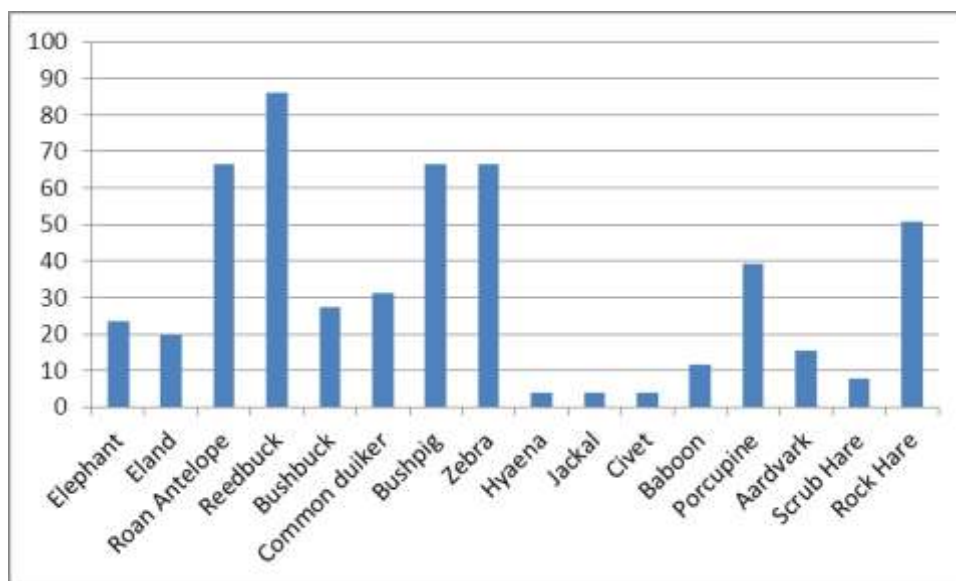
Walking on transects of known lengths, people looked 5m either side of the track in the same way as walking on the paths through a survey plot. In a plot survey, 10 people walk 100m each, making 1km. Each kilometre transect walked is thus similar in distance to a plot. The tracks and signs can thus be recorded and treated in the same way to calculate relative abundance scores.

These line transects are not random, but tend to be along paths. Some animals regularly use paths and so score more highly using this method. It is therefore less accurate than the random plots, but may identify species such as Hyaena, Jackal, Civet and Porcupine that might otherwise be missed. This is particularly important when we are doing fewer than the 35-50 random plots shown to give a fairly accurate picture in a previous report.



Photo 2: Elephant damage above Luselo Camp

Figure 2 Relative abundance scores per 50 plots calculated from the transect data (tracks and signs)
Source Data is in Appendix 3.



CONCLUSIONS

It is remarkable how much we were able to survey during this expedition, even though it was shorter at seventeen days and also included a great deal of netting birds, bats and live trapping of mice for identification and release unharmed. Our first December expedition, we were lucky that many days of continuous rain had just finished and our work was very little impeded by weather.

The huge, sweeping fire though most of the plateau earlier in the year was unprecedented. Lack of small mammals on the plateau may have caused some large mammals who feed on the small mammals, to move into the woodlands or further down the valleys. This may account for the fact that there was very little sign of Jackal, none of Leopard and no Civet in the plots. The complete lack of Leopard signs is of concern, since they have traditionally inhabited and marked the higher, rocky areas such as at Vithintha and the rocky slopes near the Nganda tracker station.

Elephant were only seen in numbers of less than three, whereas we have previously seen larger herds. It was very encouraging to see the large herd of 100-150 Eland, another of 15 Zebra and another of 31 Roan Antelope, close to the protection of Chelinda. Reedbuck were also in good numbers. Bushbuck, Common Duiker, Warthog, Bushpig and Porcupine were well represented compared to the previous dry seasons. Anteaters were busy on the plateau, especially near the Dembo River, apparently content at higher altitudes. Their characteristic signs were common at both altitudes, but the diggings were fresh and abundant on some particular slopes at high altitude.

Of the rarer species, we were encouraged to actually see Blue Duiker, Red Forest Duiker and Tree Hyrax. There were no signs of Buffalo, not even at the Mondwe viewpoint below the Nganda tracker station. We picked up no signs of Genet, Honey Badger or Blue Monkey on this expedition. A summary of plot results from previous years are shown in Appendix 4.

ACKNOWLEDGEMENTS

It has been a great privilege and pleasure to work alongside the professionals of the Malawi Department of National Parks and Wildlife (DNPW). We found them to be totally committed to protecting the flora and fauna of the Parks and extremely effective in all that they do. Many thanks for

their valuable support. Many thanks also to all members of the team for their patience, good humour and tireless support.

Appendix 1: 2010 Large Mammal Field Records																										
Plot	Grid Ref	December Date	Altitude ft	Tree Canopy %	Marsh	Plants	Elephant	Eland	Roan Antelope	Reedbuck	Bushbuck	Common duiker	Red Forest Duiker	Warthog	Bushpig	Zebra	Hyaena	Jackal	Baboon	Porcupine	Otter*	Aardvark	Mongoose	Hare	No. large mammal species	
<u>Below 6000 feet</u>																										
Vitinthiza and Runyina																										
1	732152	15	5960	15		Brach. Woodland	3			1		6			3				3	3						6
2	733154	15	5950	55		Brach. Woodland	3		4			5			3				3	3						6
3	737155	15	5860	1		Open grassland		1	4			5			4				2							5
4	738155	15	6000			Open grassland	3	2				3	1		5											5
5	743157	16	5800	0	15	Open grassland	9	6	46	15	17	8			6	2				3		2				10
6	744157	16	5950	15		Open grassland	4	5	35	19	21	32			4		1			5						9
7	783127	16	5650	60		Brach. woodland			2			3			8				4	4			2			6
8	748122	17	5850	40		Uapaca/Protea	3		4			14			8				3	3		3		1		8
9	752122	17	5950			Brach. woodland	3		3		3	18			21		1		3	3		3				9
<u>Above 6000 feet</u>																										
10	729169	17	6200			Brach. woodland	4					4			7					2						4
11	731182	18	6700			Brach. woodland	3		1		2	8			3				4	3		3		1		9
12	730182	18	6650			Brach. woodland	3				1	6			5				3	3		3				7
13	720169	18	6000			Open grassland			3	3		8			5					3			2	1		7
14	719170	18	6000		20	Open grassland	4	2	4	6		11			4					1			1	5		9
Chelinda and Nganda maps																										
15	928372	20	7475	0		Open grassland	2	2	23	10	18	25			7			1		3				1		10
16	963391	21	7000	0		Open grassland			15	6	5	11			4					4				2		7
17	965387	21	7250	0		Open grassland		2	4	4	5	3	3		3					3		1		1		10
18	905468	22	7900	0		Open grassland		6	11	21	7	3	3							3		1	1	1		10
19	905475	22	7850			Open grassland		8	39		14	3		3	3					3		1				8
20	905474	22	7700	0		Open grassland	2		22		12	4			5					3						6
21	931350	23	7450			Open grassland		25	19	62	4	12			9	4	5			3		3				10
22	926339	23	7750			Open grassland	1	9	12	25	3	3	2	10		1				3						10
23	926347	23	7700	5		Open grassland		18	11	35	1	8	1		4	3				3						9
24	920342	24	7600			Open grassland		14	28	99	20	12		11						7		1				8
25	919341	24	7450			Open grassland		18	23	62	14	13		3	7	2				9		3		1		11
26	917341	24	7500		20	Open grassland		7	33	42	6	13		2	10					3		3				9
Abundance per 50 plots (n=26) All results							90	240	665	788	300	460	17	73	256	25	4	2	48	160	0	52	12	27	17	
Abundance per 50 plots (n=17) Above 6000ft							56	326	729	1103	329	432	26	112	209	32	0	3	21	174	0	56	12	38	16	
Abundance per 50 plots (n=9) Below 6000ft							156	78	544	194	244	511	0	0	344	11	11	0	100	133	0	44	11	6	14	
Abundance per 50 plots (n=12) Above 7000ft							21	454	1000	1525	454	458	38	158	196	46	0	4	0	196	0	54	4	25	15	
Abundance per 50 plots (n=14) Below 7000ft							150	57	379	157	168	461	0	0	307	7	7	0	89	129	0	50	18	29	14	

Key to Appendix 1

Abundance given is the relative abundance score as in previous reports

Square = Random kilometer square, Plot = 100m x 100m

The print-holding quality was good in every plot

Vegetation is recorded in % cover, in 25% intervals (eg 100 indicates 76-100% cover)

*Otter signs were seen at the Runyina Bridge, but not in the plots

Appendix 2: 2010 Transects, sightings only									
Total distance surveyed in the Nyika = 220km						Total area surveyed = 459 km ²			
Species	Date December 2010	Length of Transect km	Average distance visibl	Area surveyed in km ²	No of individual animal	Distance from Transect	Animals seen per km ²		
<u>Transect 1 Foot</u>	15th	5	0.208	2.08					
Bushbuck					3	0.5	1.44		Runyina Camp circular route 745140 9am for 7hrs
<u>Transect 2 Foot</u>	16th	2	0.1	0.4	0				0 Runyina Camp to Pond 743157 2hrs
<u>Transect 3 Vehicle</u>	16th	9	0.03	0.54	0				0 Runyina Camp to Katzi School site 781129 40mins
<u>Transect 4 Foot</u>	17th	2	0.9	3.6					Runyina Camp to 748122 7.20am for 3hrs
Reedbuck					3	0.4			
Roan Antelope					2	0.8			
<u>Transect 5 Vehicle</u>	17th	7	0.03	0.42					Runyina to Luselo Camp 30 min 7.30am
Roan Antelope					1	0.01			
<u>Transect 6 Vehicle</u>	17th	7	0.05	0.70					Luselo Camp to Runyina 30 mins from 4pm 745140
Baboon					30	0			
<u>Transect 7 Foot</u>	18th	0.15	0.03	6					About 6km ² is visible from the peak 10.30am 1.5hours
<u>Transect 8 Vehicle</u>	18th	6	0.1	1.2					Luselo to Runyina Camp, eve
Elephant					2	0.08			2 female adults, Grid ref 718159
<u>Transect 9 Vehicle</u>	18th	1	1	2					Vitinhiza to Luselo
Reed Buck					2	0.3			pair
<u>Transect 10 Foot</u>	18th	0.6	0.6	0.72					Luselo camp area Waterfall 722167 to Plot 13 720169 early eve.
Reed Buck					3	0.3			1 juvenile Grid ref 717170
<u>Transect 11 Vehicle</u>	19th	45	1	90					Runyina to Chelinda 884302 am
Baboon					30	0.03			Brachystegia woodland
Elephant					1	0.2			
Blue Duiker					1	0			
Reed Buck					10	0.05			
Roan Antelope					2	0.1			
Reed Buck					3	0.2			
Roan Antelope					31	0.5			
Zebra					15	0.5			
Reed Buck					9	0.6			
<u>Transect 12 Vehicle</u>	19th	13	0.01	0.13					Evening drive round Chelinda ring road
<u>Transect 13 Vehicle</u>	20th	11	1	22					Chelinda to Dembo River camp 935354 07.45am
Zebra					7	0.8			1 juvenile
Reedbuck					1	0.8			
Warthog					4	0.5			1 juvenile
Reedbuck					1	0.5			
Reedbuck					4	0.4			
Common Duiker					6	0.2			
Common Duiker					1	0.2			
Reedbuck					3	0.1			
Roan Antelope					1	0.05			
Eland					2	0.02			
Reedbuck					1	0.02			
Common Duiker					1	0.4			
Reedbuck					2	0.05			
Reedbuck					2	0.005			
Warthog					3	0.4			1 juvenile
Warthog					1	1			
Reedbuck					1	0.2			

Appendix 2: 2010 Transects, sightings only continued									
Species	Date December 2010	Length of Transect km	Average distance visible on each side of line km	Area surveyed in km ²	No of individual animals	Distance from Transect line in km	Animals seen per km ²		
Transect 13 Vehicle	20th	11	1	22					Chelinda to Dembo River camp 935354 07.45am
Zebra					7	0.8			1 juvenile
Reedbuck					1	0.8			
Warthog					4	0.5			1 juvenile
Reedbuck					1	0.5			
Reedbuck					4	0.4			
Common Duiker					6	0.2			
Common Duiker					1	0.2			
Reedbuck					3	0.1			
Roan Antelope					1	0.05			
Eland					2	0.02			
Reedbuck					1	0.02			
Common Duiker					1	0.4			
Reedbuck					2	0.05			
Reedbuck					2	0.005			
Warthog					3	0.4			1 juvenile
Warthog					1	1			
Reedbuck					1	0.2			
Transect 14 Foot	20th	1	0.9	1.8					Dembo camp to Chelinda 6.30 pm 2 hours
Reed Buck					1	0.2			
Transect 15 Vehicle	21st	6	1.5	18					Dembo camp to above N Rukuru bridge 964388 10.30am 30mins
Reedbuck					1	0.18			Male
Common Duiker					2	0.1			Pair
Transect 16 Foot	21st	1	1	2					Above N Rukuru near 963391 Plot 17
Bushpig					3	1			2 juveniles
Red Forest Duiker					1	0.4			
Warthog					7	1.5			
Common Duiker					2	0			Pair
Transect 17 Vehicle	22nd	14	1.5	42					Dembo camp to Nganda tracker station outward
Reed Buck					1	0.5			
Roan Antelope					1	0.1			
Reedbuck					1	0			
Eland					150	2			
Roan Antelope					1	0.2			
Common Duiker					1	0.025			
Roan Antelope					1	0.003			
Reedbuck					2	0.6			
Common Duiker					1	0			
Reedbuck					1	0.3			
Transect 18 Vehicle	22nd	14	1.5	42					Nganda tracker station to Dembo Camp
Roan Antelope					2	0.1			
Common Duiker					2	0.4			
Reedbuck					3	0.15			
Common duiker					1	0.002			
Roan Antelope					1	0.002			
Transect 19 Foot	22nd	1.5	1	3					Tracker station 898465 to viewpoint 905478 11am 30 mins
Transect 20 Foot	24th	2.5	1.5	7.5					Dembo camp to Forest Patch 920342
Reedbuck					3	1			2 females 1 juvenile
Reedbuck					3	0.075			Pair plus juvenile
Zebra					1	1			
Zebra					9	2			
Zebra					7	1.5			

Appendix 2: 2010 Transects, sightings only continued									
Species	Date December 2010	Length of Transect km	Average distance visible each side of line km	Area surveyed in km ²	No of individual animals	Distance from T Transect line in km	Animals seen per km ²		
Transect 21 Vehicle	25th	71	1.5	213					Dembo 935354 to Thazima 644025 06.30 - 09.00 2.5hours
Common Duiker					1	0.05			
Roan Antelope					1	0.4			
Zebra					2	0			
Common Duiker					2	0.05	Pair		
Reedbuck					6	0.5			
Eland					50	0.75			
Zebra					10	0.75			
Roan Antelope					4	0.01			
Zebra					5	0.1			
Eland					25	0.2			
Bushbuck					2	0.01	Pair		
Baboon					30	0.03			
Elephant					3	0			
Baboon					1	0			
Total survey (km and km²)		220		459	394				
Transect 22 Foot	26th	5	1	10					Lake Kasuni Vwaza 06.15 am - 10.00am
Puku					5	0.1			
Impala					17	0.2			
Warthog					8	1	3 juveniles		
Kudu					2	0.1	female		
Hippo					15	0.3			
Transect 23 Vehicle	26th	16	0.01	0.16					Kasuni area 17.30 for 2 hours
Impala					7	0.03			
Warthog					2	0.03	Male and juvenile		
Common Duiker					1	0.02			
Hippo					30	0.01			
Hippo					1	0.2			
Kudu					4	0			
Puku					11	0.05			
Puku					2	0.05			
Waterbuck					8	0.05			
Kudu					5	0.03	All female		
Kudu					5	0.03	All female		
Impala					2	0.08			
Hippo					1	0			
Hippo					1	0			
Mongoose					1	0			
Total survey (km and km²)		21		10	128				

Appendix 3: Relative abundance of large mammals calculated from transects

Transect data Relative Abundance Scores per 50 plots																	
Transect	Length in km (width 10m)	Elephant	Eland	Roan Antelope	Reedbuck	Bushbuck	Common duiker	Bushpig	Zebra	Hyaena	Jackal	Civet	Baboon	Porcupine	Aardvark	Scrub Hare	Rock Hare
1	5	3		2		5	1	3			1		3	1			
4	2	3		5	6		3	8		1				1	1	2	
7	0.15			3			3	3				1					13
10	0.6				3		1	1									
14	1		2	1	1												
19	1.5		1	4	4	2								8	1		
20	2.5		2	2	8			2	17							2	
Totals	12.8	6	5	17	22	7	8	17	17	1	1	1	3	10	4	2	13
RAS per 50 plots		23	20	66	86	27	31	66	66	4	4	4	12	39	16	8	51

Blue Monkey in Lilongwe Wildlife Sanctuary

Marianne Overton



Appendix 4 Summary of large mammal data July/Aug 1998-2009 and December 2010 (Relative abundance scores per 50 plots)

	Eleph	Elanc	Roan	Kudu	Reed	Bush	Comr	Grys	Red f	Buffal	Wairf	Bush	Zebra	Leopp	Serv	Hyaec	Jacke	Civet	Babot	Porcu	Otter	Aardh	Mong	Hare	Gene	Hone	Verv	Blue	Klipst	Species
Lowland below 4000ft																														
1998 Sawi (40 plots)	63	4	3	66	0	59	210	23	0	39	0	164	0	0	14	25	20	23	71	9	0	46	88	0	0	0	0	0	17	
1999 Sawi (50 plots)	14	7	26	5	0	18	204	0	0	3	12	84	0	0	0	2	12	2	88	0	0	13	105	4	0	0	0	0	15	
2001 Sawi (25 plots) 4-4,500ft	6	30	28	0	0	0	176	0	0	0	0	68	0	0	0	0	0	10	166	0	0	16	46	0	0	0	0	0	9	
2003 Sawi (25 plots)	2	20	4	46	6	164	504	22	0	20	168	2	2	6	2	0	0	324	2	6	26	176	38	0	10	0	0	0	21	
2004 Mpanda (10.5plots) 3-4,000ft	0	0	0	0	0	29	138	10	0	0	24	0	10	0	5	0	0	167	5	0	0	38	33	0	0	0	0	0	10	
2005 Chisanga (10 plots) 4-5,000ft	0	0	0	0	0	114	445	0	0	0	160	0	0	0	0	0	10	215	0	0	10	175	0	25	0	5	0	0	8	
2007 Sawi (12 plots)	0	0	0	25	0	92	342	138	0	0	288	0	0	0	13	0	0	200	63	4	21	0	0	0	0	0	0	0	10	
Slopes 4-6,000ft																														
1998 Chipome (50 plots)	78	51	87	17	0	36	108	3	0	43	10	79	0	6	16	8	24	8	2	3	11	16	38	32	7	0	0	0	22	
1999 Chipome (25 plots)	83	144	24	70	1	84	430	0	2	72	59	115	0	0	1	20	32	3	39	1	4	19	95	49	1	0	0	0	22	
2001 Chipome (30 plots)	82	8	40	13	0	17	270	20	0	23	0	57	2	0	0	10	0	2	53	0	0	3	20	67	0	0	0	0	16	
2003 Chipome (50 plots)	37	24	30	52	6	68	446	81	0	25	0	206	0	2	2	0	13	90	12	3	5	107	82	4	0	0	0	0	22	
2004 Mpanda (43.5plots)	3	9	8	24	0	47	106	2	0	5	0	134	0	0	0	2	5	7	159	30	0	6	40	5	0	0	0	0	17	
2005 Chisanga (34 plots)	0	0	1	0	4	137	332	0	0	0	163	0	1	0	0	0	24	237	1	0	9	107	29	1	10	1	4	16		
2006 4 sites (14 plots)	4	0	0	0	0	161	154	0	14	0	179	0	0	0	0	0	4	0	214	189	0	18	89	0	0	25	0	11	12	
2006 4 sites (19 plots)	3	0	0	0	0	142	203	0	11	0	168	0	0	0	0	0	3	0	192	168	0	32	87	0	0	26	11	8	13	
2007 Chipome (38 plots)	62	57	8	45	0	91	511	57	3	1	0	211	0	3	3	8	3	0	180	28	1	16	1	7	1	0	0	0	21	
2008 Runyina Valley (67 plots)	147	137	84	0	159	229	565	0	0	0	372	1	1	1	1	4	0	1	143	151	1	35	113	19	1	4	0	3	21	
2009 Chisanga & Vitiithiza (6 plots)	92	25	125	0	42	83	158	0	0	0	225	42	0	0	0	0	0	0	117	75	0	8	25	83	0	0	0	0	0	
2010 Runyina (9 plots)	156	78	544	0	194	244	511	0	0	0	344	11	0	0	11	0	0	100	133	0	44	11	6						16	
Plateau 6-7,500ft																														
1998 Chipome	14	78	38	0	33	20	12	0	3	0	47	39	2	2	2	14	9	2	0	16	6	46	14	15	1	0	0	0	21	
1999 Chipome	97	158	24	75	1	102	634	0	2	75	71	199	0	0	1	22	44	5	127	1	4	32	200	53	1	0	0	0	22	
2001 Chipome (25 plots)	10	9	2	0	9	1	2	1	1	0	0	67	0	2	0	1	0	0	0	0	0	51	4	1	0	0	0	0	14	
2003 Chipome (50plots)	29	40	0	0	26	59	73	10	0	0	118	0	7	0	0	5	4	0	50	1	84	27	30	0	0	0	0	0	15	
2004 Mpanda (17plots)	0	0	27	14	0	150	9	0	0	0	123	0	0	0	0	0	0	77	18	0	5	27	0	0	5	0	0	0	10	
2005 Chisanga (29 plots)	162	212	202	0	183	86	164	0	0	0	53	174	79	12	2	7	0	2	33	145	0	9	117	52	7	9	5	55	22	
2006 4 sites (34 plots)	12	187	168	0	110	187	199	0	0	0	157	56	1	3	4	6	1	19	103	0	15	63	65	6	19	6	49	22		
2006 4 sites (29 plots)	14	219	197	0	129	203	174	0	0	0	160	66	2	3	5	7	2	0	102	0	5	60	76	7	17	0	57	20		
2007 Plateau (35 plots)	54	141	219	0	284	33	174	0	0	0	120	60	63	13	1	16	10	1	0	119	0	86	29	21	1	11	0	0	20	
2008 Plateau (22 plots)	155	161	234	0	132	177	239	0	0	0	7	198	25	2	0	2	14	0	34	202	0	66	95	0	2	20	0	0	18	
2009 South plateau (31plots)	265	8	71	0	42	135	140	0	18	0	0	147	0	6	0	0	6	0	69	102	0	44	31	6	0	6	0	47	13	
2010 2 sites Vitiithiza, Dembo	56	326	729	0	1103	329	432	0	26	0	112	209	32	0	0	0	3	0	21	174	0	56	12	38					14	

POACHING REPORT

Lauren Smith

ABSTRACT

Since 1997 Biosearch Expeditions have visited Nyika Plateau with a team from the United Kingdom collaborating with fellow Malawians. As with past years, evidence was collated from the various sites visited; these included sites within Nyika National Park as well as Vwaza Game Reserve. The results show that there was a lack of poaching activity in the areas we visited in comparison to previous expeditions. However, this does not necessarily mean that poaching has not taken place in Nyika National Park, and may be due to location as the typical sites of the Zambian border and the outskirts of the national park were not visited as in previous years.

INTRODUCTION

Poaching is the illegal taking of flora and fauna in contradiction to international and national conservation and wildlife management laws. Violations to the laws are usually punishable by law and such violations are collectively known as poaching. Both Malawi's Nyika National Park and Vwaza Game Reserve has many forms of poaching within it as mentioned in the 2008 Biosearch Report. However with the Nyika National Trust and National Parks working together along with the strengthening of the Education and Extension Programme, anti-poaching techniques are increasingly putting pressure on those who continue to poach. It is necessary to note that poaching is still highly pursued and the collection of poaching evidence by Biosearch and other programmes will aid the work of trying to combat this problem.

The Nyika Vwaza Trusts in Malawi works with Department of National Parks and Wildlife to improve the conservation of wildlife in the Nyika National Park and the Vwaza Marsh Wildlife Reserve. At present the Nyika-Vwaza trust are promoting two main projects to aid anti-poaching behaviour. The Trust sourced funding to install a VHF network consisting of a repeater station at the police mast at Chilinda with a base radio in the Park's office. This is to help promote communication between base camp and scouting patrols aided by hand-held VHF radios to be used by scouting patrols to promote back to camp. At present however, the network covers most of Nyika National Park but no cover for Vwaza Marsh. The department can also now communicate with Zambian Wildlife Authority (ZAWA) in the Zambian section of the park. According to the Trust this has helped improve efficiency and morale of the scouting patrols.

The Trust has also agreed to a cash incentive scheme in Nyika National Park and Vwaza Marsh's scouts. The aim is for the scouts to receive cash benefits for successful arrests of poachers and confiscation of firearms, snares and other tools used by poachers. According to the trust the scheme is now being funded and operated by PPF through the law enforcement officer based at Chilinda.



Figure 1 Lauren Smith collecting forensic evidence of animal activity

METHODS

Poaching activity was noted in the various locations mentioned below. Every sign of poaching was recorded, photographed and a GPS reading was collated as seen in Table 1. Unfortunately we could not photograph the bee smoking activity due to equipment problems.

Poaching data was searched for in the following locations:

Runyina Camp

Luselo River, our 2008 & 2009 Camp area

Kasiti old school site

Vitinthiza area

Dembo River

Vwaza game reserve walking out from Kasuni Lake Camp

POACHING EVIDENCE: DECEMBER 2010

Table 1 Poaching evidence recorded

Date	Location	Fig	Evidence	Age of Evidence	Map Ref	GPS Ref	Altitude metres
15 th	Runyina Camp	2	Fire to smoke out bees in order for collection of honey	1 month ago approx.	744 139	S 10° 43.298' E 33° 40.437'	1783
16 th	Kasiti old school site	3	2 poacher huts separate from one another, but within 100m of each other, both in edge of woodland, looking out.	1 st hut 2-3 months old 2 nd hut 3-5 months old	781 129	S 10° 44.542' E 33° 42.879'	1767
22 nd	Wood/marsh area below Nganda transmitter station	4/5	Burnt around the base of some trees in woodland indicating a hot unseasonal fire	Some months	900 472	S 10° 25.974' E 33° 49.353'	2399
26 th	Vwaza game reserve, Kasuni Lake	6/7	Broken fishing net at side of lake	Unknown	710 679	S 11° 8.830' E 33° 39.039'	1078
26 th	Vwaza game reserve, Kasuni Lake	8/9	Fishing net across lake	Unknown	696 675	S 11° 09.141' E 33° 38.267'	1078

Nyika National Park

Bee smoking is common practice with Poachers in Nyika. They will attempt to smoke out the bees from their hive in the trees to make them drowsy and leave the hive. Once this has been achieved the poachers will retrieve the honey and will use it for their own use or sell it on the black market.



Figure 2 Fire found near the Nganda Mast

2 shows a small fire measuring over 30 centimetres in diameter. There are no distinctive markings to suggest this is either a poacher or scout fire. The location of the fire found at the old mast site is popular with poachers and scouts alike as it gives them a good view over a vast area.



Figure 3 An old poacher's shelter near the abandoned school at Katsi.



Figure 4



Figure 5

Tree burning (figures 4 and 5) is a common poaching occurrence. The poachers will burn vegetation usually in Forest Patches to either drive the animals out of the forest away from the fire to be caught at the other end by others members of the poaching team. They also use this technique to burn the vegetation and then will come back when they know that the new shoots will appeal to the animals who will return to the area to eat them.

Vwaza Game Reserve

Figure 6 Large piece of fishing net

The fishing net as shown above was found at Vwaza Game Reserve on the embankment. At the time of visiting Vwaza in the December the rains had yet to fall and therefore draught had caused much of the lake to dry up. The net positioned where it was, is more than likely to have been left there for some time. The net was found in shreds along, what would have been the lakeside and had therefore been snagged on something. The material was a green mesh probably made from a mosquito net. This piece had a length of over three and a half metres.



Figure 7 Broken off pieces of net

Fishing Nets

The photograph above shows another piece of the snagged poachers fishing net in close proximity to the other large piece. This one had a length of approximately two metres. There were large holes in the netting suggesting that the net had been discarded there after too much damage to the net had occurred.

The use of fishing nets is detrimental as not only does it vary the fish stock levels in Vwaza area other water based animals and amphibians can get caught in the nets such as the frogs and toads. When the nets are discarded by the side of the lake other land based animals can get caught in the nets and need aid to escape.



Figure 8 Fishing line attached by twigs at

Figure 9 At a distance; fishing line in stream

either end found at Vwaza game reserve. This makeshift fishing net was found in one of the streams running into the main lake at Vwaza. A fine string net had been suspended from one stick and attached to the other at the other end measuring approximately 60 centimetres. This covered the width of the stream bar 15 centimetres. This location was a prime area for catching fish that are trying to seek deeper water to escape predation and the warming of the water from the sun on the shallow water.

This, with the accumulation of draught, giving limited routes to the main waterway would have supplied the poachers with a steady number of fish and an easy way of catching them.

Not only does this technique upset the balance of fish in the game reserve it also is non-specific so other animals would be caught in the net and would be discarded by the poachers probably when they are dead. The nets also pollute the area as they would not be thrown away correctly if the nets were damaged and would just be abandoned, therefore other animals would be affected if they were to get caught in it.

Both these fishing techniques are considered poaching activities as the fish are in the closed season and therefore fishing is illegal during these months. Poachers will also not have a valid permit and the poachers are usually selling the fish for a profit. By doing this it damages the local's fish stock levels that other locals catching fish legally have to rely upon.

EDUCATION AND EXTENSION REPORT

Following the 2008 poaching report which highlighted the importance of balancing conservation of wildlife and activities of the local population, such as licensed farming and harvesting of natural resources, The Department of National Parks and Wildlife (DNPW) publishes an Education and Extension report every 3 months.

The report highlights information on the achievements and failures of the Nyika Education and Extension Unit for the past three months in relation to the annual work plan' which in this case ran from 2010-2011.

Staff training in regards to beekeeping

One of the main areas of staff training has been in beekeeping. Between the 10th and 15th September 2010 training was organised in beekeeping principles for the extension staff. A number of objectives were set out for instance 'being able to explain the relationship between conservation and beekeeping' and 'to be able to demonstrate how to hang hives, manage apiary sites and bee colonies'. To promote further connections within the park, chairmen of several beekeeping clubs were also invited to the training days in order for them to share their indigenous knowledge in beekeeping to the staff being trained. Topics between these groups of people therefore included: basic requirements to start beekeeping, apiary and colony management and harvesting and handling honey to name just a few. At the end of the theory being taught to the staff, participants were given hands-on experience at one of the apiaries at Chilinda.

Mass-awareness meetings

In order to promote the actions of the National Park with local people, three mass-awareness meetings had taken place between July and September 2010 at Mahowe, Chiwezya and Guya. The meetings were jointly run and facilitated by TA Nthalire, NVA secretariat and Total Land Care project team. The aim of the meetings was to explain to the local communities the link between the education and extension project and the department of parks and wildlife. It was stressed that the project is there to provide an alternative livelihood and strategies rather surviving on poaching in Nyika National Park. Small scale livestock rearing, irrigation farming and community serving cooperatives were just a few of the alternative ideas given to the local residents that could be implemented by communities instead of poaching in the National Park. The quarterly report from July to September comments that the communities welcomed the project and promised to conserve Nyika soon as projects should continue coming to them. However it is not highlighted in the report, the number of people that came to these meetings and to what financial situations they find themselves in. Many continue to poach in these areas because for generations before them they were free to do so and even with the animals being within the Nyika National Park it does not prevent many from believing that the animals they are catching are not rightfully theirs to have.

Collaborative management

Also highlighted in the report is the successful trip when Ng'onga Natural resource committee visited Lengwe and Lake Malawi National Parks respectively from 12th to 19th August 2010. The group had the opportunity to visit other natural resource committee at Tomali where Tomali CBO is processing cooking oil from groundnuts with a pressing machine donated by peace corp. Therefore the natural resource committee were engaging with the idea that you can diversify with activities instead of focussing on conservation alone.

Enterprises in the beekeeping industry such as Karonga and Thazima are also sharing experiences between themselves to learn from one another the mistakes as well as the achievements that the other one has made and how this can be implemented into their own development. The report highlights that the two enterprises are moving forward to make beekeeping a viable business by processing good quality honey that is competitive on the market.

Thazima has also developed further by registering with OVOP whereby it is in a process of forming a cooperative in order to access a loan for a processing machine and therefore cutting the 'middle man' out of the honey making process.

Community meetings

Community meetings are an important way to communicate effectively with a number of people at a small cost. The aim of the meeting for Wanangwe Maize Mill at Thazima was to review the progress and map a way forward on how to progress in sustaining the mill for the betterment of the Thazima community. Those present agreed to elect a new committee and source funds to repair the mill in order for mill operations to convene.

Questionnaire

The education and extension office were involved in administering a questionnaire which was formulated by Mzuzu University lecturers. The questionnaire aimed to identify the views of the communities bordering Nyika on the impacts of collaborative management, since the concept was initiated a decade ago. Whilst compiling this report, the results have yet to be published but early indicators are showing that there are high expectations from communities as their livelihoods would greatly improve from the introduction of CM but the report highlights that benefits are hard to come by.

Staff matters

Staff on the education and extension programme have attended many meetings over the period of July to September 2010. The report highlights that staff are doing a great job in being able to sensitise the community on the importance of conservation. However there have been disadvantages over some of the staff such as:

Some have overstayed at their station forgetting their roles as extension leaders

Some have been Nduna's of local leadership at village level

Some have grown vast amounts of Tobacco on the side

In conclusion, the report highlights that the quarter has run relatively smoothly and that the annual work plan has been successfully implemented and hope to face the second quarter with hope and enthusiasm.

Conclusions

The recent improvements have continued into 2010, many of the roads have been repaired or resurfaced making movement of scout patrols around the park a lot easier. Bridges that were once wooden and were burnt down or destroyed by poachers have now been re-built with the help of Nyika-Vwaza Trust using steel base structures that are much more resilient to fire and damage by poachers.

The scouts working with the Biosearch team were incredibly knowledgeable. Aliel Moyo continues to grow in his knowledge and is a dedicated member to the education and extension programme.

As long as the park and locals continue to work together in balance with the environment, the long term investment of this technique will be of great benefit. It would be of everybody's interests however, to know where the public's sympathies lie including the results from the education and extension questionnaire as highlighted.

SMALL MAMMALS

Nyson Ngwani

INTRODUCTION

Previous studies have identified species of small mammal in the Nyika National Park. notably, Burden and Chitaukali with Biosearch in 1997. The new species found was subsequently named *Epomophorus anelli*.

METHOD

Trapping for small mammals was carried out at three sites using ten Longworth live traps, baited with peanut butter, placed on a non-pungent leaf well inside the trap. They were positioned in likely spots about five meters apart along a line, with minimal disturbance. The trap position was marked with paper tied on a nearby plant just to help find it again. The traps were checked each morning and evening, though all catches were found in the mornings.

Trapping was done over ten nights in three locations, totalling 100 trap nights. Netting for bats was done on one evening at each of the two base camp sites.

Locations

- 1) Along the meadow edge of the Runyina adjacent to base camp one, two in wet areas close to the marsh, (which was well populated with frogs,) one on the steep bank and seven in meadow above the bank. Three nights 14th-16th without any success.
- 2) In the *Brachystegia* woodland 400m west of base camp along the track. The line of traps started about 3m from the track and was at right angles to the track, down the grassy, wooded slope. Two trap nights, 17th - 18th December, one catch.
- 3) The line of traps was placed along the flood plain meadow edge of the River Dembo about 2ms from the river and including two traps in the low silt bank behind, covered with scrub and with a number of well-used holes evident. Five trap nights 20th - 23rd December 2011.

December	Trap Nights	Location	Longitude	latitude	Altitude (m)	Grid reference
14-16 th	3	Runyina Bridge	10° 43.82'	33° 40.93'	1783	744 139
17-18 th	2	Woodland above	10° 43.935'	33° 40.614'	1821	
20 th - 24 th	5	Dembo Bridge	10° 32.155'	33° 51.297'	2207	935 356

For bats, the nets were kept open and observed in the evenings of December 16th and 23rd.

RESULTS

The catches are listed in Table 1 and shown on the photo pages.

There were no small mammals caught in the meadow alongside the river near Runyina Bridge. The habitat was rich in herbaceous plants and constant water was available with the river and marsh. The marsh itself was rich in amphibians, calling noisily. The lack of small mammals could be due to the extensive and severe late burn that was experienced earlier this year. The nearby woodland area was unburnt and mice were found there.

By contrast, the floodplain meadow adjacent to the River Dembo was rich in small mammals. This area was cut off from the burning by the dirt road, line of shrubs and wetness of the flood plain, which would have provided a refuge for any small mammals.

In future, repeating the work using fifty traps would help establish a clearer picture of the diversity and population richness.



Lophuromys flavopunctatus
1-3 Specimen 2 21st December
5-6 Specimen 9 24th December

Hamster
4 Specimen 6 23rd December





Specimen 3
December 22nd
Mus sp.



Specimen woodland
Decembernd
Mus sp.



Bat possibly *Epomophorus wahlbergi*

Netted just after dark on 16th December 2010 at the Runyina Camp on the Nyika.

Male caught at the same site a few days later. Both released.

Location: 10° 43.82' 33° 40.93' 1783m altitude

Map reference 744 139

Measurements: Female

Ear tufts 11mm, Right ear 16mm, Tail 8.5mm

Forearm 70mm (range for *E wahlbergi* female is 68-88mm)

Weight 52g (range 54-125g)

Partial tube nose effect and each of the wing joints.

Palate with five ridges right across behind the canines and two short angular ridges at the front.

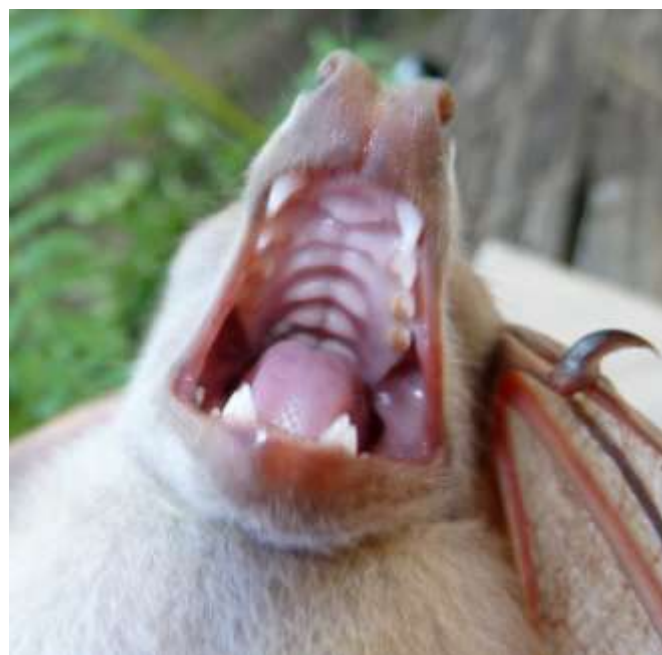


Table 1. Small mammal catches									
Small Mammals				Measurements in mm					
Specimen	Date		Location	Mass(g)	Ear	Hind foot	Tail	Body Length	
1	21-Dec	Small Woodmouse	Camp 2						
2	21-Dec	Lophuromys flavopunctatus	Camp 2						
3	22-Dec	Mus sp.	Camp 2	21	9	14	45		
4	23-Dec	Mus sp.	Camp 2	17	10	14	46	69	
5	23-Dec	Mus sp.	F Camp 2	14	8	14	44	70	
6	23-Dec	?	M Camp 2	80	13	23	0	127	
7	24-Dec	Mus sp.	Camp 2	14		14	43	74	
8	24-Dec	Lophuromys flavopunctatu Juv	Camp 2		11	21	48	83	
9	24-Dec	Lophuromys flavopunctatus	Camp 2		13	21	0	136	
Bats						Forearm			
1	16-Dec	Epomophurus wahlbergii	F Camp 1	52	16	70	8.5		
2	16-Dec	Epomophurus wahlbergii	M Camp 1						
				Altitude m	Latitude	Longitude			
Camp 1		Runyina River Bridge		1783	10° 43.816'	33° 40.932'			
Camp 2		Dembo River Bridge		2207	10° 32.155	33° 51.297'			



Specimen 2 21st December Tailless *Lophuromys flavopunctatus* ?
Sarah Moody

PLANT COLLECTIONS

Steven Mphamba

Table 1 Plant species and Seeds collected for Millenium Seeds Bank (MSB) and for the National Herbarium of Malawi (SM). Photographs on following pages.

No.	FAMILY	SPECIES NAME	No.	FAMILY	SPECIES NAME
1	Awaiting ID		40	Zingiberaceae	<i>Costus spectabilis</i>
2	Awaiting ID		41	Asphodelaceae	<i>Kniphofia grantii</i>
3	Asphodelaceae	<i>Kniphofia grantii</i>	42	Melastomataceae	<i>Dissotis princeps</i>
4	Fabaceae		43	Orchidaceae	
5	Awaiting ID		44	Orchidaceae	<i>Disa robusta</i>
6	Awaiting ID		45	Lamiaceae	<i>Plectranthus acaulis</i>
7	Awaiting ID		46	Iridaceae	<i>Gladiolus Spp</i>
8	Orchidaceae		47	Lamiaceae	<i>Plectranthus spp</i>
9	Awaiting ID		48	Awaiting ID	
10	Balsaminaceae	<i>Impatiens spp</i>	49	Balsaminaceae	<i>Impatiens spp</i>
11	Awaiting ID		50	Orchidaceae	
12	Orchidaceae		51	Oxalidaceae	<i>Oxalis spp</i>
13	Orchidaceae		52	Lamiaceae	<i>Plectranthus spp</i>
14	Xyridaceae	<i>Xyris spp</i>	53	Awaiting ID	
15	Melastomataceae	<i>Dissotis princeps</i>	54	Orchidaceae	<i>Satyrium spp</i>
16	Orchidaceae		55	Orchidaceae	<i>Satyrium spp</i>
17	Awaiting ID		56	Fern	<i>Fern</i>
18	Awaiting ID		57	Orchidaceae	<i>Disa robusta</i>
19	Awaiting ID		58	Awaiting ID	
20	Orchidaceae		59	Fabaceae	
21	Awaiting ID	<i>Hypoxis spp</i>	60	Balsaminaceae	<i>Impatiens spp</i>
22	Ochinaceae	<i>Ochna katangensis</i>	61	Hyacinthaceae	
23	Awaiting ID		62	Polygalaceae	
24	Awaiting ID		63	Iridaceae	<i>Gladiolus verutinus</i>
25	Orchidaceae		64	Awaiting ID	
26	Fabaceae		65	Awaiting ID	
27	Commelinaceae		66	Awaiting ID	
28	Awaiting ID		67	Fabaceae	
29	Amaryllidaceae	<i>Scadoxus multiflorus</i>	68	Ranunculaceae	<i>Clematis spp</i>
30	Acanthaceae	<i>Thunbergia spp</i>	69	Mimosoideae	<i>Faidherbia albida</i>
31	Proteaceae	<i>Protea angolensis</i>	70	Awaiting ID	
32	Lamiaceae	<i>Plectranthus spp</i>	71	Awaiting ID	
33	Lamiaceae	<i>Becium spp</i>	72	Flacourtiaceae	<i>Oncoba spinosa</i>
34	Clusiaceae	<i>Psorospermum febrifugum</i>	73	Zingiberaceae	<i>Costus spectabilis</i>
35	Awaiting ID		74	Awaiting ID	
36	Hypoxidaceae	<i>Hypoxis goetzei</i>	75	Iridaceae	
37	Awaiting ID		76	Acanthaceae	<i>Thunbergia spp</i>
38	Commelinaceae		77	Caesalpinioideae	<i>Delonix regia</i>
39	Asteraceae	<i>Erythrocephalum zambesianum</i>			
40	Zingiberaceae	<i>Costus spectabilis</i>			

























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Vwaza



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Lilongwe



Mzuzu and Nkhata Bay



ENTOMOLOGY

R.J.Murphy F.R.E.S.

SUMMARY

LIST OF IDENTIFIED INSECTS FOUND IN NYIKA NATIONAL PARK AS AT 12TH FEBRUARY 2010

R.J.Murphy F.R.E.S.

The arrangement of main families is in systematic order but sub families, genera and species are in alphabetical order for ease of reference.

Odonata (Dragonflies)

Zygoptera (Damsel flies)

Agridae

Phaon iridipennis (Burmeister 1839)

Chlorocyphidae

Chlorocypha consueta (Karsch 1899)

Platycypha caligata caligata (Selys 1853)

Chlorolestidae

Chlorolestes conspicua Selys

Coenagriidae

Aciagrion gracile (Sjostedt 1909)

Enallagma subfurcatum Selys 1876

Pseudagrion spernatum spernatum Selys 1881

Lestidae

Lestes pallidus Rambur 1842

Protoneuridae

Chlorocnemis marshalli marshalli Ris 1921

Chlorocnemis montana maccleeryi Pinhey 1961

Anisoptera (Open winged dragonflies)

Aeshnidae

Aeshna ellioti usambarica Forster 1906

Anax imperator mauricianus Rambur 1842

Anax separatus Hagen 1867

Hemianax ephipigger (Burmeister 1839)

Gomphidae

Notogomphus zernyi (St Quentin 1942)

Paragomphus cognatus (Rambur 1842)

Libellulidae

Atoconeura biordinata Karsch 1899

Crocothemis sanquinolenta (Burmeister 1839)

Orthetrum caffrum caffrum (Burmeister 183)

Orthetrum julia Kirby 1900

Orthetrum julia falsum Longfield 1955

Palpopleura jacunda Rambur [1842]

Palpopleura lucia (Drury 1773)

Pantala flavescens Fabricius 1798

Porpax risi Pinhey 1958

Tramea basilaris Palisot de Beauvios 1817

Trimethis annulata (Beauvois 1805)

Trimethis arteriorosa (Burmeister 1839)

Trimethis furva Karsh 1899

Trimethis wernerii Ris 1912

Blattodea (Cockroaches)

Derocalymna versicolor Burmeister

Pseudopeltis neavei Princes 1963

Isoptera (Termites)

Separate report by Dr Sarah Donovan

Mantodea (Praying Mantises)

Mantidae

Metentella mervensis Sj

Rhomboderella scutata (Bolivar 1889)

Tarachodes sanctus (Saussure 1871)

Dermaptera (Earwigs)

All specimens awaiting determination

Orthoptera (Grasshoppers)

Encifera (Crickets)

Tettigoniidae

Clonia Wahlbergi Stal

Conocephalus maculatus (Le Guillou)

Enyalipsis petersi Schaum

Enyaliopsis viphya Glenn
Phaneroptera sparsa Stal
Ruspolia vicinus Walker
Tylopsis bilineolata (Serville)
Tylopsis continua (Walker)
Zabalius orientalis Karsch

Caelifera (Grasshoppers)

Acrididae

Abisares viridipennis (Burmeister 1838)
Acanthacris ruficornis (Fabricius 1787)
Acorypha laticosta (Karsch 1896)
Acrida acuminata Stal 1873
Acrophymus sqamipennis (Brancsik 1897)
Acrotylus patruellis (Herrich-Schaffer)
Anthermus ebneri Ramme 1929
Anthermus granosus (Stal 1828)
Brophyta tectifera (Karsch 1897)
Cannula greacilis (Burmeister 1838)
Cardeniopsis chloronotus (Bolivar 1912)
Catantops axillaries (Thunberg 1815)
Catantops Melanostictus (Schaum 1853)
Cannula gracilis (Burmeister 1838)
Coryphosima stenoptera (Schaum 1853)
Cyrtacanthacris septemfasciata (Serville 1838)
Faureia milanjica (Karsch 1896)
Gastrimargus acutangulus (Stal 1873)
Gastromargus africanus (Saussure 1888)
Gymnbothrus linea-alba I Bolivar 1889
Heteropternis coulöniana (Saussure 1884)
Leptacris monteirol monteirol (I.Bolivar 1890)
Machaeeridia bilineata Stal 1873
Morphacris fasciata (Thunberg 1815)
Ornithacris cyanea (Stoll 1813)
Orthochtha dasygnemis (Gerstaecker 1869)
Poecilocerastis tricolor (I.Bolivar 1912)
Pseudoarcpyta cephalica (I.Bolivar 1914)
Rhytidacris tectifera (Karsch 1896)
Scintharista notobilis (Walker 1870)
Tmetonota abrupta (Walker 1870)
Tylotropidus gracilipes Brancsik 1895

Lentulidae

Usambillia olivacea Sjöstedt 1909

Pamphagidae

Lobosceliana gilgilensis I Bolivar 1915

Pyrgomorphidae

Maura bolivari Kirby 1902
Phymateus viridipes Stal 1873
Phyteumas purpurascens (Karsch 1869)

Phasmatodea (Stick insects)

All specimens awaiting determination

HEMIPTERA

Heteroptera (Stink bugs / Assassin bugs)

Belastomatidae

Lethocerus niloticus Stal

Coreidae

Anoplocnemis curvipes Fabricius
Anoplocnemis dallasiana L & S
Anoplocnemis montandorii Distant
Mirperus tongorma
Petascelis remipes Signoret

Lygaeidae

Lygaeus lemniscatus Stal
Spilostethus rivularis Germar

Pentatomidae

Agonoscelis pubescens Thunberg
Antestiopsis cincticollis Schaum
Atelocera attenuata Distant
Atelocera foveata Dallas
Dalsira atricostata Distant
Dismegistus royeri Jeanneli
Dysdercus fasciata Signoret
Encosternum delegorguei Scopoli
Natalicola delegorguei Spin
Nazara viridula Fabricius

Reduviidae

Coranopsis vittata Horvath
Ectomocoris cruciger Fabricius
Etrichodia crux (Thunberg)
Rhinocoris albopunctatus Stal
Rhinocoris erythrocnemis Germar
Rhinocoris neavei Bergoth 1912
Vitumnus scenicus Stal

Rhopalidae

Serinetha amicta Germar

Scutelleridae

Callidea drgii Germar
Deroplax silphoides Thunberg

Homoptera (Plant bugs)

Cicadidae

Ioba leopardina Distant
Koma bombifrons Karsch
Monomatapa insignis Distant
Oropa nyassana
Ugada nutti Distant

Circopidae

Ptyelus flavescens Fabricius
Ptyelus grossus Fabricius
Locris jugalis Jacobi
Locris incarnata Walker

Coccidae

Gascardia brevicauda (Hall)
Saissetia oleae (Bernard)

Eubrybrachidae

Mesonityys fuelleborni
Paropioxys bellus Distant

Fulgoridae

Benamatapa marshalli Distant
Zanna claviceps (Karsch 1890)
Zanna pustulosa Gerstaecker
Zanna Tenebrosa Fabricius

Neuroptera (Ant Lions)**Acalaphidae**

Tmesibasis lacerata (Hagen)

Mantispidae

Mantispa tenella Erichson

Myrmeliontidae

Banyutus idoneus (Banks 1911)
Banyutus lethalis (Walker 1853)
Centroclisis brachygaster (Rambur 1842)
Distoleon posterior (Navas 1913)
Myrmeleon lethifer Walker 1853
Palpares normalis Navas 1911
Palpares obsoletus Gerstaecker 1888
Palpares sparsus (McLachlan 1867)

Psychopsidae

Silveria marshalli McLachlan

Coleoptera (Beetles)**Adephaga** (Predatory Beetles)**Carabidae**

Callistomimus rufiventris Brett
Cypholoba graphipteroides Guerin
Cypholoba tenuicollis Horni
Eccoptoptera cupricollis Chandois
Galeritiola inversa Basileusky
Psecadius obertheuri Gestro
Scarites senegalensis Dejean
Sterestoma stuhlmanni Kolbe

Cicindelidae (Tiger Beetles)

Cylindera marshallisculpta (W Horn 1913)
Dromica gracillis W Horn 1909
Elliptica laticornis disperseflavescens (Horn 1913)
Foveodromica laterodeclevis (W.Horn 1929)
Foveodromica nicolae Monfort & Weisner 2007
Lophyra saraliensis saraliensis (Guerin-Meneville 1849)
Prothymidia angusticollis angusticollis (Boheman 1848)
Pseudodromica marshalli Peringuey 1894
Rhopaloteres grandis interruptoabbreviatus (W Horn 1921)
Trichodela diversilabris Cassola 1995

Dytiscidae (Water Beetles)

Hydaticus flavolineatus Boheman

Polyphaga (Leaf eating & other Beetles)**Anthribidae (Fungus Beetles)**

Xylinada meculipes Fahreus

Buprestidae (Jewel Beetles)

Acmeodera subprasina Mars
Alissoderus nodicollis
Hoplistura disjuncta Fabricius
Meliboeus carinatus
Psiloptera albomarginata Herbst
Psiloptera coleopteroides Sol
Psiloptera iridiventris Kerremans
Spenoptera longiusula
Sterapsis amplipennis Fahraeus
Sternocera orissa variabilis Kerremans 1886

Cantharidae

Lycus murrayi Bourgoin

Cerambycidae (Longhorn Beetles)**Cerambycinae**

Calanthemis cf conradti Kolbe
Coptoeme krantzi (Distant 1898)
Chromolizus leucorhaphis (Gerstaecker 1855)
Noserius aenescens (Aurivillius 1908)
Oligosmerus limbalis Harold
Paroeme montana Aurivillius
Phyllocnema mirifica (Pascoe)
Purpuricenus laetus Thomson 1864
Stromatium barbatum Fabricius
Xystrocera skeletoides Breuning 1957

Lamiinae

Ceroplesis hauser conjuncta Hintz
Ceroplesis thunbergi Fahraeus
Chariesthes apicalis Peringuey
Deroplia simplex (Fairmaire)
Dirphya leucostigma (Harold)
Eunidia piperita Gahan
Eurysops insignis Aurivillius 1910
Hecyra obscurator Fabricius
Hecyra tenebrionides Fahraeus
Idactus strandi Breuning
Laziopezus nigromaculatus (Quedenfeldt)
Mimophrisma livingstonei Sudre & Teocchi 2001
Monoxenus bicarinatus Aurivillius
Phantasis avernica Thomson
Prosopocera luteomarmorata Breuning
Prosopocera marshalli Aurivillius
Prosopocera schultzei Hintz
Stenidia simplex Fahraeus
Tragocephala ducalis White
Tragocephala frenata Gerstaecker
Tragovcephala pretiosa Hintz

Tragocephala variegata Bertoloni 1849
Zoographus lineatus (Quedenfeldt 1882)

Prioninae
Aulocopus natalensis White 1853
Bracheocentrus duvivieri Lameere 1903
Erioderus pallens
Macrotoma natala Thomson 1860

Chrysomelidae (Leaf beetles)

Asbecesta duvivieri Jacobi
Bradlema neavei Heinze
Cassida suspiciosa Weise
Chrysomela saegeri Burgeon 1941
Corynodes dejeani Bertoloni
Gastrida abdominalis Chap
Hypercantha deverani Weise
Idacantha conifera Fairmaire
Phaedorina areata Fabricius

Cleridae (Checkered Beetles)

Dieropthesis 4 maculatus

Coccinellidae (Ladybirds)

Cheilomenes aurora (Gerstaecker 1781)
Cheilomenes lunata (Fabricius 1775)
Chnootriba similis (Thunberg 1781)
Declivitata olivieri (Gerstaecker 1862)
Epilachna ardosiaca (Sicard 1912)
Epilachna dregei Mulsant 1850
Henospilachna bifasciata (Fabricius 1781)
Henospilachna quadrioculata (Kolbe 1897)
Lioadalia intermedia Crotch 1874

Curculionidae (Weevil Beetles)

Lixus areicatus

Elateridae (Click Beetles)

Anisomerus lamellicornis Fairmaire
Calais antinorii Candeze
Calais lecordieri Girard
Propsephus apiculatus Boheman
Propsephus nigrifrons Calais Basilewsky
Propsephus cf castaneus Fleutiaux

Erotylidae Fungus Beetles)

Plagiopisthen laevistriatus Arrow

Histeridae

Hister jeanelli Desbordes
Hister mechowi Schmidt
Kissister congoensis Burgeon
Tribalus floridus Vienna

Staphylinidae

Staphylinus subaenus Roth

Hispididae

Dactylispa pallipes (Kratz)

Hydrophilidae

Sphaeridium scarabaeoides Linnaeus

Lucanidae

Nigidius laticornis Boileau 1911

Meloidae



Coryna katonensis Pic
Coryna maivashana Pic
Coryna mylabroides Lap
Decatoma sobrina Peringuey
Mylabris amplexens Gerstaecker
Mylabris dicincta Berbl
Mylabris holocericea Klug
Mylabris occidentalis Harold
Mylabris tripartita Gerstaecker
Mylabris tristigma Gerstaecker
Synhoria cephalotes Ol

Melyridae

Apalochrus malachioides Fairmaire
Ebaeus confluens
Melyris atricornis Champ
Melyris nigripes Hav

Passalidae

Didimus aloysiisabaudiae (Pangella 1906)

Scarabaeidae

Aphodiinae
Aphodius bucolicus Bordat
Aphodius cipriani Balthasar
Aphodius critchlowi Bordat
Aphodius gorillae Bordat
Aphodius humilis Roth
Aphodius kanemicus Endrodi
Aphodius kaszabi Endrodi
Aphodius koracsi
Aphodius lacunosus Schmidt
Aphodius leoninus Schmidt
Aphodius malawiensis Bordat
Aphodius noehaematiticus Landin
Aphodius Nyika Bordat
Aphodius pauliani Endrodi
Aphodius pseudourostigma Balthasar

Aphodius punctiger Endrodi
Aphodius rothschildi Schmidt
Aphodius schoutedeni Boucomont
Aphodius strangularis Bordat
Aphodius teter s.l. Roth
Lorditomaeus horni (Balthasar)
Notocaulus machatshkei Endrodi
Notocaulus schoutedeni Boucomont

Cetoniinae

Amauodes passerini nigricans Fairmaire 1897
Ceratorrhina preissi Moser 1912
Chondrorrhina picturata Harold 1878
Coelorrhina loricata loricata Janson 1877
Cosmiophaenia rubescens Brancsik 1914
Daedycorrhina bidenticornis Allard 1985
Diplognatha gagates Forster 1771
Eudicella euthalia oweni Allard 1985
Gnathocera cruda pilicollis Kolbe 1901
Gnathocera trivittata costata Ancey 1833
Heteropseudinca moseri Hauser 1904
Heteropseudinca wentzle heckmannae Kolbe 1901
Leucocellis adspersa (Fabricius 1801)
Leucocellis cupricollis Kratz 1880
Leucocellis diversiventris Moser 1913
Leucocelis rufiventris Moser 1913
Melenesthes jocquei Allard 1968
Pachnoda upangwana Moser 1918
Pachnodoides murphyi Alexis & Delpont 200
Plaesiorrhinella undulata Bates 1881
Poecilophila maculatissima Boheman 1860
Stethodesma strachani servillei White 1856
Stephanorrhina princeps Oberthur 1880
Tmesorrhina runsorica rubripes Allard 1991

Coprinae

Caccobius inconspicuous Fahraeus 1857
Caccobius ocellipennis D'Orbigny 1913
Catharsius mossambicanus Ferreira 1960
Catharsius satyrus Kolbe 1893
Copris amyntor Klug 1855
Copris dudleyi Cambefort
Copris insidiosus Peringuey 1900
Copris integer Reiche 1847
Copris mesacanthus Harold 1878
Diastellopalpus fuelleborni (Kolbe 1900)
Diastellopalpus thomsoni (Bates 1888)
Heliocopris hamifer Harold 1878
Heliocopris hermes Gillet
Onitis sulcipennis Felsche 1907
Onitis vanderkelleni Lansberge 1886
Onthophagus abruptus D'Orbigny 1913
Onthophagus albipodex D'Orbigny 1902
Onthophagus biconifor D'Orbigny 1905
Onthophagus cinctipennis Quedenfeldt 1884
Onthophagus clitellarius D'Orbigny 1908
Onthophagus cribripennis D'Orbigny 1902
Onthophagus cruce-notatus D'Orbigny 1905
Onthophagus dinoderus D'Orbigny 1913
Onthophagus foraminosus D'Orbigny 1902
Onthophagus gradivus Balthasar 1966
Onthophagus granosus D'Orbigny 1913
Onthophagus insignis Peringuey 1896
Onthophagus laminidorsis D'Orbigny 1902
Onthophagus naevius D'Orbigny 1913
Onthophagus parumnotatus Fahraeus 1857

Onthophagus perniger Boucomont 1930
Onthophagus picatus d'Orbigny 1902
Onthophagus quadrimaculatus Raffray 1877
Onthophagus simulator D'Orbigny 1905
Onthophagus subhumeralis D'Orbigny 1902
Proagoderus biarmatus D'Orbigny 1908
Proagoderus brucei (Reiche 1847)
Proagoderus chrysopes (Bates 1888)
Proagoderus Dudley Cambefort 1980

Dynastinae

Cyphonistes vallatus (Wiedeman 1823)
Pycnoschema corpulenta Peringuey
Pycnoschema scrofa Harold 1880
Temnorrhynchus coronatus (Fabricius 1781)

Rutelinae

Popillia bipunctata (Fabricius)
Popillia browni Kolbe

Scarabaeinae

Anachalcos procerus Gerstaecker 1874
Garreta azureus Janssens
Garreta malleolus (Kolbe 1895)

Tenebrionidae

Asthenochirus plicatulus Fairmaire
Catamerus rugosus Gahan
Catamerus sulcatus Fabricius
Distretus variabilis Gib
Eupezus oppositus Hess
Lagria villosa Fabricius

Trogidae

Trox caffer lilliana Scholtz
Trox nyansanus Haaf

Diptera (Flies)

Asilidae

Lamyra gulo Loew 1851
Laxenecera albicincta (Loew 1852)

Bombyliidae

Bombylius haemorrhoidalis Bezzi 1921
Exoprosopa magnipennis Bezzi 1924
Lithorhinia basalis Ricardo 1901

Eristalinae

Senapsis dibapha Walker 1849

Platystomatidae

Bromophila caffra Macqart 1846

Syrphidae

Senapsis dibapha Walker 1849

Tachnidae

Dejeania bombylans Fabricius 1798

Mecoptera (Hanging flies)

Bittacus livingstoni Londt 1981
Bittacus montanus Weeler
Bittacus tuxeni Byers

Trichoptera (Caddis Flies)

All species awaiting determination

Lepidoptera (Moths & Butterflies)**Heterocera** (Moths)**Arctiidae**

Amerilia bubo (Walker 1855)
Anaphaosia cyanogramma Hampson 1903
Argina Amanda (Boisduval 1847)
Cyana pretoriae (Distant 1897)
Diacrisia lutescens (Walker 1855)
Diacrisia testacea (Walker 1855)
Eyrallpenus scioana (Oberthur 1880)
Galatra doriae (Oberthur 1879)
Macrosia chalybeata Hampson 1901
Nyctemera leuconoe leuconoe Hopffer 1858
Seriartia metaxanthia Hampson 1909
Spilosoma lutescens Walker 1855
Spilosoma sulphurea Bartel 1903
Teracotona metaxantha (Hampson 1909)
Tumicla sagenaria (Wallengren 1860)

Cossidae

Azygophleps aburae Plotz
Azygophleps coffea Aurivillius
Eulophonotus myrmelion Felder 1874
Macrocoessus toliminus (Druce 1887)

Ctenuchidae

Syntomis cereera Linnaeus
Epilemidae
Leucoplema triumbrata (Warren 1902)

Eupterotidae

Jana plagiatus Bger

Geometridae

Ennominae
Aphilopota interpellans (Butler 1875)
Argyrophora confluens Kruger 1999
Argyrophora trofonia (Cramer [1779])
Argyrophora variabilis Kruger 1999
Ascotis reciprocaria (Walker 1860)
Chiasmia assimilis (Warren 1899)
Chiasmia brongusaria brongusaria (Walker 1860)
Chiasmia johnstoni (Butler 1894)
Chiasmia paucimacula Kruger 2001
Chiasmia procidata semispurcata (Walker [1863])
Chiasmia rectistriaria (Herrich-Schaffer 1854)
Chiasmia rhabdophora (Holland 1892)
Chiasmia semicolor (Warren 1899)
Chiasmia simplicilinea simplicilinea (Warren 1908)
Chiasmia streniata streniata (Guenee [1858])
Chiasmia trizonaria (Hampson 1909)
Cleora betularia (Warren 1897)
Coenina dentataria Swinhoe 1904
Colocleora divisaria divisaria (Walker 1860)
Colocleora faceta (Prout LB 1934)
Coleocleora leucostephana Prout
Cophophlebia olivata Warren 1894
Drepanogynis glaucichorda Prout LB 1916
Epigynopteryx anophthalma
Epigynopteryx flavedinaria Guenee
Epigynopteryx maeviaria maeviaria (Guenee 1857)
Epigynopteryx termininota Prout 1934
Erastria madecassaria (Warren 1897)
Iodes flexilinea Warren 1898
Isturgia deeraria (Walker 1861)
Isturgia exospilata (Walker 1861)
Menophra aborta aborta (Warren 1898)
Micrologia lutetincta Prout LB 1916
Micrologia murphyi Kruger 2002
Nopia flexilinea Warren
Oedicentra albipennis Warren 1902
Odontopera integraria Guenee
Odontoptera ochroneura dicyrta Prout 1938
Omizodes ocellata Warren 1894
Orbamia subaurata Warren 1899
Oreometra vittata Aurivillius 1910
Pareclipsis anophthalma Prout LB 1916
Plateoplia acrabelia (Wallengren 1875)
Psilocera pulverosa (Warren 1894)
Psilocera semirufa Warren 1901
Pycnostega obscura Warren 1905
Rhodophthitus thespinus Prout LB 1931
Semiothisa subcurvaria Mabille 1897
Sphingomima variosa Prout LB 1915
Xanthis tarsispina Warren
Xanthisthisa fulva Warren 1902
Xenimpia maculosata (Warren 1897)
Xylopteryx arcuata (Walker 1862)
Xylopteryx aucilla Prout LB 1926
Xylopteryx interposita Warren
Xylopteryx gibbosa Herbulot 1973
Zamaranda arguta Fletcher 1974

Zamerada crysopa Fletcher 1975
Zamerada densisparsa Prout LB 1922
Zamerada dentigera Warren 1909
Zamerada dorsiplaga Prout LB 1922
Zamerada euerces Prout LB 1928
Zamerada fessa Prout LB 1912
Zamerada glareosa Bastelberger 1909
Zamerada metroscaphe Prout LB 1912
Zamerada polyctemon Prout 1932
Zamerada psammites Fletcher DS 1958
Zamerada purimargo Prout LB 1912
Zamerada rubrifascia Pinhey 1962
Zamerada rufilineria Swinhoe 1904
Zamerada scintillans Bastelberger 1909
Zeuctoboarmia hyrax (Townsend 1952)
Zeuctoboarmia octopunctata (Warren 1897)
Zeuctoboarmia wernerii Rebel 1917

Geometrinae

Celedomphax anaplaga (Warren 1905)
Chlorosterrha semialba Swinhoe
Heterorachis prouti Bethune-Baker 1913
Heterorachis simplicissima (Prout LB 1912)
Lophorrhachia rubricorpus (Warren 1898)
Mixocera xanthostephana Prout LB 1912
Omphacodes punctilineata (Warren 1897)
Paragathia albimarginata Warren 1902
Pingassa abyssinaria (Guenee [1858])
Pingassa murphyi Herbulot 1994
Prasinocyma nereis Townsend
Rhodophthitus roseovittatus Butler
Victoria mirabilis Warren 1911

Larentiinae

Asthenotricha dentatissima Warren 1899
Eupithecia gradatilinea Prout LB 1916
Eupithecia infectaria (Guenee [1858])
Gonanticlea meridionata meridionata (Walker 1862)
Larentia cf. bitrita (Felder & Rogenhoffer 1875)
Larentia sublesta Prout
Mimoclista annulifera Warren
Mimoclysta pudicata (Walker 1862)
Piercia bryophilaria (Warren 1903)
Piercia ciliata Janse 1933
Piercia impunctata Janse
Piercia pracinaria (Warren 1901)
Pseudolarentia megalaria (Guenee 1858)
Scotopteryx nictitaria (Herrich-Schaffer 1855)
Xanthorhoe exorista Prout LB 1922

Sterrhinae

Chlorerythra rubiplaga Warren 1895
Problepsis aegretta Felder & Rogenhoffer 1875
Problepsis catonaria (Guenee [1858])
Scopula latitans Prout LB 1920
Scopula opicata (Fabricius 1798)
Somatina sedata Prout LB 1922

Oenochrominae

Carteletis libyssa ethelinda K

Hepialidae

Antihepialus keniae Holland
Gorgopsis abbotti Holland
Gorgopsis caffra Walker 1856

Lasiocampidae

Bombycopsis indecora Walker 1865
Diapalpus congreganus Strand 1913
Dipluriella songeana Strand 1913
Epicnapteroides lobata Strand 1913
Eucraera gemmata (Distant 1897)
Eutricha fulgurata (Aurivillius 1915)
Eutricha seriofasciata Aurivillius 1921
Gonometa griseocincta Hampson 1910
Lebeda mustelinia Distant 1899
Lechriolepis basirufa Strand
Mimopacha bryki Aurivillius
Nadisa cuneata (Distant 1897)
Odontocheilopteryx myxa Wallengren 1860
Odontocheilopteryx pattersoni Tams 1926
Opisthodontia cymographa (Hampson 1910)
Pachymetana sanquicincta (Aurivillius 1901)
Philotherma rufescens Whichgraff 1921
Pseudolyra lineadentata (Bethune-Baker 1911)
Shausinna affinis Aurivillius 1910
Stenophatana marshalli Aurivillius 1909
Streblote craterum
Streblote fusca (Aurivillius 1905)
Streblote pachyla Tams
Streblote vesta Druce 1888
Trabala charon Druce 1910

Limacodidae

Chrysopolominae
Chrysopoloma isabellina Aurivillius 1895

Ectropinae

Ectropa ancilis Wallengren 1863

Limacodinae

Afraltha chionostola (Hampson 1910)
Afrobirthama reducta Herring M. 1928
Coenobasis amoena (Felder 1874)
Crothema gloriosa Hering
Crothema mormopis Meyrick
Cosuma polana Druce
Ctenolita melanosticta (Bethune-Baker 1909)
Ctenolita anacoapa Karsch
Delorchis viridiplaga Karsch
Latoia furfurca Hering
Lembopteris neglecta Hering
Omocena dollmani Westwood
Pantocenia gemmans Felder 1874
Panoctenia prasina (Butler 1896)
Parasa karschi Dyar
Parasa lanceolata Hering
Parasa latisriga Walker
Parasa Tamara Hering
Parasa vivida (Walker 1865)
Rhypteira hyperocha Tams
Stroter dukei Janse 1964
Susicina pyrocausta Hampson 1910

Lymantriidae

Agyrostagma niobe Weymer
Aroa discalis Walker 1855
Cimola opalina Walker 1855
Cropera stilpnarona Herring 1926
Euproctis crocosticta Hampson 1905
Eudasychira goodi Holland
Hyaloperina erythroma Coll
Laelia basalis (Walker 1855)
Laelia bifascia Hampson 1905
Laelia cuvivirgata (Karsch 1895)
Laelia fracta Shaus & Clements 1893
Leucoperina impuncta Butler
Narona varipes (Walker 1865)
Psalis pennatula (Fabricius 1793)
Pteredoa monosticta (Butler 1898)
Rhyopteryx rhodalipha (Felder 1874)
Rhyopteryx rubripunctata Weymer 1892
Schalidomitra ambages Strand 1911
Stilpnaroma venosa Hering

Metarbelidae

Teragra guttifera Hampson 1910
Salengena narses Fawcett 1916

NOCTUIDAE

Transferred Arctiids

Asota speciosa (Drury 1773)

Acontiinae

Amyna punctum (Fabricius 1794)
Eublemma baccalix (Swinhoe 1886)
Ozarba heliastis (Hampson 1902)
Ozarba megaplaga Hampson

Agaristinae

Agoma trimeni (Felder 1874)
Brephos nigrobasalis (Bartel 1903)
Brephos nyassana Bartel 1903
Chaetostephana rendalli Rothschild
Crameria amabilis (Drury 1773)
Ovios capensis (Herich-Schaffer [1854])
Pseudopais nigrobasalis Bartel 1903
Tuerta rema Druce

Amphypyrinae

Busseola fusca (Fuller 1901)
Callopietra maillardi (Guenee 1862)
Callopietra yerburii Butler 1884
Conservula alambica Gaede 1915
Conservula minor Holland 1896
Mazuca roseistriga Fletcher
Phalerodes cauta (Hampson 1902)
Spodoptera littoralis (de Boisduval 1833)
Tumidifrontia casteneotincta Hampson 1902

Catalinae

Achaea finita (Guenee 1852)
Anomis flava (Fabricius 1775)
Anomis sobulifera Guenee 1852
Anticarsia irrorata (Fabricius 1781)
Audea fatilega (Felder & Rogenhoffer 1874)
Cyligramma latona (Cramer 1775)
Davea humeralis (Hampson 1902))
Dysgonia angularis de Boisduval 1833

Dysgonia derogans (Walker 1858)
Ericeia inangulata (Guenee 1852)
Gracilodes caffra Guenee 1852
Halochroa eudela Fletcher DS 1963
Heliophisma maculilinea
Hypersypnoides congoensis Berio 1854
Hypocala deflorata (Fabricius 1794)
Hypropra capensis (Herrich-Schaffer 1850)
Leonioma convergens Hampson 1926
Maxera marchalii (de Boisduval 1833)
Mocis undata (Fabricius 1775)
Ophiusa tirhaca (Cramer 1780)
Oraesia emarginata Fabricius 1794)
Orthreis divitiosa Walker 1869
Orthreis fullonia (Clerck 1764)
Orthreis materna (Linnaeus 1767)
Pandesma robusta (Walker [1858])
Rhandiphora cinctigutta (Walker 1862)
Remiga repanda (Fabricius 1794)
Serrododes partita (Fabricius 1775)
Sphingomorpha chlorea (Cramer 1777)
Trigonodes hyppasia (Cramer 1779)
Ulothrichopus hardyi Clifton

Eutellinae

Caligatus angasii Wing [1850]
Eutelia bowkeri (Felder & Rogenhoffer 1874)

Hadeninae

Brithysana speyeri (Felder & Rogenhoffer 1874)
Diaphone eumela (Stoll 1781)
Diaphone lampra Karsch 1894)
Leucania prominens Walker 1856
Leucania tacuna (Felder 1874)
Leucania uncinata (Gaede 1916)
Rougeotia praetexta Townsend
Vietteania torrentium (Guenee 1852)

Heliiothinae

Helicoverpa armigera (Hubner [1809])
Heliothis xanthiata Walker 1865

Hypeninae

Dichromia mesomeleana (Hampson 1902)
Hypena laetalis Walker [1859]
Hypena senialis Guenee 1854
Hypena srtigata (Fabricius 1798)
Rhynchina tinctalis (Zeller 1852)

Noctuinae

Agrotis segatum (Dennis & Schiffermuller 1775)
Agrotis contiguens (Warren 1914)
Amazonides ruficeps (Hampson 1903)
Mentaxya atritegulata (Hampson 1902)
Mentaxya ignicollis (Walker 1857)

Plusiinae

Chrysodexis acuta (Walker 1858)
Plusia fracta Walker 1858
Plusia limbiralea Guenee
Plusia sestertia (Felder & Rogenhoffer 1874)
Syngrapha circumflexa (Linnaeus 1767)
Tricoplusia orichalcea (Fabricius 1775)

Sarrothripinae

Blenina albifascia Pinhey 1968
Blenina squamifera (Wallengren 1860)

Notodontidae

Achaera ochribasis (Hampson 1910)
Antheua crocoepunctata Hampson 1910
Antheua simplex Walker 1855
Cerurina marshalli (Hampson 1910)
Chlorocalliope calliope (Hampson 1910)
Clostera violacearia (Janse 1920)
Desmeocaria congoana Auivillius 1900
Disracha persimilis (Hampson 1910)
Hampsonita esmeralda (Hampson 1910)
Heraia thalassina (Hampson 1910)
Odontoperas voeltzkowi Aurivillius
Polienus albescens Gaede
Scalmicauda bicolorata Gaede
Scalmicauda tessmanni Strand 1911
Tronotus bettoni Butler 1898

Pterophoridae

Pterophorus candidalis (Walker 1864)

Pyraloidea

Crambidae

Musotiminae
Panoctima angustalis Hampson

Noordinae
Viettessa margaritalis (Hampson 1910)

Nymphulinae
Argyractis sambesica (Strand 1909)

Pyraustinae
Calamochrous flavimarginalis Hampson 1913
Loxostege plumbialis (Zeller 1852)
Loxostege venustalis Cramer 1782
Pyrausta incoloralis (Guenee 1854)
Uresiphita polygonalis (Dennis & Schiffermuller 1775)
Spilomelinae
Aetholessa floralis (Zeller 1852)
Bocchoris inspersalis (Zeller 1852)
Dichocrocis polystidzalis Hampson 1918
Epipagis cancellalis (Zeller 1852)
Eurrhyarodes tricoloralis (Zeller 1852)
Filodes costivitalis Guenee 1862
Ischnurges lancinalis (Guenee 1854)
Maruca vitrata (Fabricius 1787)
Marwitzia centiguttalis Gaede
Nausinoe argyrosticta (Hampson 1910)
Nausinoe geometralis (Guenee 1854)
Pagyda salvialis Walker 1859
Pagyda traducalis (Zeller 1852)
Palpita unionalis (Hubner 1796)
P1lochrosis dichocrosialis Hampson 1912
Spoladea recurvalis (Fabricius 1775)
Syllepte ovalis (Walker 1859)
Syllepte purpurascens Hampson 1899
Syllepte sinuata Fabricius

Synclera traducalis (Zeller 1852)
Syngamia convulsa Meyrick
Syngamia fervidalis Zeller 1852

Pyralidae

Phycitinae
Cadra cautella (Walker 1863)
Dysphilia viridella Ragonot 1888

Pyralinae
Aglossa rhodalis Hampson 1906

Saturniidae

Athletes gigas Sonthonnax 1904
Athletes semialba Sonthonnax 1904
Aurivillius seydelli Rougeot 1962
Bunaea alcinoe (Stoll 1780)
Cirina forda (Bouvier 1927)
Decachorda fulvia (Druce 1886)
Decachorda rosea Aurivillius 1898
Epiphora kipengerensis Darge
Gonimbrasia flammeola Darge
Gonimbrasia macrops (Rebel 1917)
Gonimbrasia macrothyris (Rothschild 1906)
Gonimbrasia murphyi Darge 1992
Gonimbrasia rectalineata (Sonthonnax 1899)
Gonimbrasia staudingeri (Aurivillius 1893)
Gonimbrasia wahlbergi (Boisduval 1847)
Gynanisa albescens Sonthonnax 1904
Holocerina smilax (Westwood 1849)
Imbrasia ertli Rebel 1904
Lobobunaea phaedusa falcatissima Rougeot 1962
Ludia delegorguei (Boisduval 1847)
Ludia orinoptena Karsch 1892
Micragonei nyasae Rougeot 1962
Orthogoniopitulum adiepatum dollmanni Jordan 1922
Pseudaphelia ansorgei (Rothschild 1898)
Pseudimbrasia deyrollei (Thomson 1858)
Pseudobunnaea callista Jordan 1910
Pseudobunnaea fumida Darge
Pseudobunnaea irius Fabricius 1793
Pseudobunnaea tyrrhena maculata Bouvier 1930
Tagoropsis hannintoni Butler 1893
Tagoropsis ikondae nyikensis Bouyer 2002
Ubaena dolabella (Druce 1886)

Sphingidae

Acherontia atropus (Linnaeus 1758)
Agrius convolvuli (Linnaeus 1758)
Andriasa contraria contraria Walker 1856
Andriasa mitcheli Hayes 1973
Basiothia charis (de Boisduval [1875])
Basiothia medea (Fabricius 1781)
Basiothia schenki Moschler 1872
Cephanodes hylas virescens (Wallengren 1858)
Chaerocina dohertyi meridionalis Carcasson 1968

Coelonia fulvinotata (Butler 1875)
Daphnis nerii Linnaeus 1758
Dovania poecila Rothschild & Jordan 1916
Euchloron megaera Linnaeus 1758
Falcatula falcatus Rothschild & Jordan 1903
Hippotion celerio (Linnaeus 1758)
Hippotion eson (Cramer 1779)
Hippotion osiris (Dalman 1823)
Leptoclanis pulchra Rothschild & Jordan 1903
Leucophlebia afra Karsch 1891
Leucostrophus alterhirundo D'Abbrera 1987
Lophostethus dumolinii dumolinii (Angas 1849)
Macroglossum trochilus (Hubner 1823)
Macropoliana ferax (Rothschild & Jordan 1916)
Neopolyptychus compar Rothschild & Jordan 1903
Nephele accentifera Beauvois 1805
Nephele comma Hopffer 1857
Nephele lannini Jordan 1926
Nephele peneus (Cramer 1776)
Nephele vau (Walker 1856)
Polyptychopsis marshalli (Rothschild & Jordan 1903)
Polyptychus baxteri Rothschild & Jordan 1907
Polyptychus coryndonii Rothschild & Jordan 1903
Praedora plagiata Rothschild & Jordan 1903
Pseudoclanis kenya Clark 1928
Rhodafra marshalli Rothschild & Jordan 1903
Sphingonaepiopsis ansorgei Rothschild 1904
Temnora burdoni Carcasson 1968
Temnora elegans polia Rothschild 1904
Temnora funebris (Holland 1893)
Temnora plagiata fuscata Rothschild & Jordan 1902
Temnora pseudopylas Rothschild 1894
Temnora pylades tangaNyikae Clark 1928
Temnora marginata (Walker 1850)
Theretra orpheus (Herrich-Schaffer 1854)

Thyretidae

Automolis laterita Herrich-Schaffer 1855
Automolis pallens Bethune baker
Thyretes negus Wallengren

Thyrididae

Chrysotopus dawsoni Distant 1897

Yponomeutidae

Yponomeuta strigillata Zeller 1852

Zygaenidae

Lamprochrysa triplex (Plotz 1880)
Saliunca esmeralda
Saliunca styx (Fabricius 1775)

Rhopalocera (Butterflies)

Hesperiidae

Abantis paradisea (Butler 1870)
Abantis zambesiaca (Westwood 1874)
Acada biseriatus (Mabille 1893)
Acleros mackeenii (Trimen 1868)
Ampitta capenas capenas (Hewitson 1863)
Artitropa milleri Riley 1925
Artitropa reducta Aurivillius 1925
Borbo borbonica borbonica (Boisduval 1833)
Borbo fallax (Gaede 1916)
Borbo gemella (Mabille 1884)
Borbo micans (Holland 1896)
Borbo perobscura (Druce 1912)
Borbo sirena (Evans 1937)
Brusa allardi Berger 1967
Calleagris hollandi (Butler 1897)
Calleagris jamesoni jamesoni (Sharpe 1890)
Celaenorrhinus galenus (Fabricius 1793)
Celaenorrhinus handmani Berger 1976
Celaenorrhinus zanza Evans 1937
Chomdrolepis niveicornis Plotz 1883
Chondrolepis telsignata (Butler 1896)
Coeliades forestan (Stoll 1872)
Coeliades pisistratus (Fabricius 1793)
Fresna nyassae (Hewitson 1878)
Gegenes niso brevicornis (Plotz 1884)
Gomalia elma (Trimen 1862)
Gorgyra bibulous Riley 1929
Gorgyra johnstoni (Butler 1894)
Kedestes barbarae barbarae (Trimen 1873)
Kedestes brunneostriga (Plotz 1884)
Kedestes callicles (Hewitson 1868)
Kedestes wallengrenii fenestratus (Butler 1894)
Metisella decipiens (Butler 1896)
Metisella formosus formosus (Butler 1894)
Metisella medea Nyika Evans 1937
Metisella orientalis orientalis (Aurivillius 1925)
Metisella perexellens perexellens (Butler 1896)
Metisella quadrisignatus quadrisignatus (Butler 1894)
Meza larea (Neave 1910)
Parosmodes morantii morantii (Trimen 1873)
Platylesches ayresii (Trimen 1889)
Platylesches lamba Neave 1910
Platylesches picannini (Holland 1894)
Platylesches rasta rasta (Evans 1937)
Platylesches robustus robustus Neave 1910
Sarangesa astrigera Butler 1894
Sarangesa lucidella lucidella (Mabille 1881)
Semalea arela (Mabille 1891)
Semalea pulvina (Plotz 1879)
Spialia depauperata depauperata (Strand 1911)
Spialia dromus (Plotz 1884)
Spialia mafa mafa (Trimen 1870)
Spialia spio (Linnaeus 1764)
Tagiades flesus (Fabricius 1781)
Teniorhinus harona (Westwood 1881)
Zenonia zeno (Trimen 1864)

Papilionidae

Papilio dardanus tibullus Kirby 1880

Papilio demodocus demodocus Esper 1798
Papilio jacksoni Nyika Cottrell 1963
Papilio mackinnoni isokae Hancock 1984
Papilio nireus Iyaeus Doubleday 1845
Papilio ophidecephalus mkuwadzi Gifford 1961
Papilio pelodurus vesper Le Cerf 1924
Papilio phorcas Nyikanus Rothschild & Jordan 1903
Graphium angolanus angolanus (Goeze 1779)
Graphium leonidas leonidas (Fabricius 1793)

Pieridae

Appias Sabina phoebe (Butler 1901)
Belenois aurota aurota (Fabricius 1793)
Belenois creona severina (Stoll 1781)
Belenois rubrosignata kongwana Talbot 1943
Belenois thysa (Hopffer 1855)
Belenois zochalia agrippinedes (Holland 1896)
Catopsilia florella (Fabricius 1775)
Colias electo Strecker 1900
Colotis antevippe gavis (Wallengren 1857)
Colotis aurigineus (Butler 1883)
Colotis danae annae (Wallengren 1875)
Colotis dissociates (Butler 1897)
Colotis eris eris (Klug 1829)
Colotis euippe omphale (Godart 1819)
Colotis evenina casta (Gerstaecker 1871)
Colotis regina Trimen 1863
Eurema brigitta brigitta (Stoll 1780)
Eurema desjardinsii marshalli Butler 1898
Eurema hecabe solifera (Butler 1875)
Eurema mandarinula (Holland 1862)
Eurema regularis (Butler 1876)
Eurema senegalensis (Boisduval 1836)
Leptosia alcesta inalcesta Bernardi 1959)
Mylothris agathina agathina (Cramer 1779)
Mylothris crawshayi crawshayi Butler 1896
Mylothris ruppellii rhodesiana Riley 1921
Mylothris sagala dentatus Butler 1896
Nepheronia argia mhondana (Suffert 1904)
Nepheronia thalassina sinalata (Suffert 1904)
Pinacopteryx eriphia eriphia (Godart 1819)

Nymphalidae

Acraeinae

Acraea acara Hewitson 1865
Acraea acrita Hewitson 1865
Acraea acuta Howarth 1969
Acraea aganice montana Butler 1888
Acraea axina Westwood 1881
Acraea anacreon bomba Grose-Smith 1889
Acraea anemosa Hewitson 1865
Acraea caecilia pudora Aurivillius 1910
Acraea calderena calderena Hewitson 1877
Acraea concedon concedon (Linnaeus 1758)
Acraea epaea melina (Thurau 1903)
Acraea eponina (Cramer 1770)
Acraea goetzei Thurau 1903
Acraea insignis insignis Distant 1880
Acraea johnstoni johnstoni Godman 1885
Acraea leucopyga Aurivillius 1904
Acraea natalica Boisduval 1847
Acraea perenna thesprio Oberthur 1893

Acraea periphanes Oberthur 1893
Acraea pharsalus pharsaloides Holland 1892
Acraea pudorella detecta Neave 1910
Acraea scalivittata Butler 1896
Acraea serena Fabricius 1775
Acraea sotikensis Sharpe 1891
Acraea ventura ventura Hewitson 1877
Hyalites parei orangica Henning 1996
Pardopsis punctatissima (Boisduval 1833)

Daninae

Amauris albimaculata latifascia Talbot 1940
Amauris crawshayi crawshayi Butler 1897
Amauris echeria serica Talbot 1940
Amauris ellioti junia (Le Cerf 1920)
Danaus chrysippus egyptus (Schreber 1759)
Tirumala Formosa formosa (Godman 1880)

Satyrinae

Aphysoneura pigmentaria obnubila Riley 1923
Bicyclus anynana anynana (Butler 1879)
Bicyclus campina campina (Aurivillius 1901)
Bicyclus cooksoni (Druce 1905)
Bicyclus cottrelli Van Son 1952
Bicyclus dancklemani (Rogenhoffer 1891)
Gnophodes betsimena diversa (Butler 1880)
Henotesia simonsii (Butler 1877)
Henotesia ubenica Thurau 1903
Melanitis leda helenae (Westwood 1851)
Melanitis libya Distant 1882
Neita extensa (Butler 1898)
Neocoenyra gregorii Butler 1894
Physcaeneura pione Godman 1880
Ypthimomorpha itonia (Hewitson 1865)

Argynninae

Issoria smaragdifera smaragdifera (Butler 1895)
Lachnoptera ayresii Trimen 1879
Phalantha aethiopia Rothschild & Jordan 1903

Nymphalinae

Antanartia dimorphica dimorphica Howarth 1966
Antanartia schaeneia dubia Howarth 1966
Catacroptera cloanthe cloanthe (Stoll [1781])
Cynthia cardui (Linnaeus 1758)
Junonia artaxia Hewitson 1864
Junonia hierta cebrene Trimen 1870
Junonia natalica (Felder 1860)
Junonia orithya orithya (Linnaeus 1758)
Junonia terea elgiva Hewitson 1864
Junonia touhilimasa Vuillot 1892
Junonia tugela aurorina Butler 1894
Precis antilope (Feisthamel 1850)
Precis archesia (Cramer 1779)
Precis cuama Hewitson 1864
Precis octavia sesamus (Trimen 1883)
Salamis anacardii nebulosa Trimen 1881
Salamis parhassus (Drury 1782)
Vanessa cardui Linnaeus 1758

Limenitinae

Bebearia orientis orientis (Karsch 1895)
Byblia anvatarata acheloia (Wallengren 1857)
Byblia ilithya (Drury [1773])
Crenidomimas concordia (Hopffer 1855)
Cymothoe cottrelli Rydon 1980
Cyrestis Camillus sublineata Lathy 1901
Euphaedra crawshayi Butler 1895
Eurytella dryope angulata Aurivillius 1898
Euritella hiarbas lita Rothschild & Jordan 1903
Hamanumida daedalus (Fabricius 1775)
Harma theobene blassi (Weymer 1892)
Neptidopsis ophione ophione (Cramer [1777])
Neptis alta Overlaet 1955
Neptis aurivillii Schultz 1930
Neptis incongrua incongrua Butler 1896
Neptis laeta Overlaet 1955
Neptis melicerta (Drury 1773)
Neptis saclava marpessa Hopffer 1855
Pseudacraea deludens murphyi Hecq 1991
Pseudacraea lucretia expansa (Butler 1878)
Pseudargynnis hegemony (Godart 1819)
Sallya amulia rosa (Hewitson 1877)
Sallya boisduvali boisduvali (Wallengren 1857)
Sallya garega (Karsch 1892)
Sallya morantii morantii (Trimen 1881)

Charaxinae

Charaxes achaemenes achaemenes Felder & Felder 1867
Charaxes acuminatus Nyika Van Someren 1963
Charaxes ameliae amelina Joicey & Talbot 1925
Charaxes ansorgei levicki Poulton 1933
Charaxes aubyni australis Van Someren & Jackson 1957
Charaxes baumanni whytei Butler 1894
Charaxes bohemani Felder & Felder 1859
Charaxes brutus natalensis Staudinger 1885
Charaxes candiope candiope Godart 1924
Charaxes castor flavifasciatus Butler 1895
Charaxes dowsetti Henning 1989
Charaxes druceanus proximans Joicey & Talbot 1922
Charaxes fione Henning 1977
Charaxes howarthi Minig 1976
Charaxes guderiana guderiana (Dewitz 1879)
Charaxes jasius saturnus Butler 1866
Charaxes macclounii Butler 1895
Charaxes nichetes leoninas Butler 1895
Charaxes nyikensis van Someren 1975
Charaxes phaeus Hewitson 1877
Charaxes pollux geminus Rothschild 1900
Charaxes protoclea azota (Hewitson 1877)
Charaxes varanes vologesis (Mabille 1876)
Charaxes violetta melloni Fox 1963
Charaxes xiphares ludovici Rousseau-Decelle 1933
Viridixes eupale veneris (Drury 1782)

Lycaenidae

Actizera lucida (Trimen 1883)
Actizera stellata (Trimen 1883)

Alaena nyassa major Oberthur 1888
Alaena reticulata Butler 1896
Aloedes conradsi angoniensis Tite & Dickson 1968
Aloedes griseus Riley 1921
Aloedes molomo handmani Tite & Dickson 1973
Anthene amarah amarah (Guerin-Meneville 1847)
Anthene definita definita (Butler 1899)
Anthene kersteni (Gerstaecker 1871)
Anthene lasti (Grose-Smith & Kirby 1894)
Anthene ligures (Hewitson 1874)
Anthene liodes (Hewitson 1874)
Anthene lunulata (Trimen 1894)
Anthene rubricinctus anadema (Druce 1905)
Aphnaeus erikssoni rex Aurivillius 1909
Aphnaeus marshalli Neave 1910
Axiocerces amanga amanga (Westwood 1881)
Axiocerces Nyika Quickelberge 1984
Axiocerces punicea punicea (Grose-Smith 1889)
Axiocerces tjoane tjoane (Wallengren 1857)
Azonus jesous (Guerin 1847)
Azonus mirza (Plotz 1880)
Azonus moriqua (Wallengren 1857)
Azonus natalensis (Trimen 1887)
Cacyreus lingeus (Stoll 1782)
Cacyreus palemon (Stoll 1782)
Cacyreus virilis Stempffer 1936
Capys brunneus brunneus Aurivillius 1916
Capys connexivus connexivus Butler 1987
Cupidopsis cissus (Godart 1824)
Cupidopsis Jobates jobates (Hopffer 1855)
Deudorix antalus (Hopffer 1855)
Deudorix caerulea Druce 1890
Deudorix camerona Katanga Clench 1965
Deudorix dinochares Grose-Smith 1887
Deudorix diocles Hewitson 1869
Deudorix kafuensis Neave 1910
Deudorix lorisona coffea Jackson 1966
Deudorix magda Gifford 1963
Deudorix Montana (Kielland 1985)
Deudorix zeloides Butler 1901
Eicochrysops eicotrochilus Bethune-Baker 1924
Eicochrysops messapus mahallakoena (Wallengren 1857)
Euchrysops barkeri (Trimen 1893)
Euchrysops dolorosa (Trimen 1887)
Euchrysops malathana (Boisduval 1833)
Euchrysops subpallida Bethune-Baker 1923
Euchrysops unigemmata (Butler 1895)
Harpencyreus hazelae Stempffer 1973
Harpencyreus junio (Butler 1897)
Harpencyreus marungensis marungensis (Joicey & Talbot 1924)
Hemolius caeculus caeculus Hopffer 1855
Hypolycaena buxtoni Hewitson 1874
Hypolycaena auricostalis auricostalis (Butler 1897)
Hypolycaena pachalica Butler 1888
Hypolycaena philippus philippus (Fabricius 1793)
Iolaus (Epamera) alienus alienus Trimen 1898
Iolaus (Stugeta) bowkeri nyanasa (Talbot 1935)

lolaus (Epamera) congdoni Keilland 1985
lolaus (Argiolaus) lalos lalos (Druce 1896)
lolaus (Epamera) nasisii (Riley 1928)
lolaus (Argiolaus) pamela Heath 1983
lolaus (Epamera) sidus Trimen 1864
lolaus (Argiolaus) silarus Druce 1885
lolaus (Argiolaus) stewarti Heath 1985
lolaus (Epamera) violacea (Riley 1928)
Lachnocnema bibulus (Fabricius 1793)
Lachnocnema durbani Trimen 1887
Lampides boeticus (Linnaeus 1767)
Lepidochrysops chalceus Quickelberge 1979
Lepidochrysops cupreus (Neave 1910)
Lepidochrysops desmondi Stempffer 1951
Lepidochrysops handmanni Quickleberge 1980
Lepidochrysops intermedia cottrelli Stempffer 1954
Lepidochrysops Nyika Tite 1961
Lepidochrysops solwezi (Bethune-Baker 1922)
Leptotes jeanneli (Stempffer 1935)
Leptotes marginalis (Stempffer 1944)
Leptotes pirithous pirithous (Linnaeus 1767)
Lycaena phlaeas abbotii (Holland 1892)
Mimacraea marshalli marshalli Trimen 1898
Ornipholidotes peucetia peucetia (Hewitson 1866)
Pentilla tropicalis (Boisduval 1847)
Phlaria heritsia virgo (Butler 1896)
Spindasis homeyeri (Duitz 1887)
Spindasis mozambica (Bertolini 1850)
Spindasis victoriae Butler 1884
Triclema nigeriae (Aurivillius 1905)
Tuxentius calice calice (Hoppfer 1885)
Tuxentius ertli (Aurivillius 1907)
Pseudonacudaba sichela sichela (Wallengren 1857)
Uranothauma antinorii felthami (Stevenson 1934)
Uranothauma cordatus (Sharpe 1892)
Uranothauma crawshayi Butler 1895)
Uranothauma cuneatum Tite 1953
Uranothauma falkensteni (Dewitz 1879)
Uranothauma nubifer (Timen 1895)
Uranothauma poggei (Dewitz 1879)
Uranothauma vansomerani Stempffer 1951
Uranothauma williamsi Carcasson 1961
Zizeeria Knysna (Trimen 1862)
Zizula hylax (Fabricius 1775)

Riodinidae

Abisara neavei cf congdoni Keilland 1985

Hymenoptera (Bees & Wasps)

Bees

Anthrophoridae

Amegilla acraensis Fabricius 1793
Amegilla torrida Smith
Anthrophora plumipes Fabricius
Mesotrichia flavorufa D & G

Xylocopa caffra Linnaeus 1767
Xylocopa corinata Smith 1874
Xylocopa flavobicincta Grib
Xylocopa lugubris Gerstaecker 1857
Xylocopa nigrita (Fabricius 1775)
Xylocopa senior senior (Vaehal 1899)

Apoidea

Apis mellifera monticola Smith
Apis mellifera scutellata Lepeltier
Thyreus abyssinicus (Radoszkowsky)
Thereus calceatus (Vaehal)

Megachilidae

Chalicodoma bombifrons (Gerstaecker 1857)
Chalicodoma pseudomegachile kigonserana (Friese 1903)
Megachile felina Gerstaecker

Wasps

Brachonidae

Archbracon servillei Brulle
Serraulax decemmaculatus Szepliget 1911

Ichneumonidae

Asprynchotus guenzii (Tasch)
Enicospilus pacificus

Mutillidae

Stenomutilla cf beroe Peringuey

Pompilidae

Anopilus fuscus
Hemipepsis dedjas Guerin
Hemipepsis imperialis Smith
Hemipepsis ochropus Stal
Hemipepsis tamisieri Guerin
Psammochares plumbeus Fabricius
Psammochares cf semirufus Haupt
Pseudogenia flavotegulata Bingh

Scolidae

Campsomeris hymenaea Gerst
Megameris labilis Schulz 1906
Scolia erithropyga
Scolia morio Fabricius
Scolia Tropicana nigresima

Sphecidae

Ammophila benniensis (Palisot de Beauvois)
Ammophila punctaticeps (Arnold)
Chalybion laevigatum Kohl
Chlorion haemorrhoidalis Fabricius
Chlorion pelopoeiformis Dahlboom
Liris pempesiana Bisch

Philanthus stygius Gerstaecker
Philanthus triangulatum diadema Fabricius
Podolonia tydei Le Guillay
Scelifron spirifex Linnaeus
Trachysphex ambiguous Arnold 1923

Vespidae



Ancistrocerus lineaticollis Cam
Antipiona silgos (Saussure)
Belognaster clypeata Kohl 1894
Belognaster dubius Kohl
Belognaster fascialis du Buysson 1906
Belognaster filiventris Saussure 1853
Belognaster griseus Fabricius
Belognaster laevigatum Kohl
Belognaster nobilis Gerstaecker

Belognaster vasseae du Buysson 1906
Delta emarginata
Delta pulchemimum
Eumenes maxillosus De Geer
Odynerus ardens var junodi Gribodo 1895
Odynerus radialis Saussure 1854
Odynerus ventralis Saussure
Polistes marginalis Fabricius
Polistes smithi Saussure
Trachymeus cf vulneratus
Synagris prosperina niassae Stadel



Pyrops claviceps



Epilachna dregei



Noctuid moth Rhandiphora sp.

Photos above by Michael Overton

Formicoidae (Ants)

Report by Dr C.B.Cottrell in Biosearch 2000 edition



Blue Butterflies feeding on fresh otter sprant at Dembo Bridge. Marianne Overton

Photos on following two pages
 The following Insects and invertebrates are from Lauren Smith except the pink Stick Insect which is from Sarah Moody





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