

MPALA MEMOS

NEWS FROM MPALA

TOP STORY

MPALA FOOTBALL TEAM TRIUMPHS IN LAIKIPA TOURNAMENT

Corinna Riginos

Congratulations to the Mpala football team for their stellar performance in the first ever Laikipia Unity Cup!

The Unity Cup, which was sponsored and organized primarily by the Zeitz Foundation, the Laikipia Wildlife Forum, and UNEP, was a month-long soccer tournament designed to bring together Laikipians from around the region while promoting environmental awareness and good will among players and fans alike. The tournament's culmination in Nanyuki was hosted by Cameroonian football star Samuel Eto'o, fresh from the World Cup (inspiration for the Unity Cup) in South Africa.

...continued on page 10



*Members of the Mpala football team pose with their trophy and medals after the tournament.
Photo by Adam Ford.*

COMMUNITY

CONGRATULATIONS, MARC!

Theresa Laverty

Sunday, July 4th was a special day at Mpala, as we celebrated and honored the Mpala community's first university graduate,



*Lawrence and Marc Nayara.
Photo by Theresa Laverty.*

Marcellino (Marc) Napo Nayara. The son of Research Centre Head Waiter Lawrence Nayara, Marc arrived at Mpala fresh from his graduation at Kenyatta University just in time to celebrate with food, dance, songs, and other festivities. The proud holder of a bachelor's degree in Environmental Science, Marc stands alone as the first child of one of Mpala's staff to attend and graduate from university.

When Lawrence came to Mpala in 1994, Marc was still in primary school and remained with his mother near Lake Turkana until he completed Standard Eight. For secondary

...continued on page 11

MRT AND MWF BOARD OF TRUSTEES MEET ON MPALA

Margaret Kinnaird

Early morning treks in search of wild dogs, elephants and buffalo; midday discussions of visions, goals, finances; late afternoon surveys of rangeland and livestock status, topped off by sundowners and a tasty meal in the company of friends and colleagues – this was a typical day for the Mpala Research Trust and Mpala Wildlife Foundation Trustees during their annual board meetings this June.



*Ingrid and Don Graham.
Photo by Margaret Kinnaird.*

Over the course of the meetings, the trustees recognized past successes and recent progress, including:

- Benefits to our staff (improved housing and appropriate water supplies).
- Benefits to the local economies (Nanyuki businesses, group ranches and extended families).
- Education (Mpala provides private schooling for staff children from Standard 1 through 5, support for two children per family for all further primary education, and secondary school scholarships for exceptional students on Mpala and three neighboring communities).
- Training and capacity building (in the past three years, seven Kenyan ecologists / conservationists have received or have started pursuing MSc and PhD degrees with research conducted on Mpala, and Mpala has hosted numerous short-courses for Kenyan and American undergraduates).
- Successful grant raising among researchers (more than USD 5.5 million from the

National Science Foundation alone).

- Important research results (more than 184 publications in high impact scientific journals, on-the-ground application of research, and film and print coverage in BBC, National Geographic and other popular venues).

- Outreach (Mpala reaches more than 550 individuals in Laikipia, Kenya and beyond with quarterly updates on research and community activities through the Mpala Memos. Additionally, conservation clubs run by Mpala staff engage children from the Mpala school and three neighboring communities).

Even as the board recognized these past achievements, the future was the primary focus of the meetings. The trustees questioned how to better fulfill our mission of sustainable human-wildlife co-existence and the improvement of human livelihoods. We concentrated on ways to improve our three-pronged approach to mission fulfillment through education, outreach, and science-based solutions to conservation.



*Denis Keller.
Photo by Margaret Kinnaird.*

Over the next months, we will be working to develop a clearer vision for how we and our partners can do more for Kenya and the people of Laikipia. Among other topics, we will place more emphasis on sustainability (land, water, and energy) and understanding the links among limited natural resources, ecosystem services, wildlife conservation, and human health and livelihoods. ■

ZEBRA HYBRID SPOTTED ON MPALA

Siva Sundaresan

Keep your eyes open the next time you are driving around the southern part of Mpala – you might see something unusual: a group of plains zebra and what at first glance appears to be a Grevy's zebra foal. But look a little longer and you will see that this seemingly out-of-place youngster is neither a Grevy's nor a plains zebra, but a combination of both.

Grevy's-plains hybrids have been seen a number of times before in Laikipia, but never before on Mpala. The first hybrid was seen in 2004 on Ol Pejeta Conservancy. Ol Pejeta is located at the far southern edge of the Grevy's range. With only 15 Grevy's on the whole conservancy (most of them male), we at first thought that this was an isolated case of hybridization in an area where Grevy's were uncommon. But since then, hybrids have been seen on other properties further north in Laikipia – Suyian, Sosian, and now, Mpala.

The Mpala hybrid is a young male, somewhere between three and six months old. Like all hybrids that have been seen to date, his mother is a plains zebra. We first spotted him on April 10th in a glade just off the main road and again on May 28th

between the air strip and the spray race. Like all the other hybrids, his belly is white (like a Grevy's), his stripes are intermediate in thickness between a Grevy's and plains, and the stripes on his rump form a gridiron pattern that neither of his parents has. His nose is more brown than his plain's zebra mother's, his ears more round, and as an adult he will be intermediate in size between both species.

Hybridization is often a conservation concern for highly endangered species like Grevy's zebra. One might worry that plains zebra genes could infiltrate the Grevy's population, diluting the Grevy's gene pool and furthering the decline of this species. Fortunately, our research from Ol Pejeta shows that hybrids integrate with plains zebra society – behaving more like their mothers than their fathers – and are unlikely to breed with Grevy's. For now, it seems we can rest assured that hybrids are just a fascinating oddity, rather than a threat to Grevy's conservation.

If you see any hybrids – on Mpala or elsewhere in Laikipia – please let us know and send us any photos at grevyspics@gmail.com. ■



Zebra hybrid and his mother. Photo by Victoria Zero.

AN INTRODUCTION TO MPALA'S AMPHIBIOUS MINORITY

Victoria Zero

The concert hall opens its doors at 5:00 PM. I take a seat in the outdoor amphitheater in anticipation of the aural delights to come. As the sinking sun ushers the orchestra members onstage, the isolated echoes of what sound like water droplets ricochet off the pond's surface. This lone running frog's opening bass solo will soon be supported by countless others. Before long, the horn section enters, as the ridged frogs begin to punctuate the chorus with their brassy quacks. As the night wears on, the crickets enter with their strummed ostinato, and the reed frogs float over the top with their shrill piccolo melodies. Just another evening at one of Mpala's dams.

Ever since the rains arrived, I have been audience to this nightly symphony of plunks, whistles and squawks. Each species of frog or toad has its own unique call that it uses to advertise its whereabouts and suitability as a mate. Here is a brief introduction to some of the common amphibians you may have heard or seen around Mpala and Laikipia.



Kassina senegalensis.

Garman's toad (*Bufo garmani*)



Bufo garmani.

Often found around human habitations, this toad is easily recognized by its large size, warty skin, and the prominent parotoid glands (used to secrete a nasty substance into the mouths of would-be predators) located behind the eyes. They are covered in paired splotches of reddish-brown outlined with black, and often have a pale stripe running down their spine. The call is a loud, mid-lengthed "gwaaak."



Hyperolius glandicolor pantherinus.

Common reed frog (*Hyperolius glandicolor pantherinus*)

This adorable little frog can be spotted at night calling from the tips of pond-side vegetation. Their ear-piercing "plinks" make them very easy to locate. Reed frogs are characterized by large, round eyes and enlarged, sticky toe pads. This species has a pale yellow body with highly variable amounts of gray on the back, and splashes of red under the legs and on the feet.

Senegal running frog (*Kassina senegalensis*)

This species starts chorusing early in the evening with a call that sounds like water drops in a bucket. Their cryptic coloration and tendency to hide beneath vegetation

... continued on next page

AN INTRODUCTION TO MPALA'S AMPHIBIOUS MINORITY

...continued from previous page

at the water's edge can make these frogs hard to find. Dark spots on the back are set against a greenish background color. Called running frogs for their tendency to walk instead of hop, they are still surprisingly hard to catch.



Ptychadena anchietae.

Anchieta's rocket or ridged frog (*Ptychadena anchietae*)

Members of this genus are readily identifiable by their long, powerful hind legs, ridges of skin on the back, and their pointed snouts. Anchieta's rocket frog is distinguished by a pale triangle formed between the eyes and the snout. Also on Mpala is the mascarene rocket frog (*P. mascareniensis*), which typically has a bright green stripe down its back. Remarkable jumpers, rocket frogs may leap anywhere from 2 to 3 meters. They are so athletic that you may hear several dozen splashing into the water before you ever set eyes on one.

Cryptic sand frog (*Tomopterna* spp.)

Occasionally mistaken for a toad, these frogs are smaller and lack both the parotoid glands and visible ear openings. The dominant skin tone is brown (to match the sand in which these frogs burrow), but closer inspection reveals a beautifully



Tomopterna cryptotis.

intricate military-style camouflage pattern made up of pinks, greens, browns, yellows and black. The male calls in a repetitive warble, distinct from the other frogs' calls in that it is made up of individual notes. While generally referred to as *Tomopterna cryptotis*, differences in morphology and vocalizations suggest there may be more than one species of sand frog on Mpala.

Lake Victoria clawed frog (*Xenopus victorianus*)

Entirely aquatic, this bizarre-looking frog makes its calls underwater. It can often be seen at night floating, limbs splayed at the water's surface. Unlike any other frog here, this species is highly flattened, has tiny eyes positioned on top of a small head, and has claws on its highly webbed toes. While fairly easy to spot, these frogs are fast and incredibly slippery.



Xenopus victorianus.

Other frogs likely to be found on Mpala are snout burrowers (*Hemisus* spp.) and puddle frogs (*Phrynobatrachus* spp.).

If you have seen any interesting amphibians or reptiles around your property, I would love to hear about them. You can e-mail me at slineolata@gmail.com. Happy herping! ■
All photos by Victoria Zero.

THE NOT-SO-STILL LIFE OF A FLOWER PATCH

Dino Martins

The abundant rains this year have brought out wildflowers all over Kenya. On the red rocky soils of Laikipia, one of these is a delicate flowering herb in the Lamiaceae (mint) family that grows in the dappled shade of acacia trees, forming a dense tangle of pale lilac flowers borne on arching spikes that reach above the heart-shaped leaves.

I recently spent a few minutes watching the pollinator activity at a patch of these flowers. The flowers are clustered along the stems of the plant and have an



An Amegilla bee approaches a flower.

interesting shape – tubular with a slight kink in the tube formed by the petals. This flower style likely evolved to limit any would-be nectar robbers: flowers often go to great (if subtle) lengths to make sure that only legitimate pollinators access the precious nectar that they secrete as a reward.

Pollinators deal with the kink in this flower's tube by gripping the flower with their legs, causing it to bend down. This results in the flower straightening out a bit and allows the insects to access the nectar.

One of the most common bees I saw visiting my patch of flowers was an Amegilla, a long-tongued bee. These are wonderful bees, marked with bright colours, and they move about frantically working the flowers for nectar and pollen. First the bee approaches the flower and hovers before it for a moment, sizing it up. Then it lands and grabs the flower, and the weight of the bee holding on to the flower makes it dip. This straightens

...continued on next page



An Amegilla bee drinks nectar while sitting on the flower's lower lip.

THE NOT-SO-STILL LIFE OF A FLOWER PATCH

...continued from previous page

the floral tube just enough for the bee to push its tongue into the flower and grab a sip of nectar.

Then it takes off for the next blossom and does this all over again. The entire visit to each single flower takes just 1-2 seconds!



Long-horn bee.

Other insects were also visiting the flowers. There were a few longhorn bees (whose males have long, beautiful antennae), though they were buzzing about much less frantically than the Amegilla bees.

Several butterflies visited during the hottest part of the day. The butterflies solved the challenge of the bent flower tube with

their flexible proboscis. This enables them to reach the nectar without dipping the flowers. One of the butterfly visitors was a lovely Skipper, known as the Pale Ranger.

Not to be left out was a large and handsome Tabanid Fly, who employs a similar tactic to the bees –

he pulls the flower down and reaches into it with his long, stiff proboscis.

It just goes to show how much you can see if you spend a few minutes just watching one plant! ■

Questions about insects? Email: insects.eanhs@gmail.org. All photos by Dino Martins.



A Pale Ranger butterfly uses its long proboscis to reach the flower's nectar.

MPALA MEMORIES, PART V: THE CENTRE'S EARLY DAYS (1995-1998)

Truman P. Young

As early as 1989, John Wreford-Smith (in consultation with George Small), Alan Smith, and I had been discussing possible sites for the permanent buildings that would house the Centre. Alan and I, along with Richard Bagine from NMK, favored sites either north of



*Banda 7 was one of the first bandas built at Mpala.
Photo by Corinna Riginos.*

the current site (in the area now called Camel Boma) or up on the edge of the escarpment, and John favored the current site. All were fine sites, and George Small settled on John's suggestion.

Construction of the new centre complex began in earnest in 1994, directed by John and assisted by the British Army engineers (who helped build the water system). John and I laid out the very first two-room building (where Joseph's office is now), and soon realized we had forgotten to take into account the thick walls, leaving the rooms much smaller than planned!

The first bandas were erected shortly thereafter. You can date these by their horizontal stone (#s 6, 7 and 8). Lynne later suggested orienting the stones vertically instead, which used fewer stones and created the beautiful walls on the newer bandas.

The Centre was opened (a little prematurely) in late 1994. There was essentially no furniture (only beds) in the bandas, and Lynne and I provided most of the furnishings to the residents in the early months. The Centre had not had

a trial run, so it was left to the first researchers to discover shower walls painted in water-based paint and fixtures that broke off in our hands (all problems that were quickly remedied). It was perhaps an inevitable move, but for Lynne and me

it was a sad day when we had to leave our camp and see its wooden structures burned to the ground.

The first resident scientists at the new Centre included Bell Okello, David Kinyua, Felicia Keesing, Jill Pruetz, Philip Muruthi, and Steve Takata. Slowly, as more researchers took up residence, the missing details (basic furniture, African-print curtains, and other niceties) were filled in and the Centre became increasingly comfortable.

Lynne and I came in mid 1995 and at first stayed with our seven-month old son in the "VIP" banda (#6). Within a few months we took a house on Eland Downs (and later, Segera) more suited to family living and housing Lynne's senior assistants and our staff.

The first manager of the Centre, Neil Lindsay, dealt with all the early bugs, but researchers were not a high priority. Research access to the Ranch was initially limited, and there were other restrictions on research on Centre land

...continued on page 13

MPALA-AT-A-GLANCE

Farewells and Welcomes

Mpala Memos says goodbye and thank you to outgoing Princeton in Africa fellow (and Mpala Memos editor) Allison Williams – and a hearty welcome to incoming fellow Theresa Laverty. Over the past year, Allison has worked on numerous projects at Mpala – most notably, writing and editing the content of the new Mpala web site (www.mpala.org), initiating an Mpala Adopt-an-Elephant campaign, assisting with research on large mammal abundances, and generally improving communications and publicity for Mpala. In her spare time, Allison could often be found running endless laps around the Mpala ring road as she prepared for the Lewa Marathon. As Allison moves on to the next phase of her life, we wish her the best of luck and welcome Theresa as a new member of the Mpala team!

Mpala also bids farewell to Stephanie Hauver, who has been in residence at Mpala over the past year working as a technician for Vanessa Ezenwa's Grant's gazelle disease project. Stephanie will be missed, but we welcome Andrea Durcik, who has taken over the position and will be helping Vanessa to study how parasite loads affect gazelle behavior.

We also welcome a number of other new faces at Mpala:

- Walker DePuy is a Masters student at the University of Michigan. He is compiling oral histories of researchers,



*Theresa and Allison.
Photo by Margaret Kinnaird.*

field assistants, and staff members at Mpala.

- Colin Donihue is also a Masters student at the University of Michigan and is studying the effects of old boma sites and their surroundings on insects and lizards.

- Adam Ford is a Ph.D. student at the University of British Columbia. He is studying herbivore movements in order to learn how so many different species can live in the same area even

though they all compete for the same food resources.

- Sara Keen is a Masters student at Columbia University who is studying vocal communication in Superb Starlings and how it is used for kin recognition.
- Morgan Pecora-Saipe is a recent graduate of Princeton University who will be in residence at Mpala over the next year assisting with the Ewaso Water and GRASS projects.
- Kayla Yurco is a Masters student in the University of Michigan. She is studying decision-making about boma sites and perceptions of land-use change on Mpala and neighboring areas.

Courses & Student Groups

In June, five 2nd and 3rd year zoology students from Kenyatta University in Nairobi attended a one-week field course entitled "Introduction to Disease Ecology." The course was taught and hosted by Vanessa Ezenwa, a professor at the University of Montana. ■

MPALA FOOTBALL TEAM TRIUMPHS IN LAIKIPA TOURNAMENT

...continued from page 1

Mpala's own football team put in a particularly strong performance in the tournament, winning five games in a row on the weekend of 2-4 July to bring home the trophy for the Uaso Nyiro Unit. The tournament as a whole was organized around four units within Laikipia (Uaso Nyiro, Central, Eastern, and Northern). Each unit was made up of eight teams, split into two pools of four.

Mpala's run to victory kicked off with a 3-0 victory over the Ewaso team. Mpala went on to triumph over the Il Polei, Ndungu Zangu, and Ngimastae teams before advancing to the unit finals against perennial rival Ol Jogi. Their 3-1 victory over Ol Jogi clinched the Uaso Nyiro title for the team.

"ALL PLAYERS PLEDGED... TO "GIVE A RED CARD TO ENVIRONMENTAL DESTRUCTION""

Several star performances by Mpala players also earned awards and accolades. Gabriel Koech was named best scorer of the weekend, while the best player award went to Martin Lakupesi for his nearly impenetrable goal-keeping. These players, along with Jackson Ekadeli, Simon Akuam, and Jackson Lima, were chosen for the Uaso Nyiro unit's all-star team, which advanced to the Unity Cup finals in Nanyuki.

Sadly, the Uaso Nyiro Lions lost to the Central Unit team on July 20th, earning them third place in the tournament finals. Gabriel Koech's prowess on the field was again noted, as he was chosen to play on the final all-star team, Laikipia United, against the Nairobi-based Mathare Youth club.

Players, coaches, managers, and fans alike were delighted with the tournament.



*The trophy won by the Mpala football team.
Photo by Daniel Rubenstein.*

In addition to the football itself, all participants took part in camp clean-ups and conservation and HIV-awareness events. All players pledged "to unite with others throughout Laikipia" and to "give a red card to environmental destruction."

As soccer mania settles down in Laikipia and the world over, there are already excited rumors about the Unity Cup becoming an annual event. No doubt the Mpala team will be looking to defend their title as they practice on the new set of goals and nets they brought home (along with their beautiful glass trophy) this year. ■

CONGRATULATIONS, MARC!

...continued from page 1

school, Marc moved to Laikipia, living with extended family in the area. During holidays and breaks from school, he would gladly come and stay with his father at Mpala.



*Marc enjoying his graduation party.
Photo by Theresa Laverty.*

Marc's enthusiasm for science blossomed during these years. Marc always excelled in science classes and began spending his school holidays serving as an assistant for undergraduate classes and many of Mpala's long-term projects. Although ecology has had a large impact on his life, Marc's true passion lies in geographical information systems (GIS), a merging of cartography and database technology. His favorite book as a child was the atlas, and he always wondered how maps were created. Through a GIS course at Kenyatta University, Marc became familiar with GIS and eventually began assisting in the GIS lab at Mpala. Marc enjoys how GIS crosses many fields with major applications in areas as diverse as medicine and security.

Currently, Marc is working for Laurence Frank and Alayne Cotterill of Living with Lions – an Mpala-affiliated project. Marc will spend the next few months educating communities on methods for keeping their cattle safe so that they

may coexist peacefully with lions. In addition, he plans to start a database to house information on each of Laikipia's lions. This would be only the second such regional database in the country. The database will provide a means to track lion movements and survivorship, which will inform the project about pride home ranges and population trends.

"HIS FAVORITE BOOK AS A CHILD WAS THE ATLAS... HE ALWAYS WONDERED HOW MAPS WERE CREATED..."

In the same manner that Marc always looked up to his parents as role models, the children of Mpala can now look up to him. Marc's advice for young children is to work hard in their studies and keep away from drugs. In addition, he believes that respect of yourself, your parents, and your teachers is necessary to succeed. He advises parents to "work hand and hand with their children" and learn what their children enjoy to help them achieve their dreams.

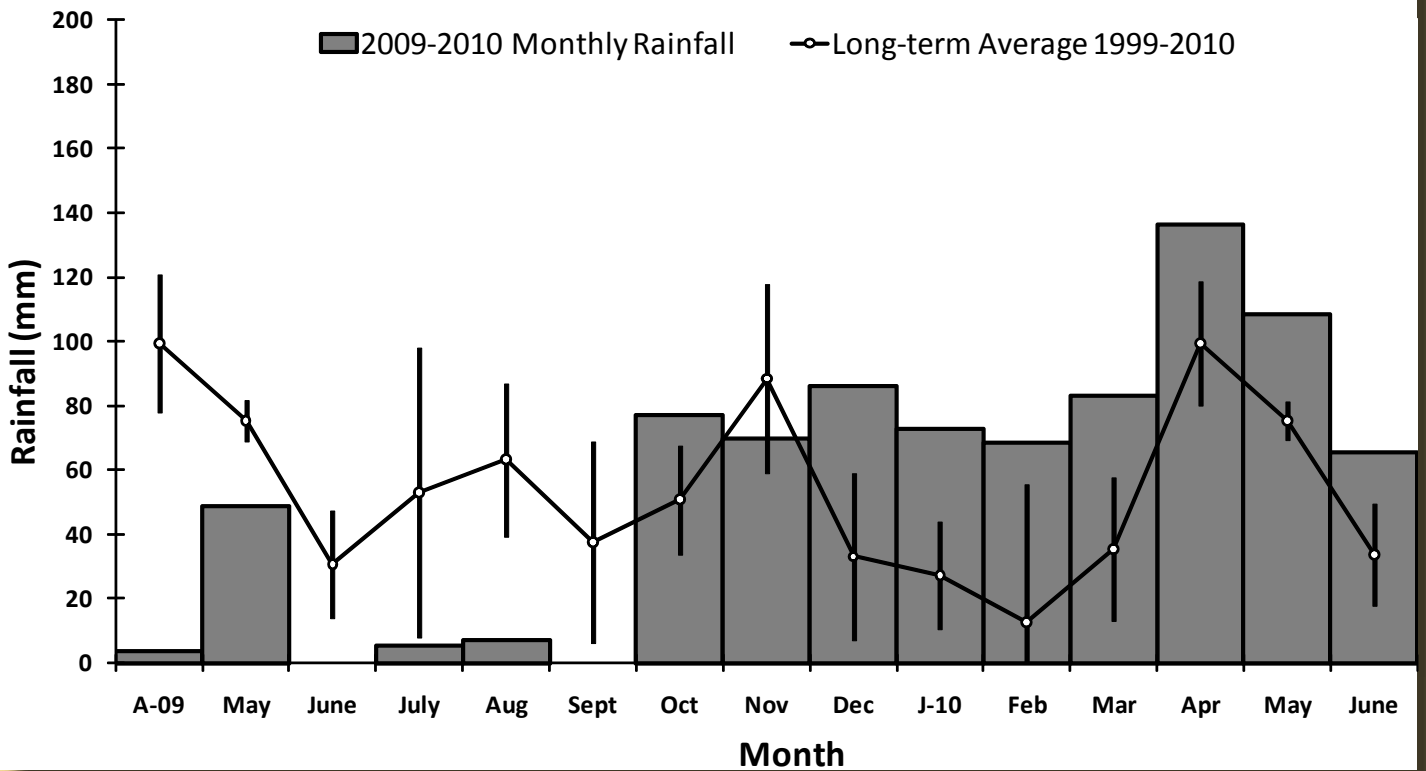
Marc wishes to thank the Mpala community for all their support during his studies. In two to three years time, he hopes to be back at university, working towards a master's degree in environmental GIS or a similar discipline.

Mpala is very proud to congratulate Marc on his accomplishments and we wish him the very best in his future. ■



*Marc poses with family and friends after the party.
Photo by Theresa Laverty.*

MRC RAINFALL 2009 - 2010



MPALA DISCOVERY DAY

Mpala Discovery Day, sponsored by the Denver Zoo, was held on Saturday, July 24th. We had a fantastic turnout with more than 80 people attending, not counting the kids, from Laikipia and beyond. Twenty three researchers gave five-minute “speed” presentations on topics as wide ranging as our conservation club activities to how to monitor rangelands, how grazing and governance influence our water resources, and movement patterns of Grevy’s zebra and elephants. There were simultaneous activities for children, including face painting, puppet shows, an insect walk by Dino Martins, and storytelling by Nancy Rubenstein.

Dr. Kipng’etich, Director of KWS, his family, and half a dozen representatives from KWS were present and added enormously to the post-session discussions. We hit on numerous topics,



Visitors wait for talks to begin at this year’s Discovery Day. Photo by Victoria Zero.

including the role of Mpala’s institutional research for Laikipia and Kenya, collaborative partnerships, basic vs. applied science and we even debated what sort of dik-diks we have on Mpala. ■

MPALA'S ADOPT-AN-ELEPHANT PROGRAM

Every year, more than 7,000 elephants migrate annually Laikipia, many of them crossing Mpala. With our Adopt-an-Elephant Program, you can make a difference for one of these majestic leviathans.

Thanks to student projects that focus on the Mpala elephant populations, MRC now has a rich database of elephant photos, identification facts, behavior, and population data to keep adopters updated about elephants. The Adopt-an-Elephant Program offers three different packages. The basic package includes a photo of your adopted elephant, an adoption certificate, and an

elephant fact sheet. Other packages offer an elephant-themed hand-painted pillow cover and the chance to name your adopted elephant!

Contributions will go towards patrolling and monitoring of Mpala's large elephant populations and will also support elephant research projects at Mpala.

For more information or to adopt an elephant visit http://mpala.org/Adopt_an_Elephant.php or contact Theresa Laverty at tlaverty@mpala.org. ■



MPALA HISTORY

MPALA MEMORIES, PART V: THE CENTRE'S EARLY DAYS (1995-1998)

...continued from page 8

(they were separate entities back then). It was a difficult transition time, and it took a while to sort out everyone's needs and impressions of each other.

Colin Tait took over as manager in 1996. He was an avid birder and the kind of resident naturalist that benefited the Centre. Services and facilities continued to improve during his tenure, including the first ornamental plantings. The NSF lab building was built, as well as the Director's and Manager's houses. Sadly, Colin's

heart gave out as he was napping one day at his house, and he was found with his bird book on his chest.

Colin was succeeded by Heather Wallington. The thoroughly English food began to take on a more international flavor and included Heather's famous hot sauce, which is still a staple at Mpala tables. The resident researchers quickly grew to appreciate Heather and the genuine care she showed for them. The burgeoning Centre was entering a new era. ■

MPALA PUBLICATIONS 2010

This list is comprised of the publications related to Mpala Research Centre released within the first half of the year:

Adamski, D., R. S. Copeland, S. E. Miller, P. D. N. Hebert, K. Darrow & Q. Luke. A review of African Blastobasinae (Lepidoptera: Gelechioidea: Coleophoridae), with new taxa reared from native fruits in Kenya. *Smithsonian Contributions to Zoology* 630: v-68.

Brody, A.K., T.M. Palmer, K. Fox-Dobbs & D.F. Doak. Termites, vertebrate herbivores, and the fruiting success of *Acacia drepanolobium*. *Ecology* 91(2): 399-407.

Franz, T.E., K.K. Caylor, J.M. Nordbotten, I. Rodriguez-Iturbe & M.A. Celia. An ecohydrological approach to predicting regional woody species distribution patterns in dryland ecosystems. *Advances in Water Resources* 33(2): 215-230.

Goheen, J.R., T.M. Palmer, F. Keesing, C. Riginos & T.P. Young. Large herbivores facilitate

savanna tree establishment via diverse and indirect pathways. *Journal of Animal Ecology* 79: 372-382.

Gregory, N.C., R.L. Sensenig & D.S. Wilcove. Effects of controlled fire and livestock grazing on bird communities in East African savannas. *Conservation Biology*, doi: 10.1111/j.1523-1739.2010.01533.x.

O'Brien, T.G. Wildlife picture index and biodiversity monitoring: issues and future directions. *Animal Conservation*, doi:10.1111/j.1469-1795.2010.00384.x.

O'Brien, T.G., J.E.M. Baillie, L. Krueger & M. Cuke. The Wildlife Picture Index: monitoring top trophic levels. *Animal Conservation*, doi:10.1111/j.1469-1795.2010.00357.x.

Riginos, C. & J.E. Herrick. *Monitoring Rangeland Health: A Guide for Pastoralists and Other Land Managers in Eastern Africa, Version II*. Nairobi, Kenya: ELMT-USAID/East Africa. ■

MPALA WILDLIFE FOUNDATION & MPALA RESEARCH TRUST

Founder:

George Small (1921-2002)

Mpala Conservancy Manager:

Michael Littlewood

Contact Information

(USA)

Tel: (410) 244-7507

Mpala Wildlife Foundation Trustees:

Donald Graham, Chairman
Giles Davies
Howard Ende
Jeffrey Gonya
Laurel Harvey
Dennis Keller
Ira Rubinoff

Mpala Research Centre Trustees:

Kenya Wildlife Service
National Museums of Kenya
Princeton University
Smithsonian Institution
Mpala Wildlife Foundation
Daniel Rubenstein

Mpala Wildlife Foundation
PO Box 137
Riderwood, MD 21139-0137
USA

(Kenya)

Tel: 254-62-32758

John Wreford-Smith
William S. Eisenhart, Jr. Trustee Emeritus

Mpala Mobile Clinic Coordinator:

Shannon Wreford-Smith
shanni@wananchi.com

Mpala Research Trust
P.O. Box 555, Nanyuki
Kenya

Executive Director:

Margaret Kinnaird, PhD
mkinnaird@mpala.org

Newsletter Editing and Design

Corinna Riginos
Theresa Laverty
Amy Wolf

www.mpala.org