Mpala Research Centre: A Unique Resource for Field Research in East Africa

by Margaret Kinnaird, Ph.D., Director, Mpala Research Centre, Kenya

The Mpala Research Centre (MRC) is a world-class research centre located on 48,000 acres of classic African savanna and scrubland on the Laikipia Plateau in the heart of Kenya. A very special aspect of MRC is that it lies within a mosaic of wildlife conservancies and cattle ranches managed by both private enterprises and Maasai pastoralist communities. In spite of the fact that none of these lands falls within Kenya’s system of parks and protected areas, the Plateau is home to the greatest density and diversity of wildlife in East Africa outside of the renowned Serengeti-Mara ecosystem. More than 5,000 elephants move across the region annually and over half of Kenya’s black rhino population is found on Laikipia ranches. Mpala has a full complement of predators (25 carnivore species), with more endangered mammals than any protected area in Kenya, including wild dogs and Grevy’s zebras. In addition, Mpala is a working cattle ranch with herds of livestock that can be manipulated for research. These aspects provide unparalleled opportunities to study wildlife ecology, behavioral ecology, conservation and management, economic sustainability of local livelihoods, as well as to test basic ecological principles.

Left: Male elephant. Right: Livestock herder with lambs on Mpala Ranch.

Undergraduate, graduate, and senior researchers from around the world, as well as Kenya and other parts of Africa, come to Mpala to take advantage of the Mpala setting, its wildlife and facilities. MRC hosts a number of long-term research activities led by professors and graduate students who make annual pilgrimages to MRC. Prominent investigations include ant-acacia interactions, behavioral ecology of endangered species, termite influence on soil nutrients, fire effects on rangeland regeneration, soils and hydrology, predator/livestock interactions, livestock/wildlife competition, and ecological cascades. These projects have resulted in more than 150 scientific publications and numerous practical guidelines for wildlife management.
We recently opened our Ewaso Ng’iro campsite to provide an exciting learning environment for large education groups. The campsite is located 4 km from the research centre on the banks of the Ewaso Ng’iro River, one of the few perennial rivers in the region. The camp has 16 fully furnished sleeping tents with single and double accommodation, blocks of showers and toilets and a large combination mess and lecture tent which can seat 35 people. All tents are mounted on concrete platforms with comfortable verandas that overlook the Ewaso Ng’iro River and hippo feeding grounds on the opposite bank. We provide generator power to supply electricity for lighting and projectors, and to enable campers to charge computers and other battery-operated items.

Acacia xanthophloea, locally known as 'Fever Trees,' line the Ewaso Ng’iro River.

Our first visitors at the Ewaso Ng’iro campsite included 15 undergraduate students enrolled in the UCLA Ecology and Evolutionary Biology Field Biology Quarter (FBQ) course. The students were led by Professors Tom Smith and Dan Blumstein, and were assisted by Dr. Brenda Larison and graduate students Allison Alvarado and Lucretia Olson. The diversity of subjects on which the students worked - from predation risk among passerines and lizards to insect diversity along soil gradients and dung beetle ecology - illustrates the incredible opportunities one finds at Mpala.

MRC provides a comfortable home base from which investigators tackle their various questions. A primary goal of MRC is to make life as easy as possible for researchers so they are able to concentrate fully on their research. MRC facilities include laboratories (with basic equipment for DNA analysis, microscopic examinations, and analytical chemistry), screened houses for plant experiments, computer rooms (with high speed internet access), a library, and a well-equipped GIS lab with an extensive spatial database for the region. Although most researchers have their own vehicles (maintained by our on-site mechanics), we have a fleet of land rovers and suzukis that may be rented for short-term needs. MRC also has a full-time staff of research assistants and guides that are matched with researchers according to the researcher's needs and the training and expertise of the assistant.

Researchers live in fully-furnished, thatched stone ‘bandas’; bigger groups of up to 12 are accommodated in our dormitories. Lighting is available at all hours and warm water is provided from solar panels and
‘boosters’ fed by firewood on overcast days. Everyone gathers daily for catered meals and stimulating discussions in a communal, indoor-outdoor dining hall – all against the stunning backdrop of Mt. Kenya. The camp is not fenced and it is not uncommon to have lion, elephants, and the occasional hyena passing during meal times. If you are interested in conducting research at MRC, or would like bring your class, please visit our web site at http://www.mpala.org/researchctr/index.html for additional information.

I feel incredibly fortunate to be the new director of MRC. Despite a heavy administration load, I plan to take advantage of my new home to develop an active research program. My first project will involve using automated cameras to determine the distribution and abundance of leopards and other carnivores on Mpala. Specifically, I hope to address whether increasing numbers of lion on wildlife-friendly cattle ranches have a negative influence on leopards, in particular, and the carnivore community in general. Ultimately, I hope to gain a better understanding of locations and use of critical wildlife corridors that Mpala helps maintain by being fence-free in an ever-increasing fenced landscape. I also plan to squeeze time to pursue my long-term interest in hornbills, investigating demography and their role in seed dispersal in overgrazed rangelands.

Left: Alternative grazing methods - including the use of mobile bomas pictured here - are being investigated by UC Davis postdoctoral student, Corinna Reginos. Right: A silver-back jackal sporting red ear tags is part of an ongoing project by Dr. Katie Prager who is investigating disease transmission among carnivores.

Photos for this article were contributed by Tom Smith (elephant) and Margaret Kinnaird (all others).
UCLA Students Spend Three Weeks Conducting Research Projects in Kenya

From October 12 through November 1, 2007, a group of 15 undergraduate students from the University of California, Los Angeles traveled to Kenya to work and learn at the Mpala Research Centre. Students took two classes where they worked in groups of three on student-generated projects. For Professor Dan Blumstein's field behavioral ecology class, projects included a study of whether dik-diks respond to the sounds of their predators, whether dik-diks respond to the sounds of go-away birds (a species described as a sentinel of the savannah), whether lizards respond to hyrax alarm calls and the vocalizations of their predators, how birds manage predation risk while singing, and how different sized seed-eating birds trade off the indirect risks of distance from cover with the direct risk of a person sitting and watching them at a set of novel feeding stations.

Students in Professor Tom Smith's tropical field ecology class focused on five projects. These included examining patterns of beta diversity along habitat gradients, effects of mammalian herbivory on avian and invertebrate communities, morphological responses to herbivory on *Acacia millifera*, choice experiments in dung beetles, and habitat selection and ecophysiology of agamid lizards.

by Dan Blumstein and Tom Smith, Professors, Ecology and Evolutionary Biology, UCLA.

*Photo courtesy of Allison Alvarado.*