



Taking on Opuntia: Mpala Sets Out to Tackle One of Laikipia's Biggest Biodiversity Crises

Across Laikipia, Opuntia has become an increasingly familiar and unwelcome part of the landscape.

It wasn't always seen that way. Opuntia was originally introduced as an ornamental plant, valued for its distinctive appearance and ability to thrive in dry conditions. But over time, what was once planted deliberately has escaped into the wider landscape and become one of the region's most serious invasive species.

Today, the cactus has spread across large areas of rangeland, displacing native vegetation, reducing the land available for livestock and wildlife, and creating significant challenges for pastoral communities whose livelihoods depend on healthy, productive landscapes.

At Mpala, the scale of the problem has made one thing increasingly clear: containing Opuntia requires more than removing cactus from the landscape. It requires research, collaboration and solutions that work ecologically, economically and at scale.

Mpala is now embarking on an ambitious initiative aimed at doing exactly that.

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Letter from Mpala

Dear Mpala Community,

August offered an important reminder that Mpala's work does not happen in isolation. Our ability to advance research, create opportunities for African scientists and students, and contribute meaningfully to Kenya's priorities depends on the strength of the relationships we build around us. In mid-August, a team from Mpala travelled to Nairobi for a series of engagements with key national and institutional partners. While each conversation was different, the message running through them was remarkably consistent: there is a significant opportunity to deepen Mpala's partnerships and turn shared interests into meaningful action.

Our engagement with USIU-Africa focused on implementing our recently signed MOU. Together, we developed a work plan and identified practical areas for collaboration. Some of that work is already taking shape, with joint grant applications being developed around genomics, drone technology, pharmacology, and other research areas. Importantly, the partnership also supports one of Mpala's key priorities: creating more opportunities for African students to conduct research, learn and build their careers at Mpala.

At NACOSTI, discussions centred on Mpala's growing focus on African students, applied research and research that responds directly to issues of national importance. Our work on invasive species was among the areas of particular interest. We also discussed research-permitting regulations and how Mpala can work with NACOSTI to improve permit facilitation and strengthen the overall permitting process for our principal investigators and the research community. We are now exploring an MOU that could deepen NACOSTI's engagement with Mpala while expanding access to expertise and resources to strengthen our work.

Our discussions with the Directorate of Veterinary Services similarly revealed opportunities for closer collaboration, including around Mpala's research herd and other areas where our scientific and institutional interests intersect. These meetings were not simply about introducing Mpala or signing agreements. They were about building the relationships that allow ideas to travel further, expertise to be shared, and research to have greater impact.

As we begin mapping Mpala's stakeholder engagement priorities for the coming year, we would also like to hear from you. Which institutions, organisations or individuals should Mpala be talking to? Where are the relationships we should strengthen, or the conversations we have yet to start?

Some of Mpala's most valuable partnerships may well begin with that introduction.

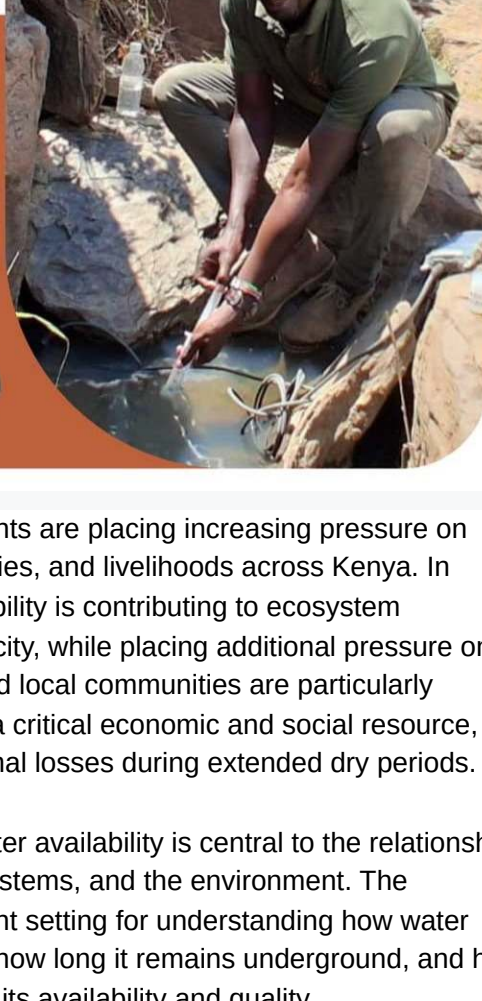
Nelly Palmeris,
Acting Executive Director

Featured Project

At Mpala,
understanding the
future of the
landscape
begins with
understanding its
water

**Understanding
Landscape
Evolution and
Groundwater
Dynamics at
Mpala**

[About this project](#)



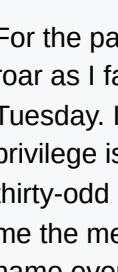
Prolonged and recurrent droughts are placing increasing pressure on ecosystems, wildlife, communities, and livelihoods across Kenya. In Laikipia, declining water availability is contributing to ecosystem degradation and resource scarcity, while placing additional pressure on pastoral livelihoods. Wildlife and local communities are particularly vulnerable, while cattle herds, a critical economic and social resource, are experiencing greater-than-normal losses during extended dry periods.

At Mpala Research Centre, water availability is central to the relationship between people, wildlife, ecosystems, and the environment. The landscape provides an important setting for understanding how water moves through an ecosystem, how long it remains underground, and how geological processes influence its availability and quality.

A project led by Prof. Elizabeth Niespolo and Dr. Fred Omengo of Princeton University's Geosciences Department is investigating how the geological history and ongoing evolution of the Mpala landscape control the occurrence, movement, chemistry, and age of groundwater, and ultimately its long-term sustainability.

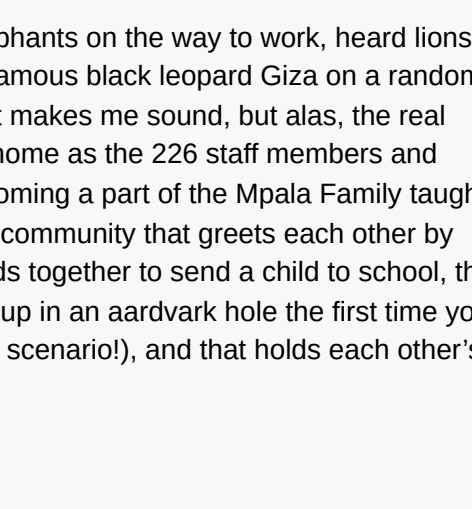
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Guest Article



Featured Guest:
Agata Rigo Saitta
Princeton in Africa Fellow 2025-26

As Aggie reflects on her year at Mpala, it is not the elephants, lions or even a surprise sighting of Giza the black leopard that stand out most. It is the people, the friendships and the sense of community she found along the way.



It is hard to put into words what being the Princeton in Africa fellow at Mpala this past year has meant to me. For anyone who has been lucky enough to stay at Mpala Research Centre, even only for a day, I believe what will follow will resonate, although some parts might only relate to the so called "long-termers" (Matt, can I even call myself that?).

For the past year, I've seen baby elephants on the way to work, heard lions roar as I fall asleep, and seen the infamous black leopard Giza on a random Tuesday. I realize how privileged that makes me sound, but alas, the real privilege is having shared the same home as the 226 staff members and thirty-odd researchers at Mpala. Becoming a part of the Mpala Family taught me the meaning of community life. A community that greets each other by name every morning, that bands funds together to send a child to school, that is there to lift your car when you end up in an aardvark hole the first time you drive in the bush (purely hypothetical scenario!), and that holds each other's hands steadfastly.

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The Faces of Mpala



Anne Mukoma
Camera Operator & Wildlife
Content Specialist, MpalaLive

[Read more about Anne](#)

When Anne Mukoma arrived at Mpala in 2014, MpalaLive was just getting started.

The new project brought Mpala Research Centre into Explore.org's global network of live nature cameras, enabling audiences worldwide to experience Mpala's wildlife in real time.

Funded by the Annenberg Foundation, the partnership also had a bigger ambition: to use that window into Mpala to share knowledge about wildlife, research and conservation.

That required people behind the cameras who understood what they were looking at.

Anne did.

By the Numbers

5,211

Minutes of conservation education content watched on MpalaLive Youtube channel

1500+

Cattle from communities adjacent to Mpala find grazing grounds during the ongoing drought season

Featured Publications

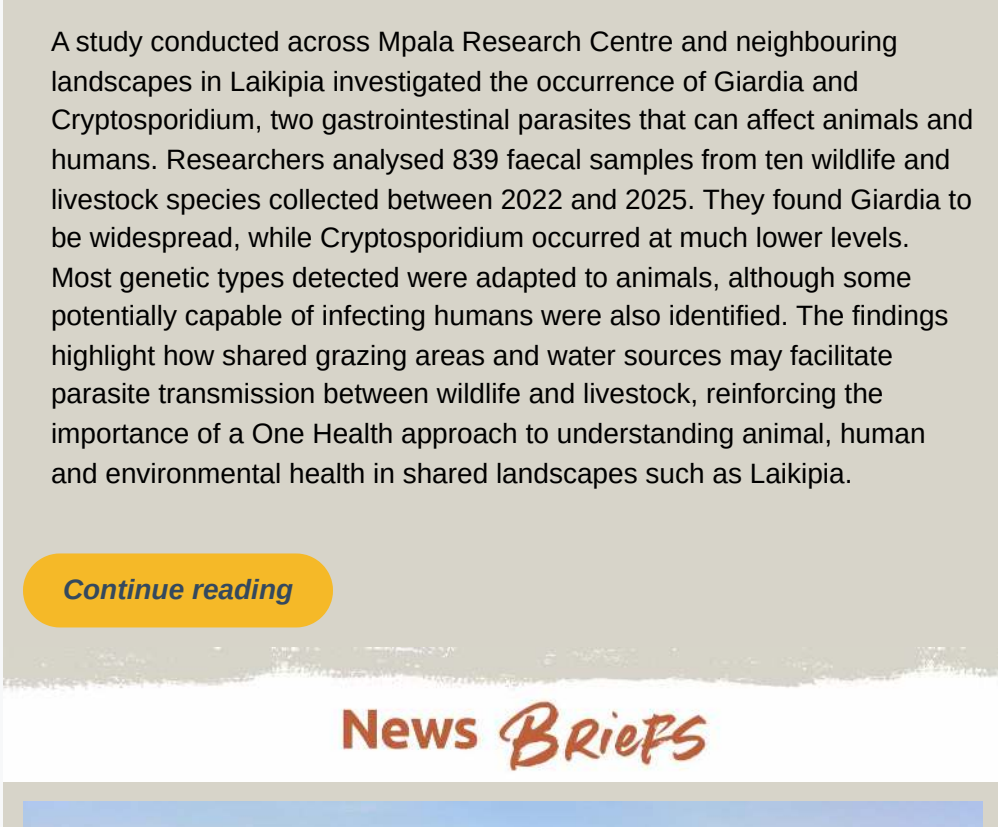


A cross-sectional study reveals complex associations between gastrointestinal parasite composition and faecal immune and inflammatory biomarkers in wildlife and livestock in Kenya

Alice M. Burton., Andrew M. Halls., Kathryn J. Else., Jessica Irving., Cianjoka Gichuyia., Francis Gakuya., Gabriella K. Davies., Katharine Z. Coyte., Catherine Walton., Samuel M. Githigia., Susanne Shultz.

A new study published in Frontiers in Immunology explores the complex relationship between gastrointestinal parasites and immune responses in wildlife and livestock sharing the same landscape in Laikipia. Researchers examined six wild and four domestic herbivore species, using non-invasive faecal samples collected largely at Mpala Research Centre. The findings show that different parasites can trigger very different immune responses depending on the host species, highlighting the complexity of wildlife-livestock health interactions and the value of further research for animal health, conservation and One Health management in shared landscapes.

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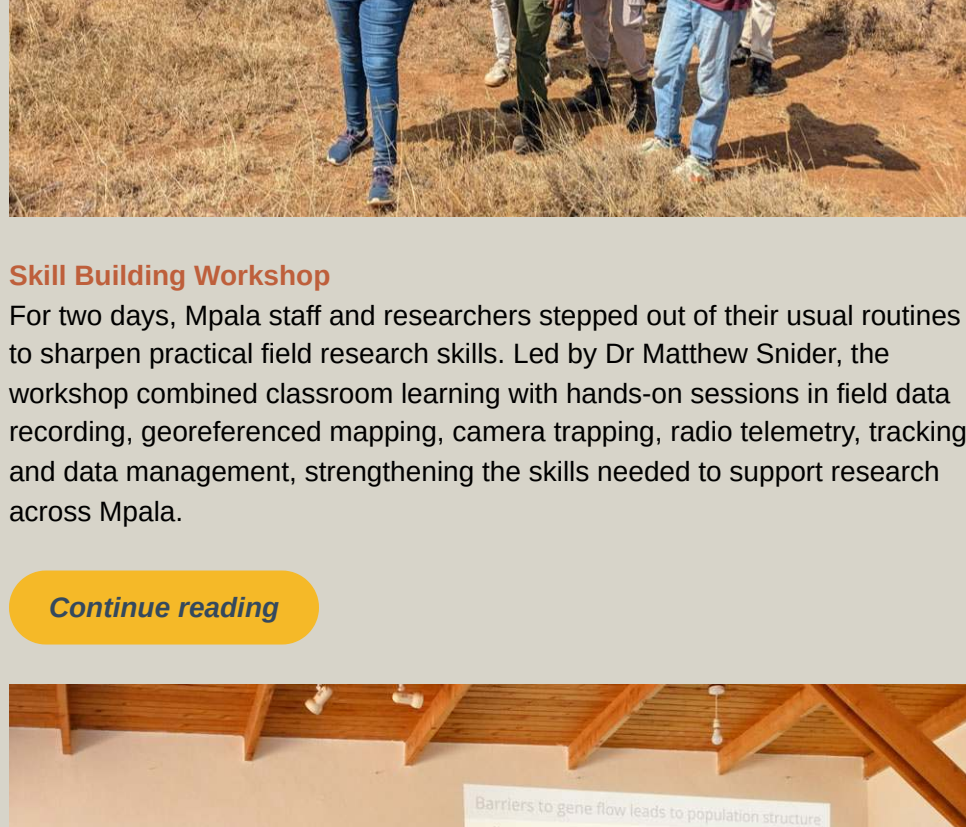
Prevalence and molecular characterisation of Giardia spp. and Cryptosporidium spp. at the wildlife-livestock interface in Laikipia, Kenya

Andrew M. Halls., Alice M. Burton., Olatunji Johnson., Catherine Walton., Charis Enns., Kathryn J. Else., Ian Hall., Melanie Wangui., Cianjoka Gichuyia., Eric M. Fèvre., Susanne Shultz.

A study conducted across Mpala Research Centre and neighbouring landscapes in Laikipia investigated the occurrence of Giardia and Cryptosporidium, two gastrointestinal parasites that can affect animals and humans. Researchers analysed 839 faecal samples from ten wildlife and livestock species collected between 2022 and 2025. They found Giardia to be widespread, while Cryptosporidium occurred at much lower levels. Most genetic types detected were adapted to animals, although some potentially capable of infecting humans were also identified. The findings highlight how shared grazing areas and water sources may facilitate parasite transmission between wildlife and livestock, reinforcing the importance of a One Health approach to understanding animal, human and environmental health in shared landscapes such as Laikipia.

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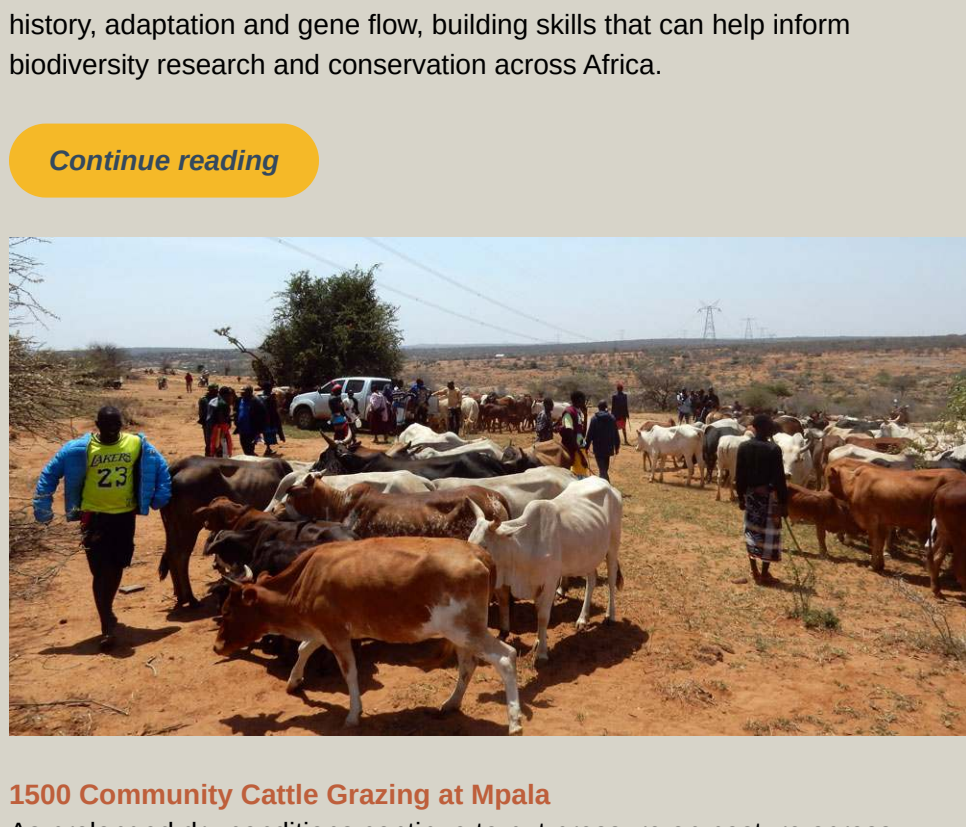
News Briefs



Skill Building Workshop

For two days, Mpala staff and researchers stepped out of their usual routines to sharpen practical field research skills. Led by Dr Matthew Snider, the workshop combined classroom learning with hands-on sessions in field data recording, georeferenced mapping, camera trapping, radio telemetry, tracking and data management, strengthening the skills needed to support research across Mpala.

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Conservation Genomics Workshop

What can DNA tell us about the history and future of wildlife populations? A five-day Conservation Genomics Workshop at Mpala brought researchers and students together to explore exactly that. Through hands-on computational training, participants examined genetic diversity, population history, adaptation and gene flow, building skills that can help inform biodiversity research and conservation across Africa.

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