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Ugandan Butterflies Podcast and Scientist Interview

Pieridae, Abisara neavei

Ugandan lepidopterist Perpetra Akite studies at a university in the capital city, far from the farm where she grew up. Since she began studying butterflies as a girl, the landscape of her homeland has changed radically, for butterflies as well as people. It's change that can be measured in many ways—in the inches of rainfall, acres of forest cleared—or the span of a tiny butterfly's wings.

Transcript

Ari: From the Encyclopedia of Life, this is One Species at a Time. I'm Ari Daniel Shapiro.

Akite: This is a moth...

Ari: In her laboratory in Kampala, Uganda, Perpetra Akite pulls open one drawer after another in a tiny cabinet.

Akite: Female is this yellow.

Ari: Each drawer contains a burst of butterflies or moths – pinned and preserved. Akite is a PhD student, and we're at Makerere University. She's a lepidopterist. And she's curious about what live butterflies and moths can tell her about the changing environment of Uganda.

Akite: Oh, do you see uh...

Ari: Here's one, a white one.

Akite takes me outside. A couple of white *Pieridae* butterflies dip through the air.

Akite: So many beautiful butterflies.

Ari: Akite's love of butterflies emerged early. She was 7, and growing up in a rural area in northern Uganda.

Akite: My parents were, you know, farmers. We used to go out in the bushes. And I was good at collecting caterpillars. I kept them something like pets, you know.

Ari: Even as a child, she wasn't just appreciating. She was studying. Akite would carry the caterpillars home, along with branches from the tree where she found them. The leaves were a guaranteed food supply. And then she'd watch as they made their cocoons, eventually emerging as butterflies.

Akite: And my dad, much as he wasn't a biologist, he encouraged me into having these around.

Ari: It's a passion that's stayed with her.

Akite: Yeah, I need to see a butterfly every day.

Ari: She looks for them on campus on days like today, but she also travels to more remote areas in Uganda to find them.

Akite: Yes, I do have one little butterfly, which most times I think is my favorite. It's a forest butterfly, not so common, called *Abisara neavei*. It's white and black, with a tail. It's this one gentle butterfly and it has this agile flight. I have a picture of it in my Bible. Stays with me all the time.

Ari: But Akite's butterfly *Abisara neavei* – she's not finding as many of them anymore. In fact, she's not finding as many butterflies period.

Akite: The things I saw as a child are no more. Lot of them are not there. I put out my traps, and I used to get probably 40, 50 butterflies in a trap in a night. And now you put it almost same time, and you're getting 10, you're getting 5. You know, it's almost not there.

Ari: Butterfly numbers are down throughout Uganda. But there's more to it than that. The insects have become a lens through which Akite can see the problems of her whole country. They're indicator species – indicators of a changing landscape and a changing climate. First of all, there's the issue of deforestation.

Akite: When you're looking at forest, you're trying to see what proportion of the forest-dependent species are there, because if there's a good forest, you don't expect open-country species there. But the fact that they're there – means it can tell you how much of the forest is getting open.

Ari: Throughout Uganda, butterflies that live in the forests are really suffering. They're losing out to those that thrive in the open countryside. Akite has found fewer numbers of butterflies

everywhere she looks, even though newly cut forests attract more types of butterflies to the area.

Akite: It doesn't mean that the place is, is in good health.

Ari: Just the opposite actually. In the last 20, 25 years, entire swaths of wild space in Uganda have disappeared. Savannah, woodlands, swamps.

Akite: There's too much housing, building which has come up.

Ari: Not to mention the growth of agriculture and farming. Climate change has also complicated matters. But not in terms of warmer temperatures.

Akite: It's always warm and hot and stuff in tropical area. But rainfall is actually how best to measure climatic change. When you talk to the people, they will tell you how much the rainfall patterns have changed. So it's almost unpredictable.

Ari: Butterfly life cycles in the tropics are tied to a particular timing and sequence of wet and dry periods. Unseasonal droughts or heavy rainfalls can hit butterflies hard.

Akite: It's a sad thing in a way...that there's conflict between human need and conservation. And that conflict is one that is going to take a long time to resolve. A very long time to resolve.

Ari: Akite continues to fight for the butterflies. For instance, she informs developers how they can plan, build, and landscape to protect butterflies and their habitats. She's taking care of her butterflies just like she did when she was 7. Only now, the stakes are a lot higher.

Ari: Perpetra Akite sent me a photo of her favorite butterfly. You can find it at eol.org.

Our series, One Species at a Time, is produced by Atlantic Public Media in Woods Hole, Massachusetts. I'm Ari Daniel Shapiro.

Meet the Scientist

Meet scientist Perpetra Akite, featured in the Ugandan Butterflies podcast:



Where do you work?

I am affiliated with the Makerere University, College of Natural Sciences, Department of Biological Sciences in Kampala, Uganda and the University of Bergen, Department of Biology, Ecological and Environmental Change Research Group, in Bergen, Norway.

What do you study?

Using insects as indicators of ecosystem health and advocacy for their conservation in their natural habitats.

What are three titles that would you give yourself?

Naturalist, Entomologist, Advocate for Nature.

What do you like to do when you are not working?

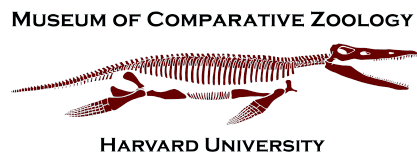
Much of my work is done out in the field often in forests and any other habitats that may be subject for a particular job. My focus is often to go out with appropriate field gears and equipment and carry out field surveys on insect communities or other taxa recording aspects of their ecology. This is done using standard research methodology.

I also get involved in all sorts of vocation both within Science and outside Science. I like photography and spend quite a good deal of my time trying to do that in my free time, although I limit my subjects to things in the wild and very little human photography. I like music and get to sing with some members of my local church. I also get time to talk to pupils to get them interested in Science.

What do you like most about science?

Today the worldwide scientific community cannot neglect the global challenges facing conservation and development. As an ecologist I'm personally faced with the challenge of harmonizing the theoretical aspects of wise use of natural resources with human development and the reality that faces the communities where these resources are found; a day-to-day challenge of many young biologists especially in tropical countries.

My field of study therefore gives me the opportunity to interact with nature, work out with a great team of like-minded people and the chance to contribute towards conservation of our natural heritage through research. As I say to my friends who often wonder why on earth I would spend days and nights in the forests, the best answer has always been simple; field biology does not pay financially but it's the most rewarding career emotionally, often giving one the most fulfilled feeling as you interest with your subject of interest, in my case the Lepidoptera besides other taxa and aspect of nature.



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