

NEWSLETTER

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Center for Tropical Research (CTR) - UCLA Institute of the Environment and Sustainability

CTR at the UN COPs

Science and policy
converge in Colombia

The PANGAEA project

Decoding
tropical forests

Student-led conservation

Building bridges from UCLA
to the tropics

PASE in Cameroon

Healing through research
and community care

Genomes, AI & marine science

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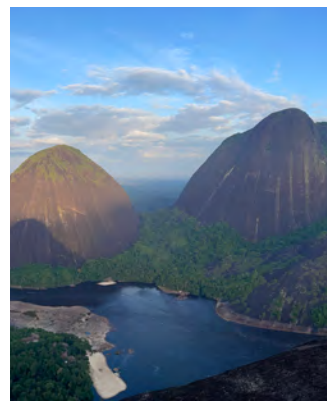
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PASE in Cameroon

FEATURED



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LETTER FROM CO-DIRECTORS

Dear Friends and Colleagues,

As we reflect on the past year at the Center for Tropical Research (CTR), we are thankful to the students, faculty, collaborators, and supporters who continue to push our mission forward. Despite ongoing global and local challenges, the work carried out at CTR and UCLA remains more important than ever, as we aim to understand and protect our planet's vital tropical ecosystems and the people who depend on them.

This has been an active and productive year. One major highlight was our participation last October at the 2024 *United Nations Biodiversity Conference (CBD COP16)*, held this year in Cali, Colombia. CTR was represented by the two of us, Tom Smith (CTR Founder and Co-Director), and Virginia Zaunbrecher (CTR Associate Director). In addition, CTR affiliates Kevin Njabo and Jordan Karubian were also present. Together, we shared CTR's work on several key themes: the power of scientific diasporas in bio-

diversity conservation, the importance of tropical field stations for research, education, and developing capacity, sustainable cocoa production in Africa, and the PANGEA project (see articles in this issue). This participation provided a valuable opportunity to share our perspectives and build new connections on a global stage.

We have also continued to strengthen our collaborations with other centers on campus, especially the Center for Brazilian Studies and the Congo Basin Institute (CBI). Several co-sponsored events with the Center for Brazilian Studies underscored strong leadership and engagement in the Amazon from UCLA, including a screening of *With Feet Between Two Worlds*, joined by filmmakers from the Coletivo Beture and Kayapó Filmmaking. Ongoing fieldwork in Cameroon, led by Elsa, has focused on determining the causes of large tree mortality, taking long-term ground-based phenological monitoring to the skies with drones, and continuing a decade-long partnership with local com-

Meet our co-directors!

Dr. Elsa M. Ordway



UCLA assistant professor of Ecology and Evolutionary Biology and

IoES affiliated faculty, she conducts research on forest responses to climate change and land-use change in the tropics and California. Dr. Ordway can be reached for further information or collaboration opportunities at elsaordway@ucla.edu

Dr. Felipe Zapata



Associate Professor in the Department of Ecology and Evolutionary Biology and an Affiliate

Faculty member of the Institute of the Environment and Sustainability at UCLA, his research interests include the evolution, ecology, and conservation of biodiversity. Dr. Zapata can be reached for further information or collaboration opportunities at fzapata@ucla.edu

munities through the School for Indigenous and Local Knowledge (SILK). Additionally, we were excited to once again support students through the senior practicum course offered by the

“This has been an active and productive year. One major highlight was our participation last October at the 2024 United Nations Biodiversity Conference (CBD COP16)”

Institute of the Environment and Sustainability, taught by our Managing Director, Virginia Zaunbrecher. The course allowed students to engage in hands-on research and learning in the Congo Basin, one of the world’s most biodiverse regions.

We are also excited about the prospects of new research initiatives. For instance, Felipe participated in an expedition to the Orinoco River in northwest-



©Felipe Zapata: Cerros de Mavicure in eastern Colombia



©Vincent Deblauwe: Iroro Tanshi and Virginia Zaunbrecher

ern Amazonia, Colombia, collecting palm species for genomic research (see article in this issue). This collaboration is enabling CTR to connect with other tropical researchers and communities in the region to develop large-scale comparative studies to unlock the genomic secrets of dominant species across the tropics globally. This kind of work could lead to significant discoveries, and combined with other large-scale ecological data we use at the CTR, such as remote sensing, can help address fundamental questions in ecology, evolution, and conservation. This work reflects our long-term vision of positioning the CTR and UCLA as global leaders in interdisciplinary research and training in the tropics.

Another major effort this year was the launch of the *CTR Community Meetings*, which brought together students and scholars from different tropical regions and from UCLA. Sessions included research talks, workshops on data analysis

and science communication, discussions on grant writing and fundraising, and more (see article in this issue). Our students and affiliates have also made exciting progress in their research and publications, and we invite you to read their updates from the field.

Of course, like many of you, we have faced many challenges this year. Shifts in the socio-political landscape, uncertainties in federal funding, and unstable international relationships have posed real obstacles to sustaining our efforts. Nevertheless, we remain committed to finding ways to support our students and affiliates, expand research opportunities, and work with communities and institutions around the world to address urgent environmental challenges. More than ever, strong partnerships and financial support are essential to our success. If you are interested in supporting our work in any way, we invite you to connect with us or visit the donation page on the last page of this newsletter. Thank you for being part of this journey with us.

With appreciation,

Felipe Zapata & Elsa Ordway. Co-Directors, Center for Tropical Research (CTR)

If you are interested in learning more or supporting the CTR, please get in touch [or donate](#)

CTR COMMUNITY MEETINGS

Fostering collaboration across continents to advance inclusive, collaborative science in the tropics across the globe

By Sara Pedraza and Hannah Stouter

To build community among graduate students, postdocs, faculty, and staff who work in the tropics at UCLA and beyond, the CTR

started hosting bi-weekly community meetings this year. During these meetings, community members used the time to share re-

search updates, hold workshops, and facilitate discussions.

One of the highlights from this year was the opportunity to host [Justin Didolanvi](#), a Payne Fellow in Conservation Bioacous-

“Justin’s visit highlighted the CTR’s role as an open, international community for researchers working in and from the tropics”

tics at the Cornell Lab of Ornithology. During Justin’s visit, he shared valuable insights about his exciting research in Cameroon and the Central African Republic as part of the [Elephant Listening Project](#). His visit underscored the value of creating opportunities to facilitate collaboration with the [Congo Basin Institute](#)



©Elsa Ordway: Justin Didolanvi visiting UCLA

and highlighted the CTR's role as an open, international community for researchers working in and from the tropics.

In addition, many of our Cameroonian colleagues voiced the need for a space to learn more about coding and data analysis. To address this, we used time during the CTR community meetings to host "hacky hours" to learn the basics of data exploration and cleaning in R/RStudio with members of the CTR community.

During CTR community meetings, we were also



“Throughout this past year, CTR lab meetings provided a space for community members to come together”

CTR community meetings provided a space for community members to come together, learn from one another, and support each other in a variety of ways. Going forward, we hope to continue to use the meetings to facilitate collaboration and cross-cultural exchange with community members.

If you are interested in our CTR meetings, subscribe to the newsletter to join the events from our community [here](#)



Pictures from CTR community meetings and networking events at the UCLA Campus

able to facilitate two discussions about Decolonizing Science as part of efforts to promote thoughtful and inclusive scientific research in the tropics. During the first session, CTR members Nick Russo, Hannah Stouter, Ary Sanchez-Amaya, and Isaac Aguilar shared examples of what decolonial science can look like and introduced

a collaborative project on community engagement in tropical forest research. During the second session, participants shared their perspectives on community engagement, the importance of inclusive research practices, and the vital contributions of local communities to tropical research.

Throughout this past year,

THE TROPICS TAKE THE LEAD AT COP 16

CTR and UCLA at the UN Climate and Biodiversity Meetings

By Elsa Ordway, Virginia Zaunbrecher, Felipe Zapata

What if all countries, large and small, came together to act united as one planet to address the climate change crisis? The Climate and Biodiversity Conference of Parties (COPs) are regular international meetings meant to do just that. Last fall, the Biodiversity COP (COP16) was held in Cali, Colombia, which was attended by [CTR leadership](#). This fall, the next Climate COP (COP30) will be held in Belém, Brazil. Two tropical countries hosting high-level meetings for international negotiations underscore the central role the tropics play in confronting both climate and biodiversity challenges. Critically, rigorous science is needed to inform and guide high-level decision-making at these meetings, making the COPs an important meeting place for UCLA researchers and thought leaders.

Climate COP: A Legacy of Landmark Agree-

ments. The Climate COP was established following the adoption of the UN Framework Convention on Climate Change (UNFCCC) at the 1992 Earth Summit in Rio de Janeiro, Brazil. Over the past three decades, these meetings have yielded critical international agreements, like the Kyoto Protocol (1997), which introduced legally binding emissions targets for developed countries, and the Paris Agreement (2015), which set the goal of limiting global warming to well below 2°C, preferably 1.5°C, compared to pre-

industrial levels. The Paris Agreement also introduced a five-year cycle of increasingly ambitious climate action plans called Nationally Determined Contributions (NDCs) submitted by each country. As the need for action becomes increasingly urgent, cities and states are taking growing leadership roles. The [state of California is already playing a prominent role in bringing a US perspective to the table.](#)

Biodiversity COP: The Parallel Effort for Nature. The Biodiversity COP, established under the



The group of presenters at COP16 with CTR founder Tom Smith and associate director Virginia Zaunbrecher



©Shah Selbe: Bouamir field station

Convention on Biological Diversity (CBD), runs on a similar model but focuses on halting biodiversity loss and promoting the sustainable use of natural resources. While the Climate COPs have gained more public attention, the Biodiversity COPs are also globally important, addressing the interconnected crises of climate change and biodiversity decline. Recent years have seen growing recognition that climate and biodiversity targets must be

pursued together for meaningful global progress. CTR leadership joined the California delegation at COP16 in Colombia to advocate for stronger biodiversity protection, informed by rigorous science and led by local communities.

Looking ahead to COP30. COP30 in Belém is anticipated to be a defining moment. By this point, countries are expected to have submitted and updated their NDCs and national biodiversity strategies, aiming for more ambitious targets in line with scientific consensus. COP30 will be critical for assessing progress, closing implementation gaps, and mobilizing the necessary financial and political will to meet global climate goals. It will also serve as a litmus test for the international community's commitment to avoiding the

worst impacts of climate change and biodiversity collapse. As the world approaches COP30, the need for urgent, coordinated action has never been clearer. The outcomes of this conference will shape the trajectory of global environmental policy for years to come, making it a focal point for scientists, policymakers, and advocates worldwide. At the CTR, we hope to be present in Belém this fall, alongside our campus partners from the Governors' Climate and Forests Task Force, the Center for Brazilian Studies, and faculty and scholars working on climate change. A strong UCLA presence at COP30 will be important to advancing the University's commitment to global leadership in addressing the planet's most urgent environmental challenges.



Picture from field station panel talk "From Policy to Practice: the Role of Field Station Networks in Implementing Science-Based, Inclusive Conservation" with Tom Smith and Virginia Zaunbrecher

PASE IN CAMEROON

Program for the Advancement of Surgical Equity (PASE) Advancing Trauma Care, Injury Prevention, and Education

By Catherine Juillard and Sabrinah Christie, UCLA School of Medicine

Did you know that in some places, injury is the leading cause of death among people under 44 years of age? Unfortunately, your chances of surviving injury depend on

trauma care through equity-driven, data-informed, and community-empowered solutions. In Cameroon, where injury-related deaths are twice as high as in the U.S., PASE collaborates with

“Did you know that in some places, injury is the leading cause of death among people under 44 years of age?”



©Catherine Juillard

where in the world you live. No 9-1-1 ambulance system exists in Cameroon, but the Program for the Advancement of Surgical Equity (PASE), co-led by Drs. Catherine Juillard and Ariane Christie from the UCLA School of Medicine, alongside their local partners in Cameroon, are redefining

local institutions to build sustainable trauma systems. Key initiatives include a vision to create a Cameroon National Trauma Registry, first responder training for community members, and smartphone-based ultrasound diagnostics. These efforts are complemented by mental health integra-

tion and mobile follow-up tools to ensure continuity of care. Through the Sustainable Trauma Research, Education, and Mentorship Program (STREaM) programs in Cameroon, PASE also invests in training the



next generation of African trauma researchers and clinicians. By combining science with deep local partnerships, PASE is reshaping the future of global access to healthcare.

PALMS, GENOMES, AND THE TROPICS REIMAGINED

By Felipe Zapata



©Felipe Zapata: collecting palms in the rain forest

In April of 1800, the naturalist and explorer Alexander von Humboldt, along with the botanist Aimé Bonpland, embarked on a month-long expedition along the Orinoco River. Witnessing the overwhelming biodiversity of the region transformed Hum-

“ Witnessing the overwhelming biodiversity of the region transformed Humboldt’s life. He famously wrote that in such a place, “man is nothing.”

boldt’s life. He famously wrote that in such a place, “man is nothing.” Earlier

this year, I had the chance to follow in Humboldt’s footsteps and travel along a section of the Orinoco River in eastern Colombia. As an undergraduate, I spent six months in a remote field station in this region learning how to conduct field biology and independent research on birds and plants. Like Humboldt, that first experience changed my life. Returning years later was deeply meaningful. This time, I was fortunate to join my colleague [Dr. María José Sanín](#), a renowned tropical biologist and palm

expert at Montgomery Botanical Center in Miami. Our main goal was to collect plant material (leaf tissues, seeds, and seedlings) for several research projects that Dr. Sanín is leading on the evolution, conservation, and domestication of various palm species. One of the key projects we are working on focuses on the few palm species that occur along the rainforest–savanna transition. Very few organisms are adapted to survive across such an extreme environmental gradient, but these palms may



©Felipe Zapata: Rain forest on the banks of the Orinoco River in the border between Colombia and Venezuela



©Felipe Zapata: Cerros de Mavicure along the Inírida River in eastern Colombia

hold crucial clues for resilience in the face of climate change and habitat loss. By sequencing genomes from populations across this transition zone, we hope to uncover patterns of connectivity, adaptation, and overall genomic health. We believe these palm species may serve as indicators of

how ecosystems respond to environmental pressures, and perhaps even how they can persist under future conditions.

By working with Dr. Sanín, local Indigenous communities (this trip included members of the Puinave, Curripaco, and Piapoco groups), and other



©Felipe Zapata: Community El Remanso where the team stayed

Colombian researchers, this expedition began to build essential bridges for broader CTR collaborations that hold immense opportunities to foster tropical genomics research. Work is already planned to expand to other species and regions in the Americas. Over the long term, we hope to extend these efforts to the African tropics, facilitated through our partnership with the Congo Basin Institute, with the goal of developing a global framework for comparative landscape genomics and landscape ecology across the tropics.

If you are interested in learning more or supporting the CTR’s tropical genomics work, please get in touch or [donate](#)

AI IN TROPICAL RESEARCH & CONSERVATION

Artificial Intelligence to Decode, Protect, and Empower Tropical Ecosystems

By Elsa Ordway

Tropical ecology, evolution, and conservation are entering a transformative era, driven by advances in artificial intelligence (AI) and machine learning. AI is revolutionizing how scientists collect and analyze complex ecological data, from tracking species movements and physiology to predicting patterns of genetic diversity. For example, in a study of tropical frogs, machine learning models enabled researchers to disentangle the impacts of historical climate shifts and contemporary habitat changes on patterns of genetic variation, offering insights critical for conservation planning [1]. Similarly, AI-powered analysis of satellite imagery allows for estimation of carbon stocks at unprecedented scales, as demonstrated in research led by UCLA post-doc Le Bienfaiteur Sagang [2] and work carried out by [CTrees](#), a nonprofit led

by UCLA Adjunct Professor Sassan Saatchi that tracks carbon in every tree on the planet to provide data to governments, companies, and organizations seeking to reduce emissions from deforestation and degradation.

AI-powered tools can help researchers sift through enormous datasets and have great potential to inform biodiversity conservation and climate change solutions. "AI has vastly increased incoming ecology and biodiversity data, but, to me, the more exciting avenue is what we can do with it," says Laura Pollock, Assistant Professor in quantitative ecology at McGill University and [AI and Biodiversity Change \(ABC\) Global Change Center](#) affiliated faculty. Earlier this year, I gave a talk to the ABC Global Change Center, focused on harnessing remote sensing and AI to under-



stand tropical ecosystems in a changing world. Over the next decade, the CTR is well-positioned to integrate AI with cutting-edge genomics and satellite technology, bridging scientific innovation with on-the-ground conservation. Perhaps even more importantly, by training local communities in the tropics in these methods, the CTR will amplify its impact in globally important biodiversity hotspots. As the field evolves, collaboration between ecologists, data scientists, and policymakers will be key to harnessing AI's full potential, turning data into actionable strategies to conserve and protect Earth's vital ecosystems.

THE PANGEA PROJECT

A global effort to decode tropical forests

By Elsa Ordway

Tropical forests, often called the lungs of the planet, store nearly a third of Earth's terrestrial carbon – about 250 billion metric tons, enough to submerge all seven continents under five inches of solid carbon. These ecosystems regulate the global climate system and sustain unparalleled biodiversity, yet they face mounting threats from rising temperatures, deforestation, and human disturbances that are destabilizing them

in 2024 to scope the PAN-Tropical Investigation of BioGeochemistry and Ecological Adaptation (PANGAEA). Led by [Elsa Ordway](#), co-director of the [Center for Tropical Research](#) and the [Congo Basin Institute](#) at UCLA, PANGEA aims to transform our understanding of tropical forests and their role in the global climate system. PANGEA was a NASA-funded effort that garnered an overwhelming amount of additional sup-



©Elsa Ordway



©Elsa Ordway

at an alarming rate. A global network of more than 800 researchers from 60 countries joined forces

port from the US Forest Service International Program, the Congo Basin Institute, the Governors' Climate and

Forests Task Force, the Wildlife Conservation Society, and US Embassies in Cameroon and the DRC. With the goal of developing the

roadmap for a decade-long campaign in the tropics, PANGEA produced a comprehensive [white paper](#) that details the current state of knowledge and the critical science and training needs to advance our ability to effectively monitor, meas-

ure, and understand the world's tropical forests and their role in the intricately coupled Earth system. As the PANGEA team awaits news from NASA and other potential sources of federal funding, the work continues. Research is advancing,

efforts to coordinate and collaborate on a grand scale are proceeding, and early-career researchers are taking on more leadership roles, paving the way for PANGEA's launch.

If
you are interested
in learning more or
supporting the CTR's tropical
work, please get in touch or
[donate](#)

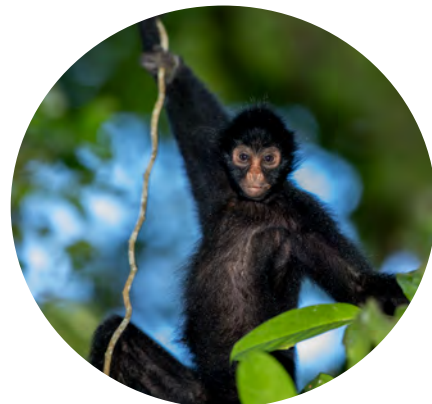
CTR FIELD RESEARCH UPDATES

CTR Researchers are involved in a wide variety of projects worldwide. Here are some highlights of their field work, news, and publications.



Graduate student **Madeleine Pacheco** integrates molecular tools with field-based methods to assess biodiversity, trophic dynamics, and habitat connectivity in tropical coral reef ecosystems. Maddie's research is supporting the development of artificial reefs in Madagascar and the establishment of a locally managed marine protected area in Mozambique. As the foundation of coupled human-marine systems across the tropics, Maddie seeks to address the urgent need for conservation strategies and effective monitoring of reef-building corals.

Last winter quarter, Prof. **Greg Grether** and Rachel Chock traveled to Manú National Park, Peru with 17 undergraduates through the Field Biology Quarter (FBQ). The students designed and carried out original research to tackle questions relevant to conservation. Such as: does artificial light at night increase predation on cryptic frogs or reduce seed dispersal by rainforest rodents? Does ecotourist noise reduce spider monkey fitness? The FBQ has provided intensive ecological research training for UCLA undergraduates since 1972.



Graduate student **Sara Pedraza** is studying thermotolerance and population genetics in dominant tree species along tropical mountain gradients, as well as the acclimation capacity of plant species to rising temperatures using a transplant experiment in the Colombian Andes. Over the last year, Sara completed two field seasons in multiple locations, collecting thermal physiology measurements, herbarium vouchers, and leaf samples for genomics analyses from more than 150 individuals. Her research is conducted in collaboration with the UCLA Herbarium, Universidad del Rosario in Bogotá, Universidad Nacional in Medellín, Universidad del Valle in Cali, and the University of Exeter. She extends sincere thanks to the community of Colombian researchers supporting her research project.



Graduate student **Hannah Stouter** worked alongside a team of researchers from CBI, including Fanny Djomkam, Zita Tchengo, Raissa Njundiyimun, Charles Assam, Dr. Claude Tatuebu Tagne, Jordan Mbe, Alysson Bery, Benedicta Ningying, Wesner Epie, and Serge Assola to conduct household surveys to better understand drivers of small-scale land use change in villages around the Dja Biosphere Reserve in Cameroon. In total, the team collected 313 household surveys, from 32 villages and delineated over 700 agricultural fields.

Tekam S. A. Antoine, graduate student at the University of Yaounde 1. I studied the movement ecology of great blue turaco (*Corythaeola cristata*) in the Dja reserve using telemetry. We observed strong individual variation in turaco movement behavior and habitat selection highlighting the need to prioritize the monitoring of new animal species in Central African landscapes, which are threatened by hunting, logging, climate change and others. A manuscript describing this research has been submitted to the journal *Biotropica* for publication.



Graduated student **Chris Sayers** has returned to the Peruvian Amazon to continue researching how artisanal and small-scale gold mining impacts tropical bird communities. Now in his third field season, Chris is using bird banding, bioacoustics, and remote-sensing tools from NASA to understand the effects of mining-induced toxic mercury pollution and deforestation on species composition. As gold prices continue to climb, these data are crucial for informing sustainable mining practices amidst an ongoing gold rush throughout the region.

FROM (COFFEE) FARM TO (COFFEE) TABLE

A Trip to the Highlands of Guatemala to Better Understand the Coexistence of Sustainable Environments and Business

By Ryan Harrigan, Associate Adjunct Professor, CTR, IoES

For the past year, I have been afforded the opportunity to work with eight wonderful UCLA IoES Environmental Science Seniors on their capstone project investigating the sustainability of a small-scale coffee farm started in the highlands of Guatemala, but ultimately with products sold worldwide (including a physical cafe close by in Pasadena, California!). If you don't already know, all seniors within the Environmental Science Major at UCLA are required to take part in a year-long Practicum project (guided by UCLA IoES instructor Noah Garrison), where each student is tasked with working individually, as well as part of a larger team, to help tackle some real-world problems as they relate to the planet, and the livelihood of both wildlife and humans that depend on its resources. Working with

two advisors (myself and Dr. Dan Cooper) as well as a client (in our case, Jones Coffee Roasters (<https://www.jonescoffeeroasters.com>), headed by Chuck Jones), our group of IoES Seniors (Alexis Shenkiryk, Iris Hong, Jennifer Gonzalez-Diaz, Quinn Wynacht, Julia Packer, Anna Neiger, Taylor Simonich, and Joyce Goh) were tasked with understanding how Jones Coffee Roasters could bring their wonderful blends of Guatemalan coffee to people who are passionate about their cup of coffee, in a way that is sustainable for the natural environment (and the business!).

We, as a team, all knew from the beginning that we had to travel to Guatemala to see the Jones Coffee farm first-hand. To that end, our students were able to raise nearly \$10K through UCLA's Spark Campaign

and Green Initiative Fund (thanks to all of our wonderful donors!), and after some basic field and safety training, we were ready to do work on Spring Break! We got to spend almost the full week at Fincas Dos Marias, a large farm community named after two pioneering Marias

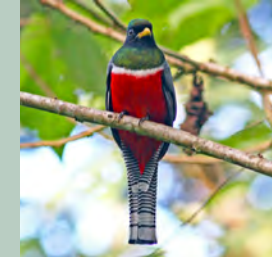


©Ryan Harrigan: Practicum picture

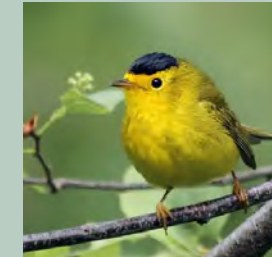
Here are just a few of the over 100 bird species we were able to see and hear during our trip. Some of these birds, like the Emerald Toucanette (the smaller cousin of the Fruit Loops Toucan!) and the Azure-rumped Tanager, you can only see in a few locations in Central and South America, whereas others, like the Wilson's Warbler, winter in Guatemala but can travel as far north as Alaska to find a mate and have offspring. So we felt a real kindred spirit to these long-distance travelers, because we had a journey of our own to find ourselves in these same forests.



Emerald Trogon ©Andres Noboa



Collared Trogon ©David Disher.



Wilson's Warbler ©Ryan Schain



Azure-Rumped Tanager ©Dubi Shapiro

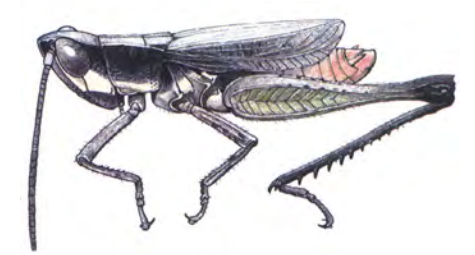
who started the farm in the 1870's and after a long bus ride, a shorter truck one, we finally arrived at Jones Coffee farm. And wow the things we saw!.

The highlands of Guatemala, and the farm in particular, was teeming with wildlife. From birds to butterflies, to plants, to amphibians, the sights and sounds of the nearby forest and its spillover onto the agricultural fields was apparent. While we recorded myriad scientific data (GPS, species lists, etc.), one of the highlights was recordings of birdsongs we were able to capture, and then using AI software, match to species almost instantly.

Another highlight was the invertebrates we saw: moths, butterflies, fireflies, beetles, and one particular grasshopper:



©Dan Cooper



We didn't know it at the time, but when we uploaded this photo to the online, citizen-science based program iNaturalist, the community couldn't at first identify it. Until one of the users realized it was the first photo ever taken of the species! This is a slant-faced grasshopper (*Silvitettix audax*) - and had been described and collected in the 1970's, but never captured live:

I don't know about you, but we thought the live version was MUCH cooler! It was a great find, and a reminder to us all that the planet was lots of wonders still left to discover.

We are still in the process of analyzing all of our data and writing up the results, but it was a scientific expedition to remember. Trav-

eling to conduct science, and getting out of your comfort zone, is something that I would encourage all curious students and researchers to do, and the trip gave us all an authentic idea of what it is like to conduct work in this truly unique environment. The next time you buy a bag of coffee, try a Guatemala variety (preferably Jones!) and I can guarantee you'll be able to taste the soul of the environment, wildlife and people that make it so special.



©Ryan Harrigan: Practicum group picture

BEYOND EBONY

Cultivating Conservation Through Collaboration: How UCLA and Cameroonian Students Are Shaping Conservation and Community Science in Central Africa

By Virginia Zaunbrecher

The [Ebony Project](#), a partnership where business, communities, and researchers work together to conserve vulnerable West African Ebony (*Diospyros crassiflora*), has been in operation for nine years. Over the years, it became clear that the project was accomplishing much more than just conserving ebony, but the project team

struggled to find the time to assess what other impacts they might be having. Enter the IoES Senior Practicum team of UCLA students Santiago Dent, McKenna Giannos, Charles Graveaux, Omaia Olivas, Lily Rivas, and Will Francavilla and Cameroonian students Betsi Atangana, Frédérique Oriane Guibong, Maxime Ketchemen Wandji, Ahmed

Njetneliagnigni, and Cyndi Tengu working for client Taylor Guitars.

Over the course of two quarters, the students worked together to develop a contemporary Theory of Change for the Ebony Project and begin to define and measure new Key Performance Indicators. The UCLA students traveled to Cameroon for spring break,

"The trip to Cameroon was extraordinary, and getting the opportunity to gain experience in fieldwork research and experiencing the complexity of the Ebony Project firsthand was invaluable. It was also just an amazing experience getting to immerse ourselves within a very different environment and culture, making it a trip I will never forget and one that inspires me to hopefully return to Africa one day as part of my career. It was definitely the most unique experience of my academic career, and I learned a lot both research wise and socially." - Charlie Graveaux

and the students were able to meet in person. They visited four participating communities, conducted focus group discussions, and trained local community mem-



©Virginia Zaunbrecher: Practicum group photo

bers on a community-based biomonitoring protocol to collect data on fruit trees.

Their results are already helping the Ebony Project team understand and quan-

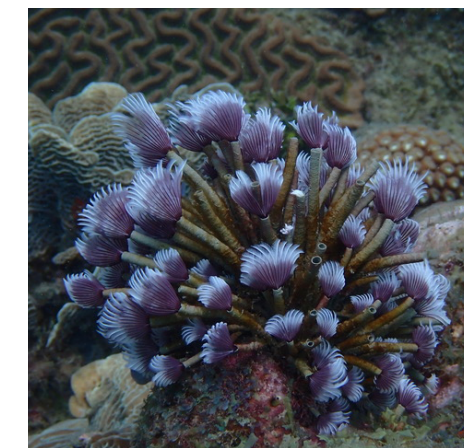
tify their impact, and have shed light on how the Ebony Project helps address major international efforts like 30x30 and the Sustainable Development Goals.

TROPICAL MARINE SCIENCE AT UCLA

CTR's Expanding Efforts in Tropical Marine Biology

By Mónica Medina

Marine tropical biology is an interdisciplinary field that focuses on marine organisms and ecosystems in tropical regions, encompassing a wide range of topics, including coral reef, mangrove, and seagrass ecology, as well as the impact of climate change on tropical marine environments. The CTR is



©Mónica Medina

well-positioned to make significant contributions to this area of research through the different laboratories working in several biodiverse locations in the world, such as Tahiti, Hawaii, and the Caribbean. Tropical marine ecosystems are particularly vulnerable to the effects of sea surface temperatures,

ocean acidification, coastal development, pollution, overfishing, and increased frequency of storms. CTR affiliated faculty are researching the resilience of organisms such as corals to these stressors to develop models to predict future impacts and guide restoration efforts. Several laboratories are using environmental DNA approaches to study the evolution and biogeography of several marine taxa, survey biodiversity, and predict biodiversity loss. Ancient DNA technology is helping uncover the eco-evolutionary responses of coral holobionts in different oceans to anthropogenic activities in the last millennium.

CTR researchers work in close collaboration with local communities and conservation organizations. Community-based



©Mónica Medina: Bundle formation

conservation, education programs, and citizen science initiatives are all part of our approach to building long-term, successful partnerships with local stakeholders.

Some foreseeable opportunities for the CTR in tropical marine biology include 1) the possibility of interdisciplinary research across terrestrial and marine expertise, and diverse disciplines across UCLA, such as geography, oceanography, and microbiology, to mention a few; 2) establishing international partnerships with research institutions and conservation agencies

Dr. Mónica Medina



Renowned Colombian marine biologist, Dr. Mónica Medina, will join the Department of Ecology and Evolutionary Biology at UCLA this summer. Here at the CTR, we are excited about Dr. Medina's arrival on our campus and we are looking forward to having her join other marine faculty members (Dr. Paul Barber, Dr. Peggy Fong, Dr. David Jacobs) in our efforts to incorporate more tropical marine science into CTR's activities. We have invited Dr. Medina to outline her vision of marine tropical botany and how it could intersect with the CTR.

Welcome, Mónica!

in tropical nations; 3) leveraging advanced technologies such as remote sensing, drone surveillance, genetic analysis and high throughput multi-omics to enhance CTR's global research capabilities; and 4) use research fundings to inform policy decisions and conservation strategies of partner nations and actively support UN IPCC and CPR initiatives.



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2024-2025 AWARDS AND RECOGNITIONS

Spotlight on Sara Pedraza



Sara Pedraza was awarded the AAUW International Fellowship to support her as an international graduate student. She also received the 2025 Graduate Student Dissertation Award in Phylogenetic Comparative Plant Biology from the Botanical Society of America, the Lewis and Clark Fund for Exploration and Field Research from the American Philosophical Society, a graduate student research award from the Latin American Institute at UCLA, and the Department of Ecology and Evolutionary Biology's Graduate Teaching Award. These awards are well-deserved recognition of Sara's efforts and accomplishments, and

will help cover her tropical research expenses. Sara is deeply grateful to these institutions and previous funders for supporting her project and academic journey.

Elsa Ordway's Dual Recognition in Conservation and Mentorship

We are proud to announce that Dr. Elsa Ordway, Co-Director of the Center for Tropical Research (CTR) and Assistant Professor at UCLA's Department of Ecology and Evolutionary Biology, has been recognized with



two prestigious awards in 2025. On Earth Day, April 22, Dr. Ordway received the San Diego State University (SDSU) Biology Department's Award for Excellence in Conservation Science. This honor acknowledges her research on social-ecological systems in tropical forests, addressing critical challenges such as climate change and land-use pressures. Her keynote lecture, "Global Change Science in a Rapidly Changing World," highlighted the significance of tropical ecosystems in global environmental solutions. In addition, Dr. Ordway was awarded the UCLA's 2024 Excellence in Postdoctoral Mentoring Award, excelling among 19 other important nominees and reflecting a dedication to going above and beyond in helping post-doctoral scholars develop successful careers. Dr. Ordway's dual recognition underscores a commitment to both advancing conservation science and supporting emerging researchers. CTR celebrates these achievements and the positive impact our co-director continues to make in the field.

Felipe Zapata Joins ATBC Council

Earlier this year, our own Felipe Zapata, Co-Director of the Center for Tropical Research and Associate Professor at UCLA’s Department of Ecology and Evolutionary Biology, was elected to the council of



the Association for Tropical Biology and Conservation (ATBC). The ATBC is a scientific society with over 60 years of history dedicated to advancing the understanding and conservation of tropical ecosystems. It supports research, collaboration, capacity building, and communication among tropical biologists and conservationists worldwide. As a council member, Felipe will help shape the organization’s direction and initiatives over the next three years.

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