

News and Events

2015 World Ecology Award



On November 21st, 2015, [Robert Bateman](#) became the 21st recipient of the [World Ecology Award](#). He is the first visual artist to receive this award. Mr. Bateman is an internationally acclaimed wildlife artist who captures the majesty and beauty of nature in his paintings. His subjects include the birds and mammals of the Canadian north, the megafauna of the African plain, and the Siberian tiger. His respect and love for nature have inspired countless students, and he has used the sale of his paintings and limited edition prints to raise millions of dollars for conservation. Wherever he goes, he is a

spokesperson for the protection of the environment as a means for bettering the human condition.

He says, "I can't conceive of anything being more varied and rich and handsome than the planet Earth. And its crowning beauty is the natural world. I want to soak it up, to understand it as well as I can, and to absorb it . . . and then I'd like to put it together and express it in my painting. This is the way I want to dedicate my life."

In conjunction with the Gala dinner held in honor of Robert Bateman, the Harris Center raised over \$74,000 in net profit, thanks to the efforts of the Gala Program Committee (co-chairpersons Anna Harris and Virgil VanTrease), and to all supporters of and attendees to the Gala dinner. These funds will be used to support the research and training of undergraduate and graduate students at UMSL studying in the areas of Ecology, Evolution, and Conservation. A big thank you to Cindy Vantine of [University Events](#), Deborah Godwin of [University Development](#), Max McCombs and Liz de Laperouse of the [Harris Center Leadership Council](#), and Louise Bradshaw from the [St. Louis Zoo](#) for making this year's event a great success. We would especially like to thank the Saint Louis Zoo for providing the venue for this year's event.



(Left to right: Anna Harris, Patty Parker, Birgit and Robert Bateman, Virgil and Sandra VanTrease, Chancellor Tom George, and Barbara Harbach; photo August Jennewein.)

2015 Whitney and Anna Harris Conservation Forum

[The Whitney and Anna Harris Conservation Forum](#) took place on November 5th at the Saint Louis Zoo. The title of this year's forum was *Conservation of the Bees*. There were over 300 guests in attendance to hear four presentations from bee experts from the U.S. and Canada. This annual forum, organized and co-sponsored by the Harris Center, provides an opportunity for conservation organizations and academics to interact with each other and with the general public. Its goal is to promote collaboration in the field of conservation, and to explore various conservation issues in depth. This year, attendees learned about bee behavior, the causes of population declines, and conservation efforts that focus on bee population recovery.



(Left to right: Sydney Cameron, Nigel Raine, and Alex Harmon-Threatt)

We heard from four leading bee conservationists who presented on their specific topics of research. [Dr. Sydney Cameron](#), from the University of Illinois Champaign-Urbana, specializes in bumble bee behavior, evolution, and conservation. Specifically she spoke on her research on the decline of North American bumble bee species. [Dr. Gerald Hayes](#) from the Monsanto Corporation spoke about the importance of honey bee pollination for food production, and how Monsanto is addressing the problem of *Varroa* mites that threaten honey bee populations. [Dr. Nigel Raine](#), from the University of Guelph, specializes in the behavior, ecology, and the impacts of environmental stressors. He spoke on his research on the impacts of various pesticides on bee behavior and pollinator service for fruit trees. [Dr. Alex Harmon-Threatt](#), from the University of Illinois Champaign-Urbana, specializes in plant-pollinator relationships and spoke about her research on patterns in natural and human-managed environments that encourage pollinator conservation and diversity.

In partnership with the Missouri Botanical Garden and the Saint Louis Zoo



Dr. Ricklefs Receives Two Ecology Honors

In a ceremony in Barcelona on Oct. 27, the Catalan government awarded [Dr. Robert Ricklefs](#), Curators' Professor in the Department of Biology, the 2015 [Ramon Margalef Prize in Ecology](#). The Margalef Prize recognizes an exceptional scientific career or discovery in the field of ecology and is named after the monumental [Spanish theoretical ecologist Ramon Marlef](#). "I was honored and a bit

surprised," [Ricklefs](#) said on winning the award. And then the following week, in Berkeley, Dr. Ricklefs received the 2015 [Joseph Grinnell Medal](#) from the Museum of Vertebrate Zoology of the University of California-Berkeley. The Grinnell Medal is awarded every five years. Dr. Ricklefs received the award for his commitment to natural history research and his fundamental empirical and conceptual contributions to ecology and evolution.

Fifth Annual SLEEC Retreat

The Fifth Annual Retreat of the St. Louis Ecology Evolution and Conservation Consortium ([SLEEC](#)) was held September 26 at the Saint Louis Zoo. This year's sponsors included the Saint Louis Zoo, Saint Louis University, Washington University, and the Harris World Ecology Center. The Retreat is a one-day event in which ecologists, evolutionary biologists, conservation biologists, and conservation professionals gather to hear research talks and view research posters. This year's keynote address was given by Dr. Chris Dick of the University of Michigan, and was entitled, "The dynamics of mountains, landscape, and climate in the generation of biodiversity in Amazon/Andean forest". This year's retreat was attended by 180 persons. Bob Ricklefs, Jason Knouft, Peter Hoch, Louise Bradshaw, and Leticia Soares helped greatly with this year's production. The Retreat and the SLEEC itself grew out of initiatives suggested by the Harris Scientific Board meeting at its 2011 meeting in St. Louis.

Mistnetting and Blacklighting in the Neighborhood



The Harris Center sponsored a "Flying Denizens of the St. Louis Night" event at the home of Val and Todd Terry on August 28. Black lights to attract moths and mistnets to capture bats (followed by their release) were set up at dusk. Harris Center students, faculty, and members of the Leadership Council and Executive Committee attended, and learned about moths and bats from Bob Marquis and Vona Kuczynska (UMSL M.S. alum, 2015). This effort is part of a larger project to document biodiversity in the St. Louis metropolitan region. Thanks to the Terrys for letting us use their backyard! We expect more of these events this coming summer, so think about opening your backyard to visitors for an evening.

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Harris Center Student Committee Formed

The Harris Center Student Committee is in its first semester of existence and had its first meeting in September. This committee was formed after it became apparent during the strategic planning process that Harris Center-associated students needed a way to give their input and contribute to the administrative side of the center. The goals are set by the members with a continuous feedback between the Committee and the rest of the biology student body. Dr. Marquis chose those to serve on the committee, but we expect the members will change on a yearly basis. The Committee is comprised of: Samoa Asigau, Christina Baer, Rossana Maguiña, and Stephanie Mafla-Mills, with Heritiana Ranarivelo and Leticia Soares serving as committee co-chairs. So far this semester the Committee has

revamped the [graduate student recruitment poster](#), and is in the midst of revising the [Graduate Certificate in Tropical Biology and Conservation](#), with the revising of the [Undergraduate Certificate in Conservation Biology](#) to follow.

News from the Field



Group photo of my team at the Betampona Natural Reserve

“I am returning from a field season in the Betampona Natural Reserve, Madagascar where I spent the previous six months studying how domestic and endemic carnivores interact and how this might facilitate disease transmission across species. My team and I have set up a network of camera trap



Broad striped vontsira, an endemic carnivore of Madagascar

stations to show that pet dogs are the most frequently encountered carnivore species in Betampona. We also collected biological samples from approximately 60 dogs and cats living in neighboring villages as well as wild carnivores from the reserve to test for the exposure to common carnivore pathogens. My results suggest that most dogs and cats living in the Betampona ecosystem were exposed to diseases such as canine parvovirus, canine distemper and toxoplasmosis. These diseases may in turn be transmitted to wild animals.

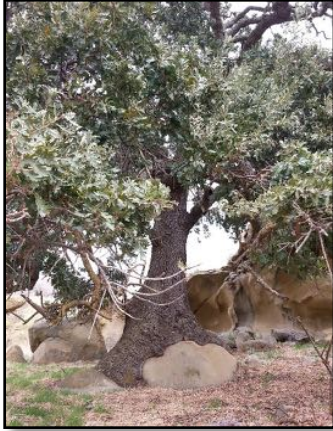
- [Fidisoa Rasambainarivo](#), PhD student

“Thanks to the Whitney R. Harris World Ecology Center John Denver Memorial Scholarship in Tropical Ecology and the Jenni Higashiguchi Award I was able to visit mammal collections in my home country of Colombia to collect over 200 tissue samples from nectar bats and take morphological measurements. I was also able to complete a field season in Parque Nacional Las Orquídeas in the northern western Andes of Colombia. With the support of these scholarships I have started my lab work involving the extraction of DNA and the amplification of mitochondrial and nuclear genes in order to study the species limits of the nectar bat genus *Anoura*.”

- [Camilo Calderón-Acevedo](#), PhD student



Heritiana Ranarivelo, PhD student, presented a talk at the annual meeting of the [Botanical Society of America](#) meeting in Edmonton, Alberta, in July 2015. The title of his talk was: “Investigating species hypotheses for the Malagasy clade of the genus *Psorospermum* (Hypericaceae)”.



Valley Oak, *Quercus lobata*

“I received a travel grant from the Harris Center to attend the Raptor Research Conference in Sacramento, California on November 2015. On behalf of Dr. Parker, who couldn’t attend the meeting, I presented our research on the Galapagos Hawk at the Island Ecology Symposium II. The presentation was entitled ‘Galapagos Hawks: host-parasite coevolution and eradication studies’. It was a great success; the audience was engaged and asked a lot of questions after the talk and on the following days. As part of the Raptor Conference a few field trips were available and I joined a small group of researchers on a trip to the Altamont Pass Wind Region guided by Douglas Bell, Wildlife Biologist of the East Bay Regional Park District. We were given an overview of the impact that wind farms have on birds of prey and were able to marvel at Native American paintings on the rocks and caves around the area as well as at a few Red-tailed

Hawks, a Golden Eagle, a Lewis’s Woodpecker, the California red-legged frog and a variety of fascinating oak trees.

With the support of the Harris Center and the Saint Louis Zoo I was able to work with Jeisson Zamudio, a Colombian ornithologist; Sage Rohrer, a Biology undergraduate at the University of Missouri – St. Louis; and volunteers from the Charles Darwin Station to accomplish all goals set for my last field season in the Galapagos Islands. We captured hundreds of native and endemic birds, as well as a good number of introduced Cattle Egrets (*Bubulcus ibis*) and Smooth-billed Anis (*Crotophaga ani*) that have managed to escape our group and other researchers for years. The blood samples obtained will be used to understand the role, if any, that these introduced birds play in the establishment and transmission of avian malaria within and between various bird species of the Galapagos archipelago.”

-[Mari C. Jaramillo](#), PhD student



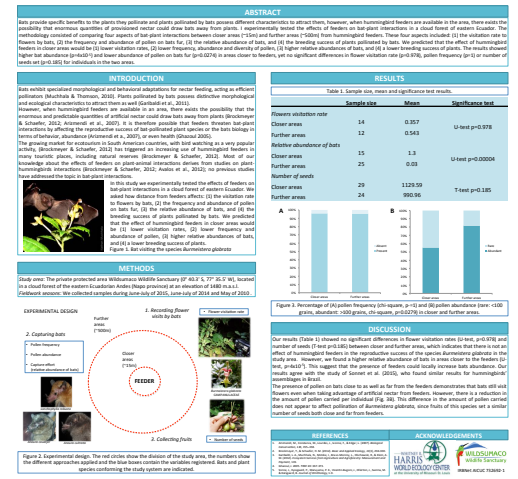
Bird mist netting on Santiago Island as part of the Avian Disease Project



A caterpillar that disguises itself as a twig, can you spot it?

“During my May-August field season, it was another dry wet season at my field site at Palo Verde National Park in Costa Rica. Despite that, my field assistant, Lilliam Morales, and I made great progress on my dissertation research. For my study of how and why caterpillars build shelters out of leaves, we monitored and studied over 700 caterpillar shelters. We observed numerous predation and parasitism events, and shelter building by some really amazing caterpillars.”

- Christina Baer, PhD student



“I received financial support from Harris Center, the Biology Department, and the UMSL Graduate School to participate at the 45th Annual Symposium of the [North American Society for Bat Research \(NASBR\)](#), October 30, in Monterey, California. I presented part of my master’s thesis research in a poster format entitled “Do hummingbird feeders affect bat-plant interactions?”

- Rosanna Maguiña, M.S. student

New Community Scholarship Announced

The [Whitney R. Harris Community Scholarship](#) is an endowed scholarship, based on earnings from the World Ecology Award Gala for Prince Albert II of Monaco. It was established in the spirit of the partnership in which the Whitney R. Harris World Ecology Center was founded. Specifically, the Harris Center offers annually one or more Community Scholarships to UMSL-enrolled students, undergraduate or graduate, who propose to conduct research in conservation of biodiversity and links current research programs of two or more partner institutions. Current partners are the University of Missouri-St. Louis, the Missouri Botanical Garden, and the Saint Louis Zoo. There should be one or more named mentors at each partner institution who provide written endorsement of the proposal. Proposals will be judged for their innovation and creativity, and likelihood for success. Proposals that are interdisciplinary will be given special consideration. Funding is for one year, and the amount requested should not exceed \$7,000. Proposals are due March 1 of each year, and are to be judged by the Harris Executive Committee. Award announcements will be made on or before April 15.

News from Alumni



Harris Center alumna Corinne Kozlowski is the St. Louis Zoo's lead endocrinologist and her team has started a program of collecting and studying dung. Harris Center doctoral student Gideon Erkenwick works alongside Kozlowski and said, “People probably don’t know this, but places all over the country are sending poop to St. Louis. We’re a poop magnet.” Kozlowski and her team track mammals’ estrogen, progesterone and testosterone levels as well as cortisol, a stress hormone. Zookeepers

follow the ovulation cycles of females so they can encourage (or discourage) the mating process. The lab can make a pregnancy diagnosis, tell if contraception is working or determine whether an animal is infertile. They track hormones during pregnancy so caretakers know when to prepare for an impending birth. [The St. Louis Post Dispatch](#) featured her team’s research methods and progress.



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Scholarships Awarded November 2015

Benjamin Abts (M.S., Aimee Dunlap): Travel and tuition to attend Organization for Tropical Studies (OTS) winter field course, 'Field Ecology: Skills for Science and Beyond', Dec. 28, 2015-Jan. 23, 2016. Whitney R. Harris Training Course Scholarship \$3,160.

Mari Jaramillo (PhD, Patricia Parker): Travel scholarship to attend the 2015 Raptor Research Foundation Conference, Sacramento, California, Nov. 2015, and present a talk entitled, "Galapagos Hawks: host-parasite coevolution and eradication studies".

Rosanna Maguiña (M.S., Nathan Muchhala): "Do artificial nectar feeders affect bat-plant interactions in a cloud forest in Ecuador?" Travel scholarship to conduct research in Ecuador for 21 days in the Wildsumaco Biological Station (Napó Province-Ecuador). Henry B. Cowhey Scholarship in Tropical Conservation for \$2,000; and Peter H. Raven World Ecology Scholarship for \$1360.

Fall Theses and Dissertations Completed

Hernández-Yáñez, Haydée. The role of abiotic and biotic factors limiting *Piper* distribution and abundance in a lowland Costa Rican wet forest (Master's thesis, November 2015, Robert Marquis, advisor).

O'Brien, Daniel R. Factors influencing Asiatic oak weevil interactions with native ecosystem engineers over time (Master's thesis, November 2015, Robert Marquis, advisor).

Student External Research Grants

Calderón-Acevedo, Camilo. "Species limits in the nectar-feeding bat genus *Anoura*". Purchase of six mist nets and a GoPro camera for continued studies. IdeaWild, \$1,000 (Nathan Muchhala, advisor).

Rasambainarivo, Fidisoa. "Patterns of interactions and disease transmission between introduced and endemic carnivores in Betampona, Madagascar" project funding. Rufford Foundation, \$7,500 (Patricia Parker, advisor).

Ranarivelo, Heritiana. "Species delimitation of the Malagasy *Psorospermum* (Hypericaceae): Integrating morphological and molecular data". 2015 Systematics Research Fund from the Systematics Association and the Linnean Society of London (Peter Stevens, advisor).

New Publications

Warren, B. H., D. Simberloff, **R. E. Ricklefs**, R. Aguilee, F. L. Condamine, D. Gravel, H. Morlon, N. Mouquet, J. Rosindell, J. Casquet, E. Conti, J. Cornuault, J. M. Fernandez-Palacios, T. Hengl, S. J. Norder, K. F. Riksdijk, I. Sanmartin, D. Strasberg, K. A. Triantis, L. M. Valente, R. J. Whittaker, R. G.

Gillespie, B. C. Emerson, C. Thebaud. 2015. Islands as model systems in ecology and evolution: prospects fifty years after MacArthur-Wilson. *Ecology Letters* 18: 200-217. [Read More](#)

Arellano, G., **P. M. Jørgensen**, A. Fuentes, **M. I. Loza**, V. Torrez, and M. J. Macía. 2015. Oligarchic patterns in tropical forest: role of the spatial extent, environmental heterogeneity, and diversity. *Journal of Biogeography*. [Read More](#)

Sandkam, B., C. M. Young, F. M. Y. Breden, **G. R. Bourne**, and F. Breden. 2015. Color vision varies more among populations than among species of live-bearing fish from South America. *BMC Evolutionary Biology* 15: 225. [Read More](#)

Ellis, V. A., M. D. Collins, **M. C. I. Medeiros**, **E. H. R. Sari**, **E. D. Coffey**, R. C. Dickerson, C. Lugarini, J. Stratford, D. R. Henry, L. Merrill, A. E. Matthews, A. A. Hason, J. R. Roberts, M. Joyce, **M. R. Kunkel**, and **R. E. Ricklefs**. 2015. Local host specialization, host-switching, and dispersal shape the regional distributions of avian haemosporidian parasites. *Proceedings National Academy of Sciences* 112: 11294-11299. [Read More](#)

Matthews, A. E., M., **V. A. Ellis**, A. A. Hanson, **R. E. Ricklefs**, and M. D. Collins. Avian haemosporidian prevalence and its relationship to host life histories in eastern Tennessee. *Journal of Ornithology* 156: [Read More](#)

Diaz-Pulido A., A. Benitez, D. Gomez, **C. A. Calderón-Acevedo**, A. Link, A. Pardo, F. Forero, G. de Luna, E. Payán, and S. Solari. 2014. Mamíferos del bosque seco, una mirada al Caribe Colombiano. In *El Bosque Seco Tropical en Colombia*. Pp. 124-161. Instituto Alexander von Humboldt. Villa de Leyva, Colombia.

Triantis, K., E. P. Economo, F. Guilhaumon, and **R. E. Ricklefs**. 2015. Diversity regulation at macro-scales: species richness on oceanic archipelagos. *Global Ecology and Biogeography* Volume 24 (5): 594–605. [Read More](#)

Media Coverage

Gideon Erkenwick (PhD candidate, Patricia Parker advisor) was featured in the St. Louis Post Dispatch, which described his doctoral research at the St. Louis Zoo. http://www.stltoday.com/news/local/education/st-louis-zoo-is-serious-about-poo/article_928f88c2-b477-5b03-8b05-b622ed7af82e.html

Dr. Robert Ricklefs was featured in the UMSL Daily for receiving the 2015 Ramon Margalef Prize in Ecology, <http://blogs.umsl.edu/news/2015/09/30/margalef-prize/>

World Ecology Award Winners in the News

HRH Prince of Wales (2003 WEA Recipient): Prince Charles gave a speech on deforestation at the 2015 United Nations Climate Change Conference (COP21).

<http://blueandgreentomorrow.com/2015/12/02/cop21-speech-by-hrh-the-prince-of-wales-at-the-forests-session/>

Dereck and Beverly Joubert (2008 WEA Recipients): The Jouberts continue to do their part to conserve the land and animals in Africa, and recently gave an interview on their work with lion conservation.

<http://intelligenttravel.nationalgeographic.com/2015/12/01/how-to-save-africas-lions/>

Howard G. Buffet (2011 WEA Recipient): Mr. Buffet has recently financed a hydropower plant in the Democratic Republic of Congo's North Kivu province.

<http://www.hydroworld.com/articles/2015/12/buffett-financed-13-6-mw-small-hydro-project-opens-in-drc.html>

His Serene Highness Prince Albert II of Monaco (2013 WEA Recipient): Prince Albert II also spoke at the 2015 United Nations Climate Change Conference (COP21) and submitted one of the most ambitious climate change plans.

<http://www.theclimategroup.org/what-we-do/news-and-blogs/hsh-prince-albert-ii/>



Juvenile Blue Jay, *Cyanocitta cristata*, Cuivre River State Park, Lincoln Co., MO (R. Marquis)