

DLC HOSTS COLLEAGUES FROM MADAGASCAR

ANDREA KATZ, CURATOR, LIVING ANIMAL COLLECTIONS

In May and June, the Duke Lemur Center (DLC) had the pleasure and great honor to host two Malagasy colleagues: Eric Robso-manitrondrasana of the Ministry of the Environment, Ecology, Oceans and Forests and Bernard Iambana, Manager of Zoo Ivoloina/ Conservation Manager, Madagascar Fauna and Flora Group. We would like to express our most heartfelt thanks to the Kris and Peter Norvig Family Fund for supporting this international exchange.

The purpose of their visit was to learn firsthand about the DLC's best practices for lemur care and management. In Madagascar, Eric is the coordinator of a new government initiative to improve husbandry standards and breeding management for hundreds of lemurs that are kept in Madagascar's zoos and private wildlife parks. Bernard is one of the key trainers for this project and also manages Parc Ivoloina's lemur collection.

Survival of Madagascar's most endangered lemur species depends upon international cooperation for sustainable management of captive populations, in addition to efforts to protect habitats and populations in the wild. This visit was an important opportunity to

discuss ways that we can collaborate further to achieve common conservation goals. The discussions were expanded when Eric and Bernard attended the Prosimian Taxon Advisory Group's annual meeting with several members of the DLC technician staff. As a result, in July an official "Accord of Collaboration" between the Government of Madagascar, American (AZA) and European (EAZA) groups was finalized- to promote global ex situ and in situ conservation of the critically endangered blue-eyed black lemur (*Eulemur flavifrons*). Named on the 2012, 2013 and 2014 IUCN List of the 25 Most Endangered Primates, this species desperately needs cooperative global management to survive. And as the only North American institution successfully breeding blue-eyed black lemurs, the DLC stands ready to do all we possibly can.



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DUKE
LEMUR CENTER

ANNUAL REPORT

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RING-TAILED LEMUR



IN MEMORY OF OLIVER SACKS

BY ANNE YODER, DIRECTOR

August 30th, 2015, was a day of mourning around the world as we learned that the great neurologist and author Dr. Oliver Sacks had died. Obituaries and remembrances poured forth over the subsequent weeks, with one and all celebrating the man and his work, both as a physician and as a writer. He was praised for his brilliance of mind, his kindness, his wisdom, and most particularly, for his unique capacity for seeing the human spirit trapped within the profoundly disabled patients with whom he worked over the course of a remarkable career. And he had another special characteristic that was less well known: he loved lemurs.

The story of how this was so, and how it came to be that I was among the very lucky people with the privilege of knowing him simply as “Oliver,” comprises the subject of this tribute. I write it with tremendous pride and deep sorrow. Though our friendship was brief when measured by the few hours spent in each others’ company, it endured for nearly a decade, and was, for me, deeply meaningful. It was a friendship cemented by our shared fascination with lemurs.

It all began in 2007 when Oliver was on a speaking tour in the Triangle area. In the course of these events, he had occasion to meet former Duke Provost Peter Lange and express to him his interest in visiting the Duke Lemur Center. I will never forget the Saturday morning when I awoke to find a message from Peter on my answering machine, telling me of Oliver’s interest and asking if I could arrange for a special tour. Having been a fan of Oliver’s work for many years (and always, of course, eager to accommodate Peter’s wishes), I responded with alacrity. And so it came to pass that I suddenly and very unexpectedly was the personal guide of the great Oliver Sacks!

The tour was marvelous. Oliver was so very kind, and humble, and gracious --- and completely mesmerized by the lemurs. With each new encounter, Oliver would fall into a deep reverie, as if he was attempting to gaze into the soul of each and every lemur. After long periods of quiet contemplation, he would then turn his attention back to me and his other human companions, peppering us with some of the most detailed and insightful questions regarding lemur biology and cognition that

EXTENSIVE NEW BOUNDARY DEMARCATION OF MAROJEJY NATIONAL PARK

DR. ERIK R. PATEL, SAVA CONSERVATION DIRECTOR

Since 2012 SAVA Conservation has been providing employment and raincoats to local forest guards (“CLP’s or Comités Locale du Parc”) who assist park rangers with forest monitoring as well as installation of park boundary signs along the perimeter of Marojejy National Park. 105 new metal boundary signs, as well as red paint on trees between them, have been installed over the past few years through this program. In northern Madagascar, local confusion about the location of park boundaries and their permanence has been reported for recently gazetted national parks such as Masoala and Marojejy as well as long standing special reserves such as Ankarana and Anjanaharibe-Sud.

Insufficient boundary demarcation has contributed to the shrinking sizes of some of Madagascar’s national parks and other protected areas. Marojejy National Park was fortunate to be professionally re-demarcated in 2008 by a geographer. The official “new” size of Marojejy is 55,500 ha, which is considerably smaller (45.5 km²) than the previous official size (60,050 ha) specified in the original decree for this protected area. The park has a perimeter of 205 km but only 92 historic concrete boundary markers (“bournes”) delimit this boundary. Some bournes are separated by as much as 9km. It is the large areas between these original concrete markers which have been deforested in some cases.

Clear and thorough boundary demarcation is often reported to be an effective management strategy for national parks and reserves around the world. So long as the boundary regions are not contested by local communities, improved demarcation can prevent future conflict, while providing jobs and demonstrating that conservation is active and present in even very remote areas of a reserve. One study examined park



effectiveness in 93 protected areas across 22 tropical countries. Anthropogenic threats, such as land clearing, selective logging, fire, and hunting, were significantly minimized by the extent of boundary demarcation as well as density of park rangers, probability that violators would be apprehended and receive sanctions, as well as direct compensation to local communities if impacted by a protected area. Another study evaluated effectiveness of forest management practices across 12 countries and found that regular forest monitoring and enforcement of park rules (such as boundary lines) were most important factors for successful protected area management. The Marojejy National Park Director and staff echo these sentiments and have been extremely enthusiastic about SAVA Conservation continuing this program in Marojejy National Park.

LABOR OF LOVE

BY BRITT KEITH, PRIMATE TECHNICIAN SUPERVISOR

Our society is rich with career choices. One only has to browse through the catalog of any university to see the plethora of majors available. The sciences themselves have hundreds of angles to work in, from the horticultural field, the microscopic biological and chemical sciences, human health, deep space and beyond. The most interesting thing about the sciences is how they all are interwoven in so many ways. The tendrils of connectivity curl around the living and constantly-changing elements that we refer to as “life”. The lemurs at the DLC are a perfect example of this connectivity. They are the mega-fauna of Madagascar, in all of their mysterious and unique glory. There is much science that surrounds the understanding of these species. Why do they move like they do? Why do some of the mouse and dwarf lemurs have a form of hibernation? What is it with all of those hysterical sounding vocalizations? How did the original lemur arrive on that island in the first place? These are some of the most intriguing questions on a grand scale. But for those of us who are lucky enough to work in the animal husbandry department at the DLC, our questions are much more scaled down.

What is this curious business of animal husbandry? A traditional dictionary definition is “the science of breeding, rearing and caring for farm animals”. This definition has expanded and evolved to include the care of captive wildlife. Simply, but not simple at all, husbandry at the DLC is everything related to assuring that our lemurs lead a healthy and rich life in captivity, to give them a chance whenever possible to live in a complex social group, in a safe environment free from drought or famine, and free from disease. This life includes enriched living spaces which provide them the ability to express their natural behaviors ranging from calling to playing, leaping to courting, strutting, grooming and all things crucial to lemur life.

Providing these things for our lemurs does not come about easily and without effort. Working with animals in captivity requires a tremendous amount of passion, knowledge, training and personal investment. Not to mention physical strength, an outdoorsy flare and NOT being squeamish with the following – feces, vomit, urine, external parasites (and the occasional internal ones), getting sweaty, getting stinky, a broom, a hose, a mop and plenty of scrubbing. Hauling large parts of trees into and out of animal living spaces is also common place, as is power tool use and plenty of walking. If pedometers don’t lie, five miles is the average distance covered in a technician’s work day. This is the “labor” in the article title.

The “love” comes in so many other ways. Whether lemurs or farm animals, the thrill is always the same. The chance that you may make that intimate connection with a species other than your own. Many might recognize this connection from the companion animals we have at home. The way your dog “smiles and laughs” when you mention those magical words known to every canine: “wanna go for a walk?” Captive wildlife is different, by leaps and bounds, from



domesticated animals but the habituated lemurs at the Center do make direct eye contact with us, and often allow us to observe their family gatherings or activities where we may bear close witness to the subtle hums of a mother playing with her baby, or the reshuffling of a social hierarchy with all of its complicated posturing. These are but a few moments in lemur time that make the daily work grind so worthwhile.

Indeed a science to itself, animal husbandry- no matter on a farm, at a zoo or here at the Center- requires the fine balance of loving the labor and a labor of love. Ask anyone working in this field. There is an enormous amount of passion behind those well used rubber boots!



I have ever encountered, before or since. Though the tour lasted for more than two hours, it seemed over in an instant. It was for me one of the most remarkable and rewarding moments in a decades-long career as a lemur biologist.

And it seems clearly to have been a powerful experience for Oliver as well. By remarkable coincidence, my parents happened to meet Oliver the very next evening, at a reception at the National Humanities Center. My father approached and introduced himself, mentioning that he was my father, and inquiring whether Oliver recalled having seen the lemurs on the previous day. Oliver’s reply: “I have thought of little else.”

Subsequent to his visit, Oliver sent me a beautiful letter of thanks, handwritten with his iconic fountain pen and cream-colored stationary. And thus began a correspondence between the two of us, hand-written letter following hand-written letter, that persisted for many months. Eventually, the correspondence lapsed, and though I can’t recall who last wrote to whom, the connection formed was for me indelible. Over the subsequent years, I read the steady stream of Oliver’s brilliant essays in the New York Times, Nature, and The New Yorker (just name your favorite distinguished publication venue) with a special sense of pride and privilege. When I read his now famous essay in the New York Times, “My Own Life,” wherein he announced his diagnosis of terminal cancer and contemplation of his impending death, I was stunned and saddened beyond expression. How was it even possible that this great man could cease to exist? “I cannot pretend I am without fear,” he wrote. “But my predominant feeling is one of gratitude. I have loved and been loved; I have been given much and I have given something in return... Above all, I have been a sentient being, a thinking animal, on this beautiful planet, and that in itself has been an enormous privilege and adventure.”

And when only a few days later, I read his essay in The New Yorker, “9th Avenue Reverie,” in which he expressed his regret over never having journeyed to Madagascar and declared “I love lemurs,” I knew that I must write to him again. I did so immediately,

expressing my great concern for his health and my profound response to his essay, and ending with a heartfelt invitation to return to the DLC. And so it came to be that another visit to our lemurs was arranged.

On July 17th, only weeks before his death, Oliver, accompanied by his beloved partner and fellow writer, Billy Hayes, returned for a final visit with the lemurs. I was gratified and humbled beyond measure that this great man would choose to visit the Duke Lemur Center at such a time: facing mortal illness and weakened by his continuing and aggressive medical treatments.

But even under these conditions

--- conditions that would have defeated a lesser man --- together we three enjoyed a cherished holiday, spanning a 24-hour period. Oliver and I reminisced about his first visit, our previous correspondence, and most especially about our shared passion for the wondrous creatures that had brought us together so many years before. The day of the tour was brutally hot, and Oliver’s health was failing, but Billy’s tender care, the marvelous accommodations of the DLC staff, and, most essentially, Oliver’s unquenchable spirit and curiosity, made the day magical. Such is the power of lemurs. As Oliver observed in his “9th Avenue Reverie” piece, “One has to see them, study them, to grasp the origin of our primate nature. Apes and monkeys do not take us far enough back.”

Against all odds, given the heat and rather treacherous terrain, we concluded the day with a long visit in the forest among the free-ranging sifakas and ringtailed lemurs, ending the tour at twilight. After a laborious descent from the forest, it was clear that the time had come for rest and recovery. But despite the heat and physical exertion, it was evident that Oliver had relished his time with the lemurs. Billy later told me that as they drove away, Oliver said quietly, “I think that is the most beautiful sight I have ever seen; it is the vitality of the lemurs that is so beautiful ... and the dedication of those who care for them.”

Anna D. Yoder
PhD, Director



DIVISION OF FOSSIL PRIMATES (DFP) REPORT

BY GREGG GUNNELL, DIRECTOR, DIVISION OF FOSSIL PRIMATES

The search for funding to support the collections at the DFP is never-ending. Much of our staff time is devoted to writing grant proposals to a variety of agencies to help sustain and grow our collections. One of the most important sources of collection and field support is the US National Science Foundation. The DFP (in conjunction with Duke's Department of Evolutionary Anthropology [EvAnth]) recently has successfully obtained NSF support and now has three separate federal grants providing funding for important new initiatives as well as upgrades to infrastructure and increases in staffing.

One of the main sources of DFP NSF support comes from the Division of Biological Infrastructure (DBI). Funds from this grant cover several different things. First and foremost it has allowed us to add a full time vertebrate fossil preparator (Vicki Yarborough) for three years. Vicki's main job will be to conserve and repair the specimens we now have at DFP along with preparation of new fossil material as it comes in from Wyoming and elsewhere. She will also oversee the packing and moving of an orphaned collection of fossil vertebrates to the DFP – this is an important collection of Miocene (12 million years old) aged specimens from Colombia. With the incorporation of these South American mammals, DFP's geographic coverage expands to include four continents (both New World continents as well as Africa and SE Asia). Support from NSF DBI is also allowing us to upgrade our preparation facilities and to add a white light laser surface scanner to our 3D imaging capabilities. An additional facet of the DBI grant will provide funding to develop a 3D Day on Duke's Campus in conjunction with Dr. Regis Kopper, the Director of Duke's DiVE 3D Theater. 3D Day activities will highlight the use of 3D technology in morphological research during presentations to local high school and college groups.

Two other NSF grants awarded to DFP and EvAnth are being funded by the Division of Behavioral and Cognitive Sciences (BCS). The first funds a postdoctoral position for one year. This position is being filled by Dr. Hesham Sallam (from Monsoura University in Egypt). Hesham will spend his year micro-Ct scanning as many DFP Egyptian fossil specimens as possible. Additionally he will conduct research on the fossil rodents from Egypt in our collections. All scanned and rendered specimens will be uploaded to Morphosource.org and made available in 3D



DR. LAUREN GONZALES (ABOVE)
DR HESHAM SALLAM (LEFT)

digital format for access by researchers and the general public. In this way DFP ultimately will be producing a 3D virtual museum that will provide access to DFP specimens from essentially any place on Earth where a computer and the internet are available.

The second NSF BCS grant funds another postdoc for two years. This position is being filled by Dr. Lauren Gonzales who will be in residence here in Durham for one year and then will move to the University of Florida in Gainesville for the second year. Lauren is responsible for organizing micro-Ct scanning of all primate and other important specimens that are collected from Wyoming. In addition to funding Lauren for two years this grant also provides funds for three years of Wyoming field work with a focus on finding primate skeletons. Our first field season was conducted this past summer with spectacular results. We anticipate more primate skeletons in the future!



BLUE-EYED BLACK LEMURS

MALE HORMONES HELP FEMALES RULE IN LEMUR SOCIETY

BY ROBIN SMITH, DUKE SCIENCE WRITER

Lemur girls behave more like guys, thanks to help from male hormones, finds a new study undertaken at the Lemur Center.

Males rule in most of the animal world. But when it comes to conventional gender roles, lemurs -- distant primate cousins -- buck the trend.

It's not uncommon for lady lemurs to bite their mates, snatch a piece of fruit from their hands, whack them in the head, or shove them out of prime sleeping spots. Females mark their territories with distinctive scents just as often as the males do. Males often don't take their share of a meal until the females have had their fill.

"If a male lemur is enjoying a patch of sunlight, for example, a female is likely to push him aside and take his spot," said Joseph Petty of Duke University.

Most female mammals that get their way over males are well armed to be the bullies. Females take the lead in spotted hyena society, where they are bigger and heavier than males.

But female dominance in lemurs remains a puzzle. Female lemurs are no bigger than males, and they don't have horns or bigger fangs to give them a physical edge over their mates.

Like most mammals, female lemurs also have significantly lower testosterone levels than their male counterparts, finds a new study at the Duke Lemur Center.

But when the researchers compared hormone profiles across females of six species, they found that females of some species have higher testosterone levels than others.

Petty and Duke professor of evolutionary anthropology Christine Drea examined behavior and hormone profiles in nearly 30 animals representing six closely-related species in the genus *Eulemur*. In four of the species, females are at the top of the pecking order, and in the other two species the sexes have equal status.

All female mammals have trace amounts of testosterone in their blood. But the dominant females had significantly higher male hormone levels than egalitarian females.

"It's strong evidence that hormones are playing a role," said Petty.

Lemurs and lorises split off from the rest of the primate family tree more than 60 million years ago, but the egalitarian lemurs didn't evolve until much more recently, within the last two million years.

It could be that females are more sensitive to the effects of testosterone than males, stimulating aggressive behavior even though males still have more, Petty said.

MY GIVING STORY: JEANNETTE RINEHART '51

BY ALYSSA ALEGRE, ASSISTANT DIRECTOR OF GIFT PLANNING



Of all Jeannette Rinehart's many interests, her most cherished pastime involves learning anything and everything about lemurs.

Rinehart (pictured above with the lemur shirt) graduated from Duke University in 1951 and received a bachelor of arts in sociology. She moved to Hagerstown, Maryland, before the Duke Lemur Center opened in 1966.

"The Duke Lemur Center was not there when I was a student and I knew nothing about lemurs, but I do love anything with four feet, so I had to go see it," said Rinehart. When she and her husband Theron returned to Duke for her 30th reunion, they visited the Lemur Center for a quick tour. "I was enthralled. From then on, I watched for anything about the Center in literature from Duke and enjoyed anything I saw on TV or elsewhere that had to do with lemurs."

Inspired, she returned in 2010 for a more extensive tour of the center, which houses, studies and cares for the largest and most diverse collection of lemurs—Earth's most threatened group of mammals—outside of Madagascar.

"It was a fascinating and rewarding experience said Rinehart. "I met fabulously interesting people, learned about the center's workings, and even spent time in the forest with ring-tailed lemurs and sifaka."

"There are so many super special venues at Duke, and the Lemur Center deserves to be high on the list of extraordinary places," said Rinehart. "It is unique in all the world. Duke students have an opportunity to work with and learn about lemurs, their place in this world, and Madagascar, the only place on Earth where lemurs are native. It is an experience available only at Duke."

When Rinehart's mother passed away in 1995, followed by her husband of 43 years in 1997, she chose to establish two life income gifts—a charitable gift annuity and

a charitable remainder trust—to fulfill some of her personal and financial needs. Her gifts will ultimately provide unrestricted support for the Duke Lemur Center.

"I have learned how important it is to give back," said Rinehart. "I also learned how rewarding the giver feels when she can support a special interest—or more than one." In addition to her life income gifts, Rinehart continues to donate to the center on a regular basis as special needs arise. All of these gifts will ensure that future generations can continue to enjoy the places (and primates!) that make Duke one-of-a-kind.

"When physical hands-on is not possible, contributing financially is the next best thing to being there," said Rinehart. "Above all, supporting the Lemur Center is just such fun! I have hosted center representatives for organizations and schools in Hagerstown, thereby enabling the community to learn about lemurs and the unique studies at Duke."

Why did you decide to attend Duke?

I didn't decide to attend Duke—my father did! My father was an avid Duke football fan. In 1942, Duke was invited to the Rose Bowl in California, but because World War II had begun, the game was moved to what was considered a safer location—Durham, North Carolina. Afterwards, my father said that when his little girl was ready to go to college, he wanted her to go to Duke. When I graduated from high school after the war, Duke was the only place I applied. We were thrilled when I was accepted.

How would you describe your student experience?

On my first day on Duke's East Campus, I felt absolutely wonderful and somehow immediately at home. I was grateful to be there and to my parents for making it possible. My student experience was overwhelming at first, extremely broadening in mind and spirit, and awakening to a world of opportunities. My great joy at Duke was in drama: Duke Players, Hoof 'n Horn, and all the classes I could enroll in pertaining to drama, with a brief detour in a naval history course. The influence of my Duke education shaped my entire life.

What aspirations do you have for the Duke Lemur Center?

I think it's important that more people understand the outstanding value of the Duke Lemur Center, from the opportunities it offers students to its accomplishments in conservation and research. I do my best to educate people about these spectacular creatures. I have urged anyone I know coming to North Carolina to visit the Lemur Center.

SUMMER INTERN PROGRAM

BY MEG DYE, STUDENT PROJECTS AND ANIMAL TRAINING COORDINATOR



The 2015 Summer Internship program was our largest to date with 25 undergraduate students participating in a 10-week program. The interns were an assortment of students from Duke, UNC and NCSU, as well as from Universities further afield such as Yale, Bucknell and Brigham-Young. For the first time this year, the DLC was able to offer six different internship opportunities.

Husbandry Internship: Created for students interested in a career in the zoological field. Husbandry interns were assigned to a Technician mentor and learned the husbandry skills needed to independently care for a group of lemurs on a daily basis.

Field Research Internship: Introduced students to lemur research and data collection; designed to help undergraduate students with no prior research experience or who were lacking a faculty mentor.

Education Interns: were trained to lead educational tours of the DLC's colony to a wide variety of groups from elementary school children to mixed aged groups.

Development Internship: Created for students with an interest in fundraising, marketing, and community relations. Interns learned to work within all aspects of donor relations, from cultivation to data analysis.

Animal Enrichment Internship: Designed to introduce students to the science of animal enrichment and welfare and learn how both interact to help fulfill the DLC's mission of advancing prosimian husbandry, research and education.

Division of Fossil Primates Internship: Created for students interested in paleontology and physical anthropology. Stationed at the Division of Fossil Primates on Broad Street, interns were introduced to the fundamentals of museum collection curation, including acquisition and specimen processing, identification and data basing, and safe and accessible specimen storage.

Each year, summer interns are required to create, conduct and present a research project at the DLC Intern Symposium. This year over 100 guests attended the Symposium including Duke Faculty, DLC researchers, students, volunteers and DLC staff. Applications for the 2016 Summer Internship program will be available on our website in January, 2016.

DOLLAR FOR DOLLAR, LEMURS LOVE ALUMNI!

BY NIKI BARNETT, DEVELOPMENT OFFICER/EDUCATION PROGRAM MANAGER



Thank you to all the Duke alumni who participated in our "Dollar for Dollar" challenge this past April. And a special thank you to Dr. Luke Dollar ('95 MS '05 PhD'06) for agreeing to the matching gift challenge that raised over 7,000 dollars for the Center during Alumni weekend this year! Dr. Dollar shared his passion for Madagascar and the Duke Lemur Center (DLC) with over 500 Duke Alumni who toured the Center during Alumni Reunion 2015. Dr. Dollar credits the DLC with inspiring him

to become a conservation biologist in Madagascar. He now spends his time between North Carolina and Madagascar filling multiple roles including National Geographic Explorer, Professor of Biology at Pfeiffer University and adjunct professor at Duke University, as well as continuing his own research and conservation work in Madagascar. We hope to continue to educate and inspire more students and alumni in the years to come. Together, we can make a difference!

HEIRS TO MADAGASCAR'S ROYAL THRONE ARE BORN: DREAMWORKS ANIMATION ADOPTS TWIN RING-TAILED BABIES AND NAMES THEM PRINCESS JULIEN AND ... PRINCESS JULIEN

BY JANICE KALIN, DEVELOPMENT ASSOCIATE

“Oh look, it’s King Julien!”, “Do lemurs really like to ‘Move It, Move It?’”, “Why do mouse lemurs love feet?” As a tour guide, these are probably the most common questions that we hear.

The Madagascar movies by DreamWorks Animation have been a blessing and a curse to lemur lovers. Needless to say, King Julien, Madagascar’s most famous royal lemur is a funny, engaging character. He has certainly helped launch lemurs into public awareness by demonstrating to kids that something called a lemur exists; although, admittedly, he is not the most scientifically accurate character. Here at the Lemur Center, we appreciate the opportunity to educate kids using King Julien as a conversation starter to set the lemur record straight.

Throughout the planning of DreamWorks’ series All Hail King Julien, we were excited to assist in the education of the public by providing actual lemur facts. Most important for me (as a mom of a daughter), I wanted everyone to know that females are definitely the movers and shakers of the lemur world, not males such as King Julien! During discussions with DreamWorks, our conversations quickly moved from education to include conservation; it was good to learn they definitely wanted to help spread the word about the plight of lemurs in Madagascar.

In the Madagascar animated series, King Julien is a pompous, self-centered (hilarious) King. He is the 13th in a long line of King Juliens ruling the island of Madagascar, and wants nothing more than to ensure that the royal Julien line continues. To build upon this story, it was decided that DreamWorks would adopt a male infant ring-tailed lemur born at the Lemur Center this Spring, and name him King Julien the 14th. As fate would have it, our ring-tailed mom gave birth to twin girls. Since King Julien is a wee bit narcissistic, all heirs must be named after him, no matter whether they are male or female. Hence, both twin ring-tailed girls were named Princess Julien, in honor and deference to the King! The gender roles have been set straight and the next heir to the royal throne of the Madagascar series will be a female – rightly so!

You can adopt royalty at the Duke Lemur Center! Join King Julien and lend your hand to support one



of Earth’s most threatened mammals. This limited edition, one-of-a-kind adoption package is only available at the Lemur Center – decreed by King Julien himself! To symbolically adopt these adorable twin girls, visit the Adopt-A-Lemur page to fill out the necessary information. Your gift is tax-deductible and supports the care of the lemurs at the Lemur Center and conservation for these threatened animals in Madagascar. <http://lemur.duke.edu/protect/donate/> Episodes of All Hail King Julien can be found on Netflix at www.netflix.com/KingJulien.

Duke Lemur Center Statement of Operations July 2014 - June 2015

REVENUE		
Annual University Allocation	\$	1,140,148
Other University Support (<i>including Facilities</i>)	\$	833,075
Endowment Income	\$	135,703
*Annual Giving (<i>donations</i>)	\$	384,651
Tours, Education & Merchandising	\$	565,697
Research; Cabin Fees & Other Income	\$	97,199
Grants		
Government	\$	432,326
Foundations	\$	133,715
Other	\$	150,240
Reserve from prior year	\$	1,375,050
Total Income	\$	5,247,804
EXPENSES		
Salary & Fringes (<i>all staff</i>)	\$	2,137,634
University Facilities (<i>building & utilities</i>)	\$	695,075
General/Administrative Operations	\$	143,191
Animal Care & Operations		
Animal Department	\$	75,738
Veterinary Department	\$	35,876
Curator	\$	16,422
Student/Animal Training	\$	7,829
DLC Facilities	\$	16,335
Research Department	\$	1,722
Development & Public Relations	\$	83,597
Tours, Education & Merchandising	\$	171,324
SAVA Conservation Programs	\$	104,682
Other Research	\$	145,133
Undergraduate Research Awards	\$	2,100
Equipment/Acquisitions	\$	81,736
Capital/Renovation Projects	\$	47,115
Reserve for future programming	\$	1,482,297
Total Expense	\$	5,247,804

*includes foundations, alumni, non-alumni, industry, & other donations non grant including specific purpose donations.

VOLUNTEERS

- Marissa Acciani

Lynne Babineau

Cassandra Backman

Derek Bailey

Jacob Baldwin

Angela Barr

Jennifer Bell

Benjamin Berriman

Jennifer Bethke

Samrath Bhattacharya

Madison Bilthuis

Brittany Blackwell

Rachel Blake

Jana Bradley

Tyler Bray

Brian Brooks

Jenna Browning

Aidan Burdick

Julie Byrne

Dominique Capaldo

Todd Carroll

Caleb Caton

Mark Chandler

Melissa Chieffe

Carolyn Clift

Audrey Cole

Cody Cooper

Bill Cramer

Cody Crenshaw

Vanessa Cruzpagan

Khushboo Dass

Christina Del Carpio

Ethan Doherty

David Dowdy

Sarah Driscoll

Madelynn Dudas

Matthew Dusch

Thomas Dvergsten

Kayla Ebner

Chandler Elliott

Betsy Englishman

Susan Fitzgerald

Caroline Fowler

Aimee Fraulo

Arie Freeman

Nicole Freitas

Elijah Gaspard
- Bailey Gatens

Jessica Geiss

Carly Gelfond

Kylie Grady

Hannah Grand

Lydia Greene

Summer Greer

Thomas Griffin

Kimaya Guthrie

Lauren Hagedorn

Jasmine Hall

Emily Hardgrove

Jody Harper

Lisa Hathaway

Delaney Hay

Scott Hennes

Daniel Hertzberg

Courtney Hoffmeister

Emily Holleran

Jackie Iadicicco

Ali Iyoob

Allison Jaillet

Danielle Jones

Katherine Jones

Lisa Jones

Catherine (cackie) Joyner

Ashley Juliana

Megan Kastner

Abby Kepley

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Latrice King

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Holly Krohn

Nick Labriola

Kaitlynn Lamm

Ashley Le

Xingcen Liu

James Loder

Mackenzie Loesser

Carol Lolley Harris

Jordan Lucore

Danielle Lynch

Gwynne Macintyre

Alexandra Mancini

Beth Mancini

Vicki Martin
- Kassandra Martinez

Alex Mason

Patricia Massard

Tyler Massey

Hannah Maud

Laura Mayo

Michael McGrane

Melissa McLaughlin

Joel McMath

Lindsey Meador

Nancy Medley

Shan Nagar

Rebecca Newton

Mandy Nix

Holly Noel

Nora Noland

Jennifer Nunez

Andrew Odriscoll

Dhilati Oza

Tracy Parker

Kiren Pell

Moiria Pelton

Sara Perrin

Lucas Piedrahita

Chiara Polack

Jessica Pulliam

Laura Quillen

Stacy Ramsey

Michelle Reed

Jessica Riker

Sadye Riley

Maria Pia Rodriguez

Amy Sanzone

Hannah Schanzer

Allie Schrock

Courtney Schwingle

Lilah Sciaky

Samuel Sellers

Tate Sennett

Sara Shamaskin

Morgan Shapiro

Susan Sharpe

Rhonda Sherman

David Shore

Ryan Siebens

Melissa Siegel

Ella Simkus
- Rachel Slahetka

Carson Smith

David Song

Kylie Sorenson

Allison Stitt

Briana Stockdale

Sandra Strenka

Laura Strickland

Loren Tatum

Alissa Tepedino

Michal Tetreault

Jennifer Vanbuuren

William Vance

Nadia Viscuso

Matthew Vogler

Emily Wagner

James Walker

Jessica Wall

Anisha Watwe

Emma Wellbaum

Kay Welser

Nicole Whinery

Macauley Whiting

Vicki Willard

Cara Williams

Lorie Williams

Gabrielle Wilson

Kathy Windsor

Thomas Wittig

Anna Elyse Yarbrough

THANK YOU,
VOLUNTEERS!

GRAND TOTAL OF VOLUNTEER
HOURS WORKED: 16,859

PI Status	2011	2012	2013	2014	2015
Faculty	38	21	33	28	28
Graduate Student	16	24	20	16	19
Undergraduate	11	20	21	23	25
High School Student	0	3	0	1	0
Professional	13	8	7	10	6
Post Doc	2	3	9	8	8
Project Category and Status	2011	2012	2013	2014	2015
Live animal new	20	33	26	35	34
Live animal continuing	22	24	31	33	38
BioSample new	21	15	14	11	5
BioSample continuing	11	5	8	3	3
Records only new	2	0	9	2	4
Records only continuing	2	0	0	0	0
Blanket protocol	2	2	2	2	2
Project Category	2011	2012	2013	2014	2015
Live animal use	42	57	57	68	71
BioSample	32	20	22	14	8
Records only	4	0	9	2	4
Blanket protocol	2	2	2	2	2
Institutions	2011	2012	2013	2014	2015
Institutions served	37	21	41	34	35
Duke projects	40	52	40	46	45
non-Duke projects	40	27	50	40	41
TOTAL NUMBER OF PROJECTS	80	79	90	86	86
Research Assistant (RA) Status	2011	2012	2013	2014	2015
Undergraduate	33	30	20	15	15
Graduate student	13	5	4	3	2
Post-graduate (btwn UG and GS)	5	3	5	5	4
High School Student	0	3	5	3	3
Post Doc	1	1	0	1	1
Staff	3	1	0	0	0
TOTAL NUMBER OF RAs	55	43	34	27	25



RESEARCH BY CALENDAR YEAR



THANK YOU
TO ALL OUR
GENEROUS
DONORS.

DONOR SUPPORT
MADE ALL THIS
POSSIBLE THIS YEAR!

1,947 DONORS

1175 - GENERAL
OPERATING FUND

699 - ADOPT A LEMUR
PROGRAM

44 - MADAGASCAR
PROGRAMS

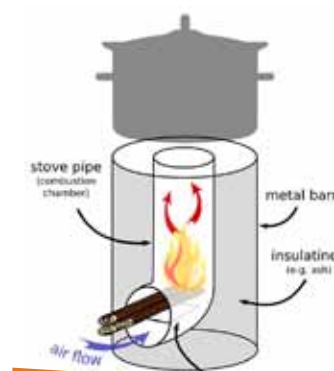
16 - OTHER FUNDS

13 - LEMUR CENTER
GIFT FUND

Vital Signs Monitor- allowing the veterinary staff to better track condition of the lemurs while they are under anesthesia

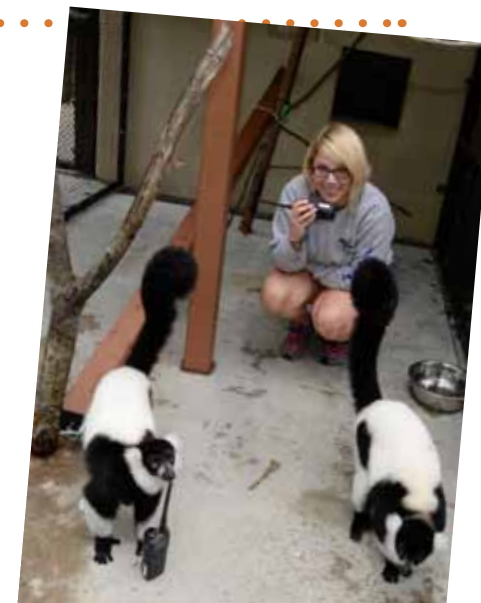


Enrichment- over 150 enrichment items were purchased through our Amazon wish list allowing the lemurs countless hours of challenging activity!



Rocket Stoves- purchase and distribution at subsidized prices, of wood and charcoal burning stoves that use 50% less fuel.

Radios- We have added six new radios for the DLC staff. These radios allow us to easily communicate with each other no matter what our location on the sprawling 70 acre DLC campus.



Family Planning- a collaboration with NGO Marie Stopes which makes pregnancy prevention and reproductive choices available to local women.



Intern program- Over 20 students a year from across the country are selected to participate in one of our six internship programs (in the areas of husbandry, research, education and fossil primates). The knowledge the students gain and the information the DLC obtains regarding prosimian behavior, habitat use, diet and social interactions is priceless.



Ultra-cold Freezer- allows for improved tissue and serum storage to assist researchers in new scientific discoveries

Sustainable agriculture – yam production- training in cultivation techniques and distribution of plant propagules.



Colony support- Your support helped us care for the nearly 240 lemurs and lorises living here at the DLC, including the 34 infants born the last two years.

