International Primatological Society

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President's Corner

matsuzaw@pri.kyoto-u.ac.jp

Another set of the three "C"s: Chimpanzees, Conservation, and Care

Almost ten months have passed since we enjoyed the 24th IPS meeting in Cancun, Mexico. Now is the time to start thinking about the next: the 25th IPS congress to be held in Hanoi, Vietnam, August 11th-16th, 2014. Please think about your presentation submissions, as well as your symposium proposals. Please also make a note of the date of the subsequent meeting; the 26th IPS, in Chicago, USA, August 21st - 27th, 2016.

As you may remember, at the IPS congress I proposed three "C"s, standing for: Continuity, Collaboration, and Commitment, that should be shared by all IPS members, especially the youngest (see the IPS Bulletin December, 2012). The biannual meetings symbolize our sustained collective efforts; international collaboration among scholars committed to nonhuman primates.

I have studied chimpanzees, both in the field and in the laboratory. Accordingly, my aim in this article is to convey another set of three "C"s: Chimpanzees, Conservation, and Care. In November 1986, in Chicago, a meeting of chimpanzee researchers was held to celebrate the publication of Jane Goodall's landmark book, "*The Chimpanzees of Gombe: Patterns of behavior*". I was one of the youngest invitees.

During the meeting, Jane Goodall proposed the creation of a Committee for Conservation and Care of Chimpanzees. She recommended that each country form a national branch. Thus, CCCC-Japan was founded by attendees, Toshisada Nishida, president of IPS 1996 - 2000, and myself, responsible for the conservation and care aspects, respectively.

This was the first time that chimpanzee researchers had collaborated to discuss both conservation in the wild and care in captivity. Although the CCCC does not now exist in the USA, or in any other country, the spirit of the original organization lives on in Japan: renamed SAGA.

SAGA:http://www.saga-jp.org/indexe.html SAGA stands for "Support for African/Asian Great Apes", and was founded on November 19th, 1998, by Japanese primatologists in collaboration with Western colleagues such as Jane Goodall and Jan van Hooff. The purpose of SAGA is to support our evolutionary neighbors, the great apes.

IPS Website: www.internationalprimatologicalsociety.org

Claudia Fichtel, Editor

IPS Officers

SAGA extended the original idea of CCCC to all endangered apes. Juichi Yamagiwa, as a gorilla expert, president of IPS 2008-2012, was one of the original founding members. SAGA is a consortium of people and NGOs committed to the support of apes in both captivity and in the wild. There is no formal membership and no fee required. SAGA has held annual meetings since 1998, welcoming scholars, zoo professionals, and the general public. Jane Goodall has often joined the meeting, including the 15th SAGA conference, held in Sapporo last November.

Why was SAGA created in 1998? At that time, there was a huge threat to chimpanzees: those in captivity used in biomedical research. Within the three major Japanese pharmaceutical companies there were 136 chimpanzees being used in biomedical research. Most of these chimpanzees had been captured in Africa during the 70's for use in Hepatitis research, before the ratification of CITES in Japan in 1980. At that point, biomedical researchers and companies were breeding chimpanzees to provide young chimpanzees for Hepatitis C research. Entirely healthy chimpanzees were infected with the virus because the biomedical researchers wanted to find a way to cure the disease. These researchers then wanted to go further and apply the new experimental technique, gene therapy. It took a strong, collective effort to stop this invasive research completely.

GAIN:
http://www.shigen.nig.ac.jp/gain/top.jsp. The Great Ape Information Network (GAIN) project was initiated in 2002. SAGA pressured the Japanese government to provide financial support for the creation of a database detailing all existing apes in the country. Thanks to the network established through SAGA, it was possible to obtain information quickly on every single individual ape in Japan: a total of 326 chimpanzees in 51 facilities, mainly in zoos: 25 gorillas; 47 orangutans; and 161 gibbons (as of June 29th, 2013). GAIN also worked to facilitate the utilization of apes post-mortem. When an individual ape passes away, GAIN is informed immediately and, in turn, releases an announcement to scientists needing to obtain DNA, RNA, brain, tissues, bones, etc. This helps to reduce the need for living biomedical subjects.

WRC:http://www.wrc.kyoto.ac.jp/en/

index.html
Kyoto University researchers were the driving force behind the creation of SAGA and GAIN. Kyoto University also agreed to form a new center for the study of endangered species in 2008: the Wildlife Research Center (WRC). WRC carries out fieldwork focused on endangered large mammal species and maintains contact with zoos housing these endangered species. Moreover, WRC was tasked with a clear mission to find a solution for the care of all the retired, ex-biomedical chimpanzees.

KS:http://langint.pri.kyoto.ac.jp/ai/en/kumamoto-sanctuary.html Ape researchers across Japan continued to put pressure on the pharmaceutical companies, through SAGA, to stop invasive biomedical research altogether, and eventually succeeded. All invasive study was completely stopped throughout Japan by fall, 2006. There then remained the problem of "surplus" ex-biomedical chimpanzees. WRC took on the role of receiving these chimpanzees. The largest pharmaceutical company in Japan gave all their chimpanzees and facilities to Kyoto University along with a promise to provide financially for the care of these apes into the future. In April 2007, the ex-biomedical facility was converted, becoming the first chimpanzee sanctuary in Japan. This facility is now named Kumamoto Sanctuary (KS) and is a branch of the WRC.

KS-WRC of Kyoto University is now the ex-biomedical chimpanzees' home. Other freed chimpanzees were given to zoos keen to increase the size of their existing groups of chimpanzees. The zoos do not have to pay for the chimpanzees, but were instead obliged to renovate their facilities ready to welcome them. This reduced the number of chimpanzees housed at KS and consequently the maintenance cost, while increasing the number of chimpanzees kept as a social group in zoos. On May 15th, 2012, the last three chimpanzees were rescued from a pharmaceutical company. They had been captured in the wild and taken to Japan as infants and then joined *their new group mates* some three decades later. Thus, in Japan, all biomedical research on chimpanzees is at an end and all ex-biomedical chimpanzees have been suitably rehoused.

In Japan, scientific advances changed people's perception of chimpanzees. As a result, the three major pharmaceutical companies were persuaded to give up invasive research and to collaborate with scientists to find a solution to provide for the ex-biomedical chimpanzees. The USA has also acted to protect chimpanzees. Thanks to a collaborative effort between many groups to create a petition, the U.S. Fish and Wildlife

Service recently listed captive chimpanzees as "endangered". The National Institutes of Health (NIH) Working Group on the 'Use of Chimpanzees in NIH-supported Research' issued its recommendations, in January, 2013, regarding the 360 NIH-owned chimpanzees.

Thus, hundreds of chimpanzees may soon be retired in the USA, as has already happened in Japan. Personally, I really hope to see the story of wild chimpanzees in Africa continued: this will require a sustained conservation effort through continuity, collaboration and commitment.

IPS

Tetsuro Matsutzawa

VP for Research

2013 Research Grants competition

The competition was very strong again this year, with 80 applications from 22 countries - a very similar number and distribution to last year. The IPS research committee reviewed the applications, and we send all applicants constructive feedback comments.

I am very grateful to the members of the IPS Research Committee for their help in this: Federica Amici, Diane Brockman, Anthony di Fiore, Antje Engelhardt, Eduardo Fernandez-Duque, Cyril Grueter, Goro Hanya, Maren Huck, Lydia Hopper, Rheinhold Hutz, Patricia Izar and Emilia Yamamoto.

We awarded a total of US$ 10 488 in seven grants, plus two additional sums of $US 500 for Community Conservation Initiatives (indicated by asterisks, below).

The successful applicants were:

* James Herrera: Dwarf lemur speciation in Madagascar (Genus *Cheirogaleus*): the roles of ecology and sex

* Alicia Krzton: Causes of social cohesion in the golden snub-nosed monkey (*Rhinopithecus roxellana*)

Victoria Weaver: Dietary ethanol ingestion by free-ranging spider monkeys (*Ateles geoffroyi*): An evaluation of the drunken monkey hypothesis

Andrea Spence-Aixenberg: Olfactory signals and partner choice in monogamous owl monkeys (*Aotus nancymae*)

Erik Scully: Intraspecific variation in testosterone as a driver of collective action in chimpanzees

Laetitia Marechal: Factors affecting energetic status in a wild Old World monkey species experiencing marked climatic variation

Iulia Badescu: Investigating the infant nutritional development and ontogeny of feeding in wild chimpanzees (*Pan troglodytes schweinfurthii*) at Ngogo, Kibale National Park, Uganda

IPS 2014

The call for symposia at IPS 2014 in Ha Noi, Vietnam, closes in November 2015. If there is a topic that you would like to see addressed at the congress, then please start planning a symposium and contacting possible contributors. It may seem a long way off, but an excellent symposium requires careful planning.

Top 10 unanswered questions in primatology

I have continued to work on the search for the Top 10 questions that remain unanswered in primatology, which I launched in 2012 in my role as Vice-President for Research of IPS and Editor-in-Chief of the International Journal of Primatology. I am very grateful to all the survey respondents. Look out for an editorial on this topic appearing soon in the International Journal of Primatology.

If you are interested in the activities of the Research Committee, or if you have specific issues you would like addressed, please contact me.

Jo Setchell

VP for Education and Outreach

Student Competition Award Winners- 2012
Officer's report – Education and Outreach – May 2013

I would like to thank the many dedicated members of the IPS Education Committee who assisted with reviews of applications for the Lawrence Jacobsen Education Development Grant and nominations for the Charles Southwick Conservation Education Commitment Award.

Five Jacobsen grants were awarded:

Paramah Anandan: Restoration and Monitoring of Endangered Nilgiri Langur (Trachypithecus johnii) in the natural habitats of Kurangani hills, the Western Ghats Mountains, India for effective conservation.

Thierry Inzirayineza: Increasing local awareness about the importance of the Gishwati Forest Reserve and the primates that it shelters, Rwanda.

Mansour Mbaye: Environmental Education on the Periphery of Niokolo Koba National Park, Senegal

Daniel Mwamidi: Saving the Endemic Mountain Dwarf Galagos (Galagoides orinus) in Taita hills Forest Complex, Kenya

Marilyn Norconk: Primate Field Ecology and Conservation Workshop in Suriname

One Southwick award was bestowed:

Francis Rwabuhinga of the Kibale Snare Removal Program

Congratulations to all of our awardees! And please check below for project reports from previous awardees.

If any members are interested in serving on the Education Committee, as a student competition judge, or have specific issues they would like addressed, please contact me at

Elizabeth.lonsdorf@fandm.edu

VP for Captive Care

cschwitzer@bcsf.org.uk

Captive Care grants 2013

We had 18 applications for IPS Captive Care grants this year, requesting a combined US$27,538. We were in the lucky position to fund one third of the proposals, and the Captive Care Committee awarded grants to the following six applicants:

Raffaella Commitante: Orangutan Conservancy/ Orangutan Veterinary Advisory Group 2013 Workshop

Steve Unwin: 2014 Pan African Sanctuaries Alliance (PASA) Primate Healthcare Workshop

Nicolien Schoneveld-de Lange: Supporting primate conservation in Cross River State through the effective running of a primate rescue and rehabilitation center

Carmen Vidal: Enriching the Male Chimpanzee Habitat for Conservation and Education

Sonya Kahlenberg: Improving health care facilities for orphaned Grauer's gorillas in eastern Democratic Republic of the Congo

Tilo Nadler: Reconstruction of a semi-wild area at the Endangered Primate Rescue Center

Christoph Schwitzer

VP for Communication

claudia.fichtel@gwdg.de

I thank all members of the society for submitting news items, project reports, job postings, and other items of interest for inclusion in the IPS Bulletin. If you have any pieces of information that you would like to circulate to the membership, please feel free to e-mail them to me, and we can determine the best way to get your information out (i.e. bulletin, webpage, list-serve).

If you have any questions about the IPS bulletin or general society issues, please don't hesitate to send me an e-mail.

Claudia Fichtel
Claudia.fichtel@gwdg.de

VP for Conservation

wallis@primateconservation.info

Once again, your IPS Conservation Committee had a busy start to the year. We are happy to announce the following grants and award:

2013 Galante Family Winery Conservation Scholarship

After a pleasant talk with Mr. Jack Galante, the man who very generously endowed a conservation education prize for IPS, we have agreed to change the name of the award to more accurately reflect its current status and its intended goal. Starting in 2013, the Martha J. Galante Award is now known as the IPS Galante Family Winery Conservation Scholarship. This scholarship is to be used to help young primatologists from primate habitat countries gain further education. This educational opportunity may be a specially arranged training program, part of a larger educational project, or a primate conservation conference. The competition deadline is March 1st each year. (See IPS web site for more details.).

The 2013 Galante Family Winery Conservation Scholarship was awarded to Mr. Nguyen Van Toai, Vice-head of Division of Science and International Cooperation, Bu Gia Map National Park – Bu Gia Map district – Binh Phuoc province (Vietnam). Toai will use the scholarship to attend the Endangered Species Recovery course at Durrell Conservation Academy in Jersey, Channel Islands (July 2013). The training will contribute greatly to his work in the Bu Gia Map National Park – which is home to six primate species: yellow-cheeked crested gibbon (*Nomascus gabriellae*), black-shanked douc langur (*Pigathrix nigripes*), stump-tailed macaque (*Macaca arctoides*), pig-tailed macaque (*Macaca nemestrina*), long tailed macaque (*Macaca fascicularis*), and pygmy slow loris (*Nycticebus pygmaeus*).

Congratulations to Toai for this great training opportunity. We look forward to following his career and it is especially exciting that the next IPS meeting will be held in his home country, Viet Nam. We all look forward to meeting him there!

2013 IPS Conservation Grants

The primary activity of the IPS Conservation Committee is to receive applications for the IPS Conservation Grants and determine which projects should be funded.

This year, we received 49 applications. As usual, it was a difficult task to review them and select only a few; many were top notch applications. In the end, we selected six proposals to fund. The following list provides the principle investigator, (country of origin), where the work will be carried out, and the title of the project. Those with "(CCI)" were selected to receive an additional $500 from the Conservation through Community

We congratulate the winners and thank them for their work for primate conservation!

Nixon K. Saita (Kenya), Kenya, "The rare DeBrazza's Monkey: population monitoring and community conservation awareness in and around the Kisere National Reserve, Kenya" (CCI)

Sheila M. Holmes (Canada), Madagascar, "Decoding variable habitat use by a critically endangered primate, the black-and-white ruffed lemur (*Varecia variegata*)" (CCI)

Dominique A. Bertrand (USA), Indonesia, "Anthropogenic sources of stress in an eco-tourist location containing wild *Macaca nigra*"

Felipe E. Silva (Brazil), Brazil, "Population Parameters and Conservation Status of *Mico marcai*, Amazon, Brazil: (CCI)

Mariana B. Landis (Brazil), Brazil, "Effects of hunting on population density of the endangered southern muriqui in the largest continuous Brazilian Atlantic Forest remnant, 'Carlos Botelho State Park', São Paulo State, Brazil"

Gboja M.H. Houngbedji (Benin), Benin, "Conservation state and dynamic of *Cercopithecus erythrogaster erythrogaster* population in Togbota Agué forest, Benin" (CCI)

My heartfelt thanks to the IPS Conservation Committee

I am grateful to those who served this year on the IPS Conservation Committee. As I always say, I know they are very busy people and their taking so much time to help me with the committee work is so very much appreciated. The following individuals have generously provided input on at least a portion of our work this year: Richard Bergl, Ramesh Zimbo Boonratana, Fanny Cornejo, Drew Cronin, Alejandra Duarte, Ian Gilby, Gladys Kalema-Zikusoka, Martin Kowaleski, Jenna Lawrence, Laura Marsh, Bethan Morgan, Anna Nekaris, Lisa Rapaport, Hanta Rasamimanana, Caroline Ross, Arif Setiawan, Melanie Seiler, Mauricio Talebi, and Jo Thompson.

As usual, if you have any suggestions for the IPS Conservation Committee – including new ways to raise money for the Conservation Funds, please contact me!

- Janette Wallis, Ph.D., IPS Vice President for Conservation; janettewallis@sbcglobal.net

African Primates: Call for Contributions

As many of you know, African Primates, the journal of the IUCN/SSC Primate Specialist Group's Africa Section, will be re-launched this year in a slightly new format and with new editorial staff. As in the past, the journal will remain a hybrid journal/newsletter; we'll publish peer reviewed articles and field reports, but we'll also include news of upcoming events, job and training opportunities, and lists of recent publications of interest.

We will publish one issue this summer and eventually produce two issues per year, returning to the system of producing both print and digital versions. If you have any questions, please contact me at the email address provided below. Please feel free to forward this message to your colleagues and students. If you have questions, please don't hesitate to ask.

I look forward to seeing your contributions soon.

Janette Wallis, Ph.D.

Editor-in-Chief, African Primates

Vice President for Conservation, International Primatological Society

wallis@africanprimates.net

Trea$ury Note$

sschapir@mdanderson.org

The IPS Treasury remains in decent shape, although our revenue stream is down. We have already begun to cut our expenditures in 2013, which means fewer grants and awards. We may have to cut expenditures even further in 2014 if we do not generate additional revenue. If you have yet to renew your IPS membership for 2013, now would be a good time to do so. Any time is a good time to make a donation to IPS, so a few donations at this point would be quite helpful. IPS has already paid out almost **$40,000** from the Conservation and General Funds during the first half of the 2013 calendar year to cover the Community Conservation Initiative, Conservation Small Grants, Jacobsen Awards, Southwick Awards, Captive Care Grants, Research Grants, and the Galante Award. As usual, thanks to everyone who has paid their dues, made a contribution, registered for a recent Congress, or purchased IJP. It is your commitment to IPS, primatology, and primates that has maintained the Society's financial health up until now, and allowed us to support so many worthy programs, projects, and individuals.

We have not had much of a chance to replenish our funds in 2013. Again, we encourage you to make a contribution to the Conservation Fund or the General Fund at your earliest convenience. We have added a "**Donate Now**" function to the IPS website. Please give it a try; it is fast and easy.

If you have not already done so, please **renew your IPS membership for 2013.** As always, you can join through the IPS website

www.internationalprimatologicalsociety.org

or through your National Primate Society (American, German, Congolese, and Spanish only).

Membership figures for 2013 are down considerably, however we expect a large influx of members in the next several months as individuals renew their memberships in order to submit abstracts and receive the members' discount for the 2014 Congress in Ha Noi.

Remember, that in order to receive the substantial savings associated with the Member's registration fee for the 2014 IPS Congress in Ha Noi, Viet Nam, you will have to be a member in good standing in IPS in 2013. You will soon be able to register for the Congress at the IPS membership webpage or through the Congress webpage:

http://ips2014.vnforest.gov.vn/ (partially active)

IJP subscriptions can be purchased through IPS and the sooner you purchase your subscription, the sooner you will have access to the Society's official journal. IPS receives a small payment for each IJP subscription purchased through IPS. **This is the fourth year that electronic subscriptions to IJP are available**. You can either purchase a hard copy subscription (now $52, including electronic access to IJP) or you can purchase an electronic subscription only (still $37). When your IJP payment has been processed, I will email you a token that will give you electronic access to all issues of IJP (not just those published during the subscription year). If you have any questions, please contact me.

There are still 176 Full or Partial Lifetime Members in IPS. Lifetime Members will never have to pay dues again, but they can still order IJP or make contributions to the General Fund or the Conservation Fund from the webpage and are encouraged to do so. If you have made a career of primatology or plan to do so, please consider a Lifetime Membership. You can either purchase the membership with one payment ($520) or you can choose to pay in two installments of $260 each.

Let me know if you have any other Membership and/or Treasury questions, especially those related to the decline in membership. Once again, please consider a donation to IPS (use the "**Donate Now**" function), especially to the Conservation Fund, to help support primates, primatology, and primatologists across the globe.

Steve S.

sschapir@mdanderson.org

IPS Treasurer and VP for Membership

General Secretary

ncaine@csusm.edu

At the 2012 Congress in Cancun, the IPS Council determined that it would be useful to review the IPS Constitution and ByLaws to identify places where practice is not aligned with the text in these documents. I was asked to carry out this charge. To that end, I have asked three long-term, active IPS members to join me in reviewing the Constitution and ByLaws and making a report to the full Council. Drs. Ute Radespiel, Anthony Rylands, and Katie Leighty have agreed to join me on this ad hoc committee. Based on our report, the Council will decide what changes (if any) to propose, and these proposed changes will be put to a vote of the IPS membership, as per Article 11 of the IPS Constitution.

Sincerely

Nancy Caine

Other Interesting News Items

DONATE YOUR IJP SUBSCRIPTION

Do you currently receive paper issues of IJP that you do not use? Do you prefer to utilize the journal electronically? If so, we have a wonderful new program that will relieve you of your extra clutter while helping primate facilities in need. IPS, in association with IJP, is now offering you the opportunity to redirect your paper issues of IJP to a primate center or field station in need. If you would like to donate the paper portion of your subscription, or know of a research center/field station/ sanctuary that would benefit from receiving bound copies of the journal, please contact IPS VP for Education,

Elizabeth Lonsdorf
elizabeth.lonsdorf@fandm.edu

IPS 2014 in Ha Noi, Vietnam

The XXV Congress of the International Primatological Society (IPS-2014), wil l take place in the Melia Ha Noi Hotel, Vietnam, from August 11-16, 2014.

http://ips2014.vnforest.gov.vn

In addition to the scientific program, congress attendees will be able to enjoy a variety of pre- and/or post-congress tours to enjoy the wildlife and cultural history of the country.

Recognize Primatology's Unsung Heroes

The "Unsung Hero" recognition program was begun in 2010 when the Council of IPS realized that there are many people around the world who have made significant contributions to primatology in ways that would not qualify for the many awards meant for those with advanced training in our fields. Unsung heroes work behind the scenes or step up to provide assistance in any number of ways that lead to better research, education, and/or conservation. This recognition program is non-competitive and carries no financial award, but is designed to give IPS an opportunity to say "thank you" in a formal way. This year, our first Unsung Heroes were recognized, thanks to nominations from Dr. Susan Perry. Offering logistical support and free lodging to students for many years, Carlos Jimenez Freer recently donated an acre of land in Costa Rica to the Susan Perry Capuchin Foundation, Inc., thereby giving the Lomas Barbudal Monkey project a place to construct a permanent field station for the continuation of research and environmental education programs. Likewise, staff at the Hacienda Pelón de la Bajura have been instrumental in the support of research and conservation of the highly endangered tropical dry forest habitat that is home to white-faced capuchin and mantled howler monkeys in Costa Rica. Thanks to the efforts of many people at Hacienda Pelón de la Bajura, including but not limited to Leonel Fernández Sandí, Jorge Luis Alvarez Rivas, Antonio Loaíciga P., and Juan Carlos Chevez Elizondo, large tracts of forest have been preserved and reforested with native species, carbon neutral agricultural practices have been adopted, and squads of trained fire fighters and anti-poacher patrols have been established.

Please join us in saluting these heroes and the hundreds like them around the world who make it possible for primatologists to pursue their interests and passions. If you would like to nominate an Unsung Hero, please write a letter of support and forward it to me.

Sincerely,

Nancy Caine

Would you like to formally recognize someone's service to primate conservation and/or welfare? The IPS Council has initiated a program to formally acknowledge the work of individuals who support the goals of IPS but whose contributions are unlikely to be recognized in traditional ways. It is our hope that this program will provide an opportunity to honor those that make the work of our membership possible, such as (but not limited to) a colony manager, a park ranger, a docent, a customs officer, journalist, laboratory technician, or law enforcement agent. This program is not meant to be a competition; instead, individuals whose work is deemed to support the aims of our society will be sent a letter of recognition on behalf of the IPS Council. If you would like to recognize an "Unsung Hero of Primatology," please send a 1-2 page testimonial of this individual's work and how it promotes our efforts to IPS VP for Communications,

Claudia Fichtel
claudia.fichtel@gwdg.de

Jon E. Levine, Ph.D.
Professor and Director
Office: (608) 263-3500
Fax: (608) 265-2067
levine@primate.wisc.edu

WISCONSIN
UNIVERSITY OF WISCONSIN–MADISON

May 16, 2013

Dear Colleagues and Friends of the Lawrence Jacobsen Library:

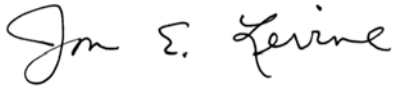
The scientists and staff of the Wisconsin National Primate Research Center and University of Wisconsin-Madison have worked for four decades to build the Lawrence Jacobsen Library (LJL) - a unique and treasured resource for the international primatology and broader scientific community. It has served with distinction the scientific and scholarly interests of primatologists, the public, teachers, students, veterinarians, and researchers. We have strived to maintain stable support for this prized resource by obtaining funding from the National Institutes of Health (NIH), both as a portion of our direct base grant funding, and through the successful competition for other NIH support mechanisms. As most of you are aware, however, we have unfortunately entered into an era of flat funding, and now sequestration-impacted budgets. One result of these funding pressures has been a narrowing of the opportunities for funding of resources that are not sharply focused on NIH's mission.

It is in this restricted funding climate that the WNPRC finds that it can no longer support the LJL as a fully functioning library. I am thus writing to you all to confirm the unfortunate news that we will be closing the LJL over the coming months. I want to thank you all for your expressions of appreciation for the LJL and its unique electronic and physical resources. **Please let me reassure you that almost all of the LJL digital resources will remain available in their current state,** supported by the WNPRC Information Technology and Systems Services unit.

We have begun efforts to manage the final disposition of the physical collections and materials in a manner that will preserve access to them via the broader UW library system and interlibrary loan. I have appointed Dr. Joseph Kemnitz, who recently served on the UW library committee for several years, including two years as chair, to spearhead our efforts in collaboration with Ed Van Gemert, Vice Provost for Libraries, and his staff, regarding the disposition of the physical collections and materials. We do not anticipate that any of the unique physical materials will be discarded. Furthermore, in the event that any of these materials cannot be placed within the UW libraries, we are committed to communicating their availability to the scientific primatology community in order to ensure their appropriate disposition.

The decision to close the Library has been an extremely difficult one for the senior management team here at the WNPRC, and certainly a painful one for the library staff that has worked so diligently to develop its resources over so many years. Unfortunately, we could not identify an alternative funding plan by which the library could be self-sustaining or supported by non-NIH sources. We are fully aware of the incredible and long-standing value of the LJL to scientists around the world. The important resources developed by directors of the library, Larry Jacobsen, Cynthia Robinson, and Ray Hamel, and their colleagues over the years served not only scholarly pursuits, but also provided unique avenues for education and engagement between the scientific community and the teachers, students, and broad public seeking to learn more about non-human primates. We are therefore committed to maintaining access to these resources to the greatest extent possible over the coming years. To work towards this common goal, we will be inviting members of the primatology community to work with us to identify new funding streams to ensure that digital resources can be updated and further developed into the future. We are also assembling an advisory committee comprised of representatives of the relevant professional societies to help in the transitions that lie ahead.

Sincerely,



Jon E. Levine, Ph.D.
Director of the WNPRC

Kenya National Task Force inaugurated to steer conservation planning for primates in Kenya

We are pleased to announce the formation of the National Primate Conservation Task Force (NPCTF) in Kenya. Kenya has at least 19 species and 24 subspecies of primates and harbours some of the world's most threatened species. The most threatened taxa are the Tana River Red Colobus (*Procolobus rufomitratus rufomitratus*) and the Tana River Mangabey (*Cercocebus galeritus*), both endemic to the forests of lower Tana River.

Habitat degradation, loss and fragmentation are the major threats of Kenya's primates. As the human population continues to rapidly grow, primates are pushed into small isolated areas of suitable habitat, thus minimizing their chance of survival. This also increases their level of interaction with humans, thus exacerbating the problem of human-nonhuman primate conflict, which is manifested in crop raiding and livestock predation. Climate changes have further complicated the threats facing primates: the weather patterns have become unpredictable, resulting in changes in food resources. This eventually affects the population status and carrying capacity, thus further threatening the long term survival of primate populations.

Despite the challenges Kenya's primates face today, the country lacks primate conservation and management strategies. This was the motivation behind the formation of Kenya's National Primate Conservation Task Force. Expert advice has been sought and resulted in the formation of a panel to advise, help develop and drive the strategy forward. This panel is known as the National Primate Conservation Task Force and the members are a collection of primate and conservation experts from Kenya and around the world. Members of the NPCTF are:

1. Kenya Wildlife Service represented by Dr. Charles Musyoki, OGW

2. Institute of Primate Research, represented by Stanislaus Kivai or Nancy Moinde or Peter Fundi

3. Kenya Forest Service – an officer to be nominated

4. NEMA / Moi University represented by Prof. Geoffrey Wahungu or Dr. Duncan Kimuyu (University of Nairobi)

5. University of California / Uaso Ngiro Baboon Project (UNBP) represented by Prof. Shirley Strum or Dr. Debbie Nightingale

6. Amboseli Baboon Research Project represented by Prof. Jeanne Altmann or Prof. Susan Alberts or Tim Wango

7. Eastern Africa Primate Diversity and Conservation Program represented by Dr. Thomas Butynski or Dr. Yvonne de Jong

8. Tana River Primates team represented by Prof. David Mbora or Prof. Julie Wiezcowski

9. Ol Pejeta Conservancy represented by Martin Mulama or Dr. George Paul

10. Kakamega Monkey Project represented by Prof. Marina Cords

11. Papio Project, Laikipia represented by Dr. Ryne Palombit

All members of the NPCTF contribute a range of knowledge and expertise, and are motivated to move forward to address the following Terms of Reference:

1. Advise KWS on primate conservation matters including priorities for critical conservation actions for primates in a structured and participatory way.

2. Integrate primate conservation, review primate research activities and advise on research and monitoring programs. This includes collating existing information to create databases on each primate species.

3. Develop policy options for conservation and management of primates.

4. Steer the formulation of national conservation strategies that will ensure the long-term survival of healthy populations of primates and their habitats.

5. Mobilize resources to formulate national primate conservation strategies and management guidelines.

6. Enhance capacity building for primate conservation by Kenyans.

The envisaged strategies will provide national guidance on the conservation of threatened primates and management of relatively abundant primate species that are sometimes problem animals. The guidelines will define the role of government, conservation partners and other stakeholders whilst raising awareness about the plight of primates and the (generally declining) population and distribution trends within Kenya. Kenya clearly has a large role to play in primate conservation Africa-wide, given that it is home to two endemic and threatened primate taxa as well as to a large number of other, less threatened primate taxa.

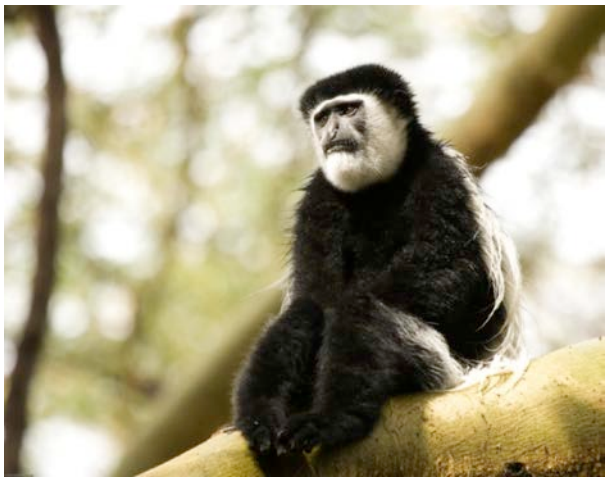
The NPCTF will hold its third meeting on 28th March 2013 to further discuss the key features of the strategies and guidelines, specific challenges and risk factors facing each of the primate species and sub-species.

7. Raise the profile of primates through better awareness and public relations and help resolve conflicts and change people's attitudes about primates.

8. Co-opt members outside the Task Force committee based on expertise, funding or other reasons identified by the committee.

The task force commenced its work by holding an inagural meeting on 11th January 2013 followed by a second meeting on 28th February 2013. The first meeting discussed the Task Force TOR, composition and communication. The second meeting discussed key features of the conservation strategies and management guidelines such as primate pest management, national primate diversity, and national primate conservation priorities.

It is anticipated that the NPCTF will hold a meeting with stakeholders in July 2013 to further consolidate the background information for each species and sub-species and set the stage for a national primate conference during 2014. The conference will provide an opportunity to update distributions and densities of primates in Kenya, as well as incorporate the inputs and views of stakeholders.



Mau Forest guereza *Colobus guereza matschiei* in yellow fever woodland, Lake Naivasha, Kenya. Photograph by Yvonne de Jong & Tom Butynski

Eastern patas monkey *Erythrocebus patas pyrrhonotus* in whistling thorn woodland, Ole Naishu, Kenya. Photograph by Yvonne de Jong & Tom Butynski

Susan Alberts

Professor of Biology, Duke University
Associate Director for Science, National Evolutionary Synthesis Center (NESCent)
Box 90338, Durham NC, 27708, Ph 919-660-7272, Fax 919-660-7293

In Memoriam

Roger A. Brumback, 1948 - 2013

The International Primatological Society joins Creighton University School of Medicine, friends, and family in mourning the passing of Dr. Roger A. Brumback and his wife of many years, Mary. Both were found dead in their home in Omaha, Nebraska on May 14, 2013.

Roger had a distinguished career in pathology after receiving his MD degree from Penn State University Medical College in Hershey, PA. He had professional appointments at Washington University, the NIH, University of Pittsburgh, University of North Dakota, University of Oklahoma, and finally at Creighton University School of Medicine, where he was Chair of the Pathology Department from 2001 to 2010. He remained a Professor in Pathology at Creighton, and was planning to retire in June 2013. His professional medical interests included diagnosis and treatment of neurodegenerative diseases, particularly Alzheimer's disease, neuromuscular diseases, and metabolic disorders. He has over 190 publications in pathology and neuropathology listed in PubMed, so he was a prolific scholar in his own right.

There was a chance event early in his medical training that linked Roger forever with primatology. Looking for a research project while an M1 student in medical school in the late 1960's, he was steered by mentors toward a project using the then-revolutionary technique of chromosome analysis (karyotyping) to answer questions regarding the evolutionary status of a rather obscure and unknown species of neotropical primate, the owl monkey (genus *Aotus*; now known commonly as "night monkeys"). After several years of working on this project alongside his medical training, Roger collected sufficient data to make a claim that there were two forms (species) of night monkeys, and published several papers to support this claim. When Roger's career in pathology began in earnest in 1975, he deposited his original data and publications with Philip Hershkovitz at the Field Museum of Natural History in Chicago, the recognized world expert in neotropical primate systematics and biology, and commenced his distinguished career as an academic and clinical pathologist.

Thirty years after he thought he was through with primatology, Roger saw a group of night monkeys on display at the San Diego Zoo. This chance viewing piqued his interest in his long-forgotten subjects, and he searched the internet for recent knowledge about this species. To his surprise and delight, he discovered that his original data on multiple species of night monkeys had withstood the rigors of peer review, and that one of the forms of night monkeys now had his name attached to it: Brumback's Night Monkey (*Aotus brumbacki*). He also discovered that Brumback's Night Monkey was on the IUCN's 'Red List', classified as vulnerable to extinction due to habitat destruction.

Brumback immediately felt a desire to contribute to conservation efforts for 'his' monkey, and other organisms that shared the South American forests with it. He contacted the ASP, and primarily though the good efforts of Janette Wallis, a long-time member of the ASP, he made a substantial contribution to the ASP to support fieldwork and conservation efforts with monkeys in the genus *Aotus*. His contribution to the ASP funded the work of three scientists who continue their work in neotropical primate conservation, including **Cecilia Juarez**, Fundacio ECO, Argentina, **Angela Maldenado**, Fundacio Entropika, Colombia, and **Sam Shanee**, Neotropical Primate Conservation, Peru.

Roger's legacy in pathology will live on in his published works, in the students he has trained, and in his contributions to the profession. The legacy for Roger Brumback's contributions to primatology will persist in the work begun by the recipients of the ***ASP Brumback Aotus Conservation Award***, and in the knowledge that Brumback's Night Monkey still roams in the tropical forests of South America.

Jeffrey A. French, Omaha, Nebraska
15 May 2013

Acknowledgements to Janette Wallis' original essay on Roger's story from the ASP Bulletin (June 2000, Vol. 24(2).

Report from Captive Grant Recipient Brandon Wheeler

Validation of enzyme immunoassay for fecal glucocorticoid analysis in *Cebus paella*

Monitoring of individual glucocorticoid levels can provide caretakers with a quantifiable measure of an individual's psychological and physiological well being and can be measured noninvasively through analysis of glucocorticoid metabolites (GCM) excreted in the feces. However, to ensure that fecal GCM measurements accurately reflect an individual's actual adrenocortical activity, it is important to first validate the enzyme immunoassay system to be used for a particular species and sex (Touma & Palme, 2005; Heistermann et al., 2006). This study, funded in part by an IPS Captive Care Grant in 2009, aimed to test the validity of four enzyme immunoassays (EIAs) for measurement of fecal glucocorticoid concentrations in male and female tufted capuchin monkeys (*Cebus* [*Sapajus*] *apella*), a common subject of behavioral, cognitive, and biomedical research in captive conditions, through analysis of fecal samples collected before and after administration of adrenocorticotrophic hormone (ACTH).

In order to minimize the stress associated with the application of ACTH, the test was conducted at Institute of Cognitive Sciences and Technologies (ICST) in Rome, Italy during the study subjects' required annual medical checkup in December 2009. During the five days prior to the check up, we collected two fecal samples from each of two male and two female capuchins in order to calculate baseline GCM levels. On the day of the checkup, the four subjects were treated with an intramuscular injection of 0.1 mL of synthetic ACTH following the routine administration of an anesthetic as part of the health check up. In the 56 hours following the health checkup, we collected as many samples as possible from the four subjects, and collected one to two samples per subject on the third day following the check up. In total, this resulted in 112 fecal samples collected, which were frozen immediately after collection.

Upon completing sample collection, all samples were moved to a large freezer in the Zoology Department at La Sapienza University in Rome. They were to be stored there over the Christmas holiday, with the intention of sending them on dry ice to Dr. Michael Heistermann of the Endocrinology Laboratory at the German Primate Center in Goettingen, Germany upon the re-opening of the Center following the holiday break. Unfortunately, when we returned to retrieve the samples in January, 2010, we found the freezer unplugged and our samples completely thawed (it was apparently unplugged by maintenance workers between Christmas and the New Year to use the electric outlet, and was not plugged back in until we noticed that our samples, along with many others, were ruined).

We nevertheless attempted to use the samples for the purposes of assay validation in hopes that all was not lost. Samples from two of the four individuals (one male and one female) were assayed with four EIAs: a cortisol-specific EIA, a corticosterone-specific EIA, and two group-specific EIAs that have been shown to measure reduced cortisol metabolites in primates (Heistermann et al. 2006). While the GCM profiles based on all four assays showed a peak following administration of the ACTH challenge as expected in both animals, this peak appeared in the first samples collected after the health check up, indicating a time lag of no more 3 to 4 hours between the circulation of the native hormone in the blood and the excretion of the metabolites in the feces). Given that such a time lag is far shorter than that seen in most primates (typically 20-48 hours: Schwarzenberger et al. 1996), it was assumed that the strange result was an artifact of the poor preservation of the samples, and thus that the samples could not be used achieve the goals of the study.

Fortunately, I successfully acquired funding form the National Science Foundation for a larger project focused on stress in capuchin monkeys, and was able to use those funds to conduct an additional ACTH challenge with two individuals (one male and one female) from the same colony during a subsequent annual health examination.

Following a similar collection regimen as described above, we collected 37 samples from the male and 32 from the female. On this occasion, the samples were successfully kept frozen until laboratory at the German Primate Center. Again, all four EIAs were tested and indicated that, in both animals, the corticosterone EIA was the most sensitive in detecting the increase in adrenocortical activity, with the cortisol assay being the least sensitive and the two group-specific assays being intermediate. Importantly, the peaks in fecal GCM levels were again seen in the first samples voided following the health check up, this time demonstrating a time lag of only two to three hours. It thus appears that, although the samples from the first year were almost certainly degraded to a certain extent, the general trends that emerged from analysis of those samples were indeed correct: all four assays can detect increases in adrenocortical activity in capuchins while the time lag between glucocorticoid production and the excretion of GCMs is extremely short in tufted capuchins. As an additional step in the validation procedure, we conducted high performance liquid chromatography analysis to determine the extent to which these assays may cross-react with other metabolites and thus provide unreliable measures of adrenocortical activity. Cross reactivity was negligible in all four cases. Together with the profiles generated based on the administration of the ACTH challenge, this suggests that each of the four assays is suitable for measuring stress through analysis of fecal GCMs in tufted capuchin monkeys. However, given that the corticosterone EIA is the most sensitive, it is the best option for such analyses.

While the project was funded by the IPS because of the implications the results may have for the welfare of captive tufted capuchins, we also further tested the suitability of the corticosterone assay to measure samples collected in wild conditions. Specifically, because it is often difficult to keep samples frozen at remote field sites, field researchers often opt to extract GCMs from fecal samples in a field laboratory and then keep them stored as alcoholic extracts until they are finally assayed (Palme 2005, Ziegler & Wittwer, 2005). We first tested the degree to which GCM concentrations in such "field extracts" correlate with those preserved frozen when measured with the corticosterone EIA. A Spearman's rank correlation revealed a highly significant effect, indicating that samples extracted according to this method produce reliable measures of adrenocortical activity. Second, because GCMs can potentially degrade over time when stored in this way (see Kalbitzer & Heistermann, in press), we tested for storage effects after 3, 6, 9, and 12 months of storage. Differences in fecal GCM levels between each time point and time 0 were within the range of typical inter-assay variation (i.e., <10%; see Shutt et al. 2012), indicating that samples extracted according to the field technique can provide reliable measures even after stored for 12 months, at least when assayed with the corticosterone EIA.

It should be noted that the time lag characterizing fecal GCM excretion in tufted capuchins is, to my knowledge, the shortest demonstrated thus far for any mammal, with the next shortest being 4 to 6 hours in the common mouse (*Mus musculus*: Touma et al. 2003). Excitingly, this short time lag potentially opens the door to analysis of the physiological consequences of acute stressors through analysis of fecal GCMs in tufted capuchins, something not previously thought to be possible in primates based on analysis of fecal samples (Anestis 2010), so long as sample collection is combined with appropriate behavioral observations.

A manuscript based on this study was recently accepted for publication in the *International Journal of Primatology*. I hope the more detailed results presented therein will facilitate non-invasive analysis of stress in both captive and wild tufted capuchins.

Brandon C. Wheeler
Cognitive Ethology Laboratory
German Primate Center
Goettingen, Germany

Report from Captive Grant Recipient Alejandra Duarter

Improving primate enclosures for spider (*Ateles geoffroyi*) and howler monkeys (*Alouatta pigra*) in a Mexican sanctuary

A consequence of primate trade in Mexico is an increase in the number of unwanted primate pets received at El Fénix Sanctuary in Ciudad del Carmen, Campeche. Funding for this sanctuary comes mainly from voluntary donations; the money is primarily used to purchase food for the monkeys. This site was initially opened to visitors for environmental education purposes, but it closed its doors some years ago to the general public, as the continuous presence of visitors was considered to be having a detrimental effect on the rehabilitation of the primates. However, the sanctuary allows sporadic access to visitors.

The primates housed in this sanctuary include 22 black-handed spider monkeys (*Ateles geoffroyi*) and 5 black howler monkeys (*Alouatta pigra*). New arrivals and primates presenting behaviour disorders are kept in enclosures, while infants, juveniles and some adults are able to spend part of their time on the trees of the sanctuary area.

A pilot study in the sanctuary allowed the identification of areas in need of immediate improvement:

1. Diet was provided on the floor and water in plastic bowls which easily overturn.
2. A new food storage shed and sink were needed.
3. Primates were resting on the floor as platforms were deteriorated or not effective.
4. Some shelters needed to be replaced.
5. First aid kid was not available.
6. Keepers required training on primate requirements and health and safety issues.
7. Locomotion was performed mainly on the floor, not allowing suspensor locomotion for these arboreal species.

Refurbishment

Maintenance and refurbishment work was performed on the enclosures. Wooden huts and resting platforms were established, in addition to swings and hanging bridges. Primate space use was recorded with focal sampling, before and after the refurbishment. Initially the arboreal primates in this sanctuary showed a tendency to spend most of their resting time on the floor. As the platforms were installed this resting pattern was modified.

As plastic containers are prone to bacterial growth, these were replaced by feeding shelves and stainless steel drinking pots. However, the drinking pots presented two problems: keepers did not clean them, as they showed no evident impurities unlike the previous plastic pots; secondly, high temperatures during the dry season increased the rate of evaporation compared to that from the plastic containers. Drinking pots were usually filled during the cleaning routine every morning, with the assumption that the water provided would be sufficient. However, we found that they needed to be refilled several times a day as temperatures raised to around 40°C.

An alternative to reduce water evaporation levels was the relocation of young fig and palm trees to spaces lacking adequate shade: trees suffer leaf loss on a seasonal basis, reducing the amount of shade available for the primates. These new trees will help to regulate high temperatures in the long term.

To promote natural locomotion, wooden and rope bridges were built and suspended inside the enclosures and outdoor area connecting the trees used by the monkeys. However, ex-pet primates tend to stay on the ground most of the time, making limited use of the corridors. To increase their use we placed hanging feeders around the bridges to encourage the primates to climb.

As part of the refurbishment, it was necessary to replace the old food storage shed. The new shed includes a sink, making food storage and preparation more efficient. Wire shelving allows suitable distribution of the food racks. Importantly, this prevents back injuries: previously the keepers needed to continuously lift racks each time they prepared food. A first aid kit is also available in this area in case of an emergency.

Enclosure improvements are expected to benefit the general health of the primates, as feeders and drinkers now allow better handling of food and water. However, keepers must follow the recommendations regarding diet, cleaning routines, and health and safety issues.

Environmental enrichment

The primates housed in the Sanctuary display abnormal behaviours as a result of their lives as pets, limiting intra-specific interactions. They lack social structure, anti-predator strategies and their dependence on humans for feeding precludes their reintroduction to their natural habitat. However, rehabilitation efforts are implemented to enhance both the length and quality of their lives. Enrichment was provided to promote the development of natural behaviours and to reduce boredom and stereotyping. Different types of enrichment were provided to promote exploration and foraging. Some individuals received it as expected, while others completely ignored it. However, different enrichment ideas were put into practice. For stereotyping individuals enrichment was placed in the areas where abnormal behaviours were detected to be repetitive, in an effort to interrupt them, by using novel objects or activities.

Keeper training

Training keepers was the most challenging task. Improvements require some changes in their working habits which are neither achievable easily or immediately. The keepers are not as committed to animal welfare as would be ideal. They limit their activities to cleaning and feeding the animals, considering management recommendations and enrichment efforts unnecessary. Whenever they were not observed, their activities in the sanctuary were performed poorly. An efficient way to change bad habits readily was indicating the advantages that the refurbishment and changes will have on their job: making it easier, more efficient and less dangerous. This lead to the creation of the keeper training programme and illustrated handbook. Thus, to influence their attitude towards their work, intensive training on primate behaviour and captive care will be held this summer to engage them in primate conservation and the contribution they can make.

Sanctuary aim

Working in conjunction with the Sanctuary for its refurbishment and environmental enrichment surely positively impacts primate welfare. Even when the sanctuary closed, some groups eventually ask for guided visits. As this place is committed with environmental education, access is allowed. As a result, security measures for the primates are now the next goal to be reached. Signalling and education materials need to be produced to deliver accurate information to visitors, providing a better understanding of primate behaviour and the consequences of illegal wildlife trade.

Acknowledgements

Part of the funding obtained from the IPS Captive Care Grant was invested in enclosure refurbishment, shed and sink facilities for diet storage and preparation, enrichment, first aid kits, and the keeper handbook. Primate conservation efforts in this Mexican sanctuary are possible due to volunteer work. I would like to thank Salathiel Zagal (UNAM), Flavio Torres (ENAH), Carlos Gallegos (CIDIIR) and Fernanda Duarte (CCH-sur) for supporting the tasks performed during the different phases of the work. Special thanks go to Lourdes Rodríguez for the facilities provided during the development of the project and for future work.

Enclosures were furnished with tires, basements, hanging bridges and feeding platforms

Outdoor trees were connected encouraging monkeys to climb and develop arboreal locomotion

Report for Lawrence Jacobson Education Development Grant
Stella de la Torre

Environmental education, a tool for the conservation of Ecuadorian primates

Introduction

Ecuadorian primates are a highly diverse and ecologically important group that is facing several conservation problems (de la Torre 2012, Tirira 2011). Data from two preliminary studies at the national and regional levels, suggest that live capture of primates for the illegal pet trade is an important threat despite the legislation and policies that are in place to deter it (Ministerio del Ambiente 2008, de la Torre 2012). Trading of wild animals is forbidden by law in Ecuador; however the enforcement of this law is weak partly due to low public awareness of the negative effects of illegal trading. To improve the knowledge and environmental awareness of communities that have been identified as primary centers of illegal trade in Amazonian Ecuador, in the past year, with the support of an IPS-Lawrence Jacobsen Education Development Grant, we developed a program of environmental education. This report presents the results of this program until March, 2013.

Methods

We coordinated with the regional offices of the Ecuadorian Ministries of Education and Environment, municipalities and environmental and indigenous organizations of the Amazonian provinces of Napo, Orellana and Pastaza, to carry out workshops for high school students and teachers, and leaders of local communities from June 2012 through March 2013. By including teachers and leaders of local communities as a special target, we aimed to develop and reinforce local skills in environmental education to assure the sustainability and replicability of the program. Didactic materials for the workshops were designed with the participation of students of the Environmental Education course at Universidad San Francisco de Quito.

Evaluation of the program results was based on a combination of:

1) pre- and post-intervention reports, aiming to measure changes of attitudes and an increase in knowledge about the topics of interest,

2) evidences of the sustainability (continuity) of the program through time based on an assessment of the interest of local teachers and community leaders to include related activities in the scholar program.

Preliminary Results

We carried out ten workshops in Tena (a city of approx. 50000 inhabitants in the province of Napo), Coca (a city of approx. 50000 inhabitants in the province of Orellana), Puyo (a city of 35000 inhabitants approx. in the province of Pastaza), San Pablo (a town of 300 inhabitants approx. in the province of Sucumbíos), Iwia (a town of 40 inhabitants in the province of Pastaza) and Tambococha n of Ecuadorian primates.

In Tena, we carried out three workshops; one of these workshops was given to 14 leaders of local communities in the area of Tena, a second workshop was given to 73 students of 5 high schools and the third one to 7 teachers of the same high schools. Three workshops were also carried out in Coca. One workshop was given to 68 students of three high schools, a second workshop was given to 70 students of 5 high schools, and a third one to 25 teachers of 8 high schools. In the city of Puyo we carried out one workshop to nine leaders of indigenous communities. Three additional workshops were carried out, one in the Secoya town of San Pablo to 24 Secoya students, another in the Quichua community of Iwia to five community leaders, including one school teacher, and a third one to 25 guards of the Yasuní National Park in the area of Tambococha.

Each workshop lasted about three hours. In all workshops we presented information about the ecology, behavior and importance of Ecuadorian primates, as a necessary background to discuss the conservation threats they are facing.

The focus of this second section was illegal trade; however, in the workshop to the Yasuní Park guards, we also focused on basic methods to conduct primatological research.

In the workshops for students, before discussing the problem of illegal traffic, we asked eight short questions to students to evaluate their knowledge and actions related to this activity (Annex 1). After the poll, we presented relevant information about illegal trade and the video "Requiem for the forest" (de la Torre et al. 2007) that presents a dramatized history of a captured pygmy marmoset that is rescued and reintroduced to a wild group.

The last section of the workshop varied depending on the public and the sites. Due to time limitations of the high schools in Tena and Coca, out door activities were not possible; instead, groups of students were asked to write a short story (real or not) about a monkey victim of illegal traffic (Annex 2). Once each group presented the story to the workshop participants, we reinforced the importance of primate conservation, emphasizing the problem of illegal traffic: regulations, laws and the power that each person has to stop it by not buying live or dead animals that are victims of this activity.

In the workshop of San Pablo, students participated in the following out-door activity: two groups of 12 students walked through a trail in the forest near the town, each group was leaded by a professor. Students were asked to record all animals observed (mainly birds and mammals) and to tell which of those species are affected by illegal traffic and how. When the groups returned to the school, the teachers lead a discussion of what would the forest be without the animals they just observed, emphasizing the ecological roles of each species and asking the students if they know of other animals that were affected by illegal traffic and that are no longer in those forests.

Workshops for high school teachers and community leaders began with a brief review of the ecology and conservation of Ecuadorian primates to introduce a guide of proposed didactic activities to teach about illegal traffic in different areas (mathematics, grammar, arts and sciences, Annex 3). The feasibility of each activity was further discussed. An out-door activity was developed with the group of community leaders of the area of Tena since the workshop was carried out in the rescue center Parque Amazónico La Isla. In this case, after observing the rescued animals, participants analyzed how frequent illegal traffic was in their communities and all the problems related to the enforcement of national laws and local regulations.

Participants were invited to contact us for more information and to let us know about the implementation of the didactic activities. To date, we have been contacted by 18 of the 60 teachers and community leaders that received the workshop. In all these contacts, participants asked us for more didactic materials (ppt. presentations, videos) or told us that they have applied at least one of the activities we proposed in the workshop to motivate students to prevent illegal trade.

Didactic materials for all the workshops included a brochure about illegal traffic (Annex 4) powerpoint presentations (Annex 5), a guide for park guardians to conduct primate censuses and research (Annex 6), a guide for high school teachers with tools to teach about primates and wildlife traffic and two videos: Pygmy marmosets, tiny creatures of the forest (de la Torre et al. 2004) and Requiem for the forest (de la Torre et al. 2007). A 10 min documentary presenting the drama of the animals victims of illegal wildlife traffic from the point of view of different actors (students, managers of rescue centers, scientists) is currently been produced. The script and about 90 min of footage are ready. The estimated time for completion is July 2013. The video will be distributed.

Concluding remarks

We faced several difficulties in the coordination of the workshops with the local authorities in each city or town, which caused delays in our planned schedules. We also had to deal with time constraints that most schools had for participating in the workshops. Despite these inconveniences, a preliminary evaluation of our program points to two important facts:

1) the final discussions of the workshops allow us to state that students did understand the environmental and social problems of illegal wildlife traffic. The participation and motivation of teachers and community leaders during the workshops was also high and about 30% of them maintained a contact with us after the workshop. All these facts point to the short term effectiveness of the program.

2) the answers to the anonymous survey we applied in the workshops evidenced that a relatively high proportion of the participants are or have been consumers of illegal wildlife traffic, either by having a wild animal as pet or by buying wild meat. Given these previous experiences, a single workshop may not be enough to change people's perceptions about wildlife trade. That is why it is extremely important to develop and reinforce the skills in environmental education of local teachers and community leaders. Our program was well received by these actors but more work is needed to successfully combat an activity that is still widespread in Ecuadorian Amazon and that is affecting almost all primates and several other species.

Stella de la Torre
Universidad San Francisco de Quito
Colegio de Ciencias Biológicas y Ambientales
sdelatorre@usfq.edu.ec

Report for Lawrence Jacobson Education Development Grant
Sonya Kahlenberg

Using Student Debate Competitions as a Conservation Education Tool in Kibale National Park, Uganda

Kibale National Park in Uganda is an important habitat for several endangered primates, including its most well known residents, chimpanzees (*Pan troglodytes*). Despite Kibale's legally protected status, the park faces major conservation challenges due to the burgeoning human population that presses against its boundaries. Thus conservation education and community engagement programs are essential, if long-term conservation is to succeed in this area. Since 1997, the Kibale Chimpanzee Project has partnered with The Kasiisi Project to bridge chimpanzee scientific research with conservation education in schools and communities around the park.

In 2012, these collaborators were awarded the Lawrence Jacobsen Education Development Award from IPS to organize a student debate competition focused on local conservation issues. Participants in this Debate Cup were 100 students from five primary schools near Kibale's border.

The goal of the project was to use a debate format to convey conservation messages to schoolchildren in a fun and engaging way.

Each school debated each other twice, once when they were the 'home team' and once when they were the 'away team'. Participants were in grades primary 5-7 (average age = 13).

Each school debated each other twice, once when they were the 'home team' and once when they were the 'away team'. Participants were in grades primary 5-7 (average age = 13). The general format of the debates involved 6 speakers from each team giving five-minute speeches in English either for or against a topic. Some example topics include: "Chimpanzees should be given special protection because they are our closest relatives" and "Local people should be allowed to graze domestic animals inside Kibale National Park". Debates were scored by guest judges who were knowledgeable about local conservation issues. After each debate, the moderator summarized the conservation perspective on the focal topic. A flyer was also distributed to all attendees along with a list of simple actions people could take to relieve pressure on the park.

At the final ceremony, students celebrate when the overall winners are announced

Audience size at the debates was substantial, averaging 88 people (range 42-190), mostly schoolchildren but also teachers, head teachers, parents, and community members. The Debate Cup closed with a large celebration where the overall winners of the competition were announced and every participant received recognition and prizes.

We administered surveys to participants before and after the Debate Cup to assess how student knowledge and attitudes were impacted by the debates. Although we are still analyzing the before/after data, some interesting trends are emerging. For example, for two of the debate teams analyzed thus far, more students described chimpanzees as having human-like characteristics after the debate than before, suggesting this information may have been learned during the debates. Participants were also given surveys asking them to rate how much they enjoyed their experience on a scale of 1 (not at all) to 10 (very much). The average score was 9.3 (n = 79), indicating it was a very positive experience for them. Additionally, students were asked to describe what they learned during the Debate Cup. About one-quarter (26%) of the 77 respondents mentioned that they learned about conservation of Kibale National Park, but an even larger number stated that they improved their English skills (61%). Other key things mentioned were an improvement in public speaking (25%) and debating (14%) skills. Interestingly, girls (33% of 43 girls) mentioned that the debates helped improve their confidence in public speaking three times more than boys did (11% of 35 boys; Fisher's exact test, $p = 0.03$).

In sum, the Debate Cup funded by the IPS Jacobsen Award allowed for children living near Kibale National Park to learn about conservation issues using a unique and fun educational format. The debates also helped students improve their English and debating skills and confidence in public speaking. This program was very well received and there have been many requests to make it a reoccurring annual event.

The Kasiisi Debate Team celebrates their win

Report from Conservation Grant Recipient Drew T. Cronin

Survey of Threatened Monkeys in the Iladyi River Valley Region, Southeastern Bioko Island, Equatorial Guinea

Bioko Island, Equatorial Guinea (Fig. 1) is among the highest priority sites in Africa for primate conservation (Oates 1996). Bioko is home to seven species of diurnal primates, all of which are threatened with extinction (IUCN 2012). Nevertheless, illegal hunting is the primary threat to these species and has increased dramatically over time, with primates comprising approximately 20% of the total bushmeat sold in Malabo, Bioko's capital (Morra et al. 2009; Cronin et al. 2010). The impact of this hunting on wild populations is poorly documented on Bioko, and, as a result, primate distributions, like that of the critically endangered, endemic Pennant's red colobus (*Procolobus pennantii*) (Groves 2007), remain approximations. The core range of *P. pennantii* is the southwest sector of the Gran Caldera-Southern Highlands Scientific Reserve (GCSH), however an unconfirmed allopatric population is believed to exist within the Iladyi River valley (IRV) to the southeast (Fig. 1) (Butynski & Koster 1994; Cronin et al. 2010; Oates 2011; IUCN 2012).

We conducted a rapid assessment of primates in the southeast sector of the GCSH in October 2012 (Fig. 2) in order to (1) confirm the presence of *P. pennantii* in the IRV, (2) document the presence and/or absence of primate species, (3) assess the current status of the primates, and (4) quantify temporal changes in primate sighting frequencies by comparing results to surveys conducted in the same region in 2007 (Nowak & Rioso Etingue 2007). We conducted a total of 36.17 km of reconnaissance surveys in the IRV (Fig. 2), with an average transect length of 3.29 km. Primate data were collected via Cybertracker (v3.248) (Steventon 2002) and were converted to sighting frequencies, calculated as the number of groups sighted per kilometer walked. Hunting intensity was quantified by enumerating observations of hunting signs (e.g. shotgun shells) per kilometer surveyed. Differences in primate sighting frequencies were determined using Wilcoxon-Mann-Whitney tests. All statistical analyses were conducted using R (v2.14.2) (R Core Development Team 2012).

We encountered five of the seven diurnal primates present on Bioko in the study area; however, we did not encounter any evidence of a population of *P. pennantii*. Although this does not prove its absence, since we could not directly access a 7 km stretch of the Iladyi River (area < 10 km^2), we believe that it is unlikely a viable southeastern population of *P. pennantii* persists. Where they do occur on Bioko, *P. pennantii* are relatively easy to detect, since they move in large, noisy groups, and, in valleys similar to the IRV, can often be heard vocalizing over great distances (Schaaf et al. 1990; Butynski & Koster 1994; Struhsaker 2005). As these traits make *P. pennantii* relatively easy to hunt, one would expect a considerable number of carcasses to originate in the region, though Colell et al. (1994) only reported one individual taken by Moka hunters during their study. This suggests that by 1992 the southeastern population of P. pennantii was already at low density, and given the absence of P. pennantii from subsequent surveys in both 2007 and 2012, is now likely extirpated.

Primate abundance declined overall in both Arihá ($W = 27.50$, $p < 0.025$) and Eori ($W = 83.50$, $p < 0.024$) between the Nowak and Rioso Etingue (2007) survey and this study (2012). The Arihá region had a higher primate species richness (6 spp.) and sighting frequency (1.21 groups per kilometer) than the Eori region, which we attribute to its location south of the

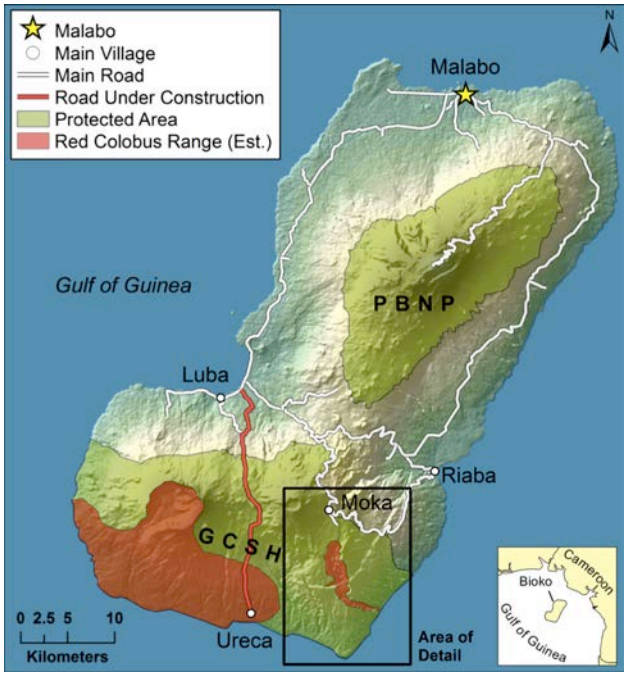


Figure 1: Bioko Island, Equatorial Guinea showing the distribution of protected areas (GCSH: Gran Caldera-Southern Highlands Scientific Reserv; PBNP: Pico Basilé National Park) and the estimated range of Pennant's red colobus (*Procolobus pennantii*).

The IRV presents a major barrier to human access to the region from the north meaning the Arihá region can only easily be accessed via Moka. The Eori region however, contains a network of trails originating in Riaba, a major city to the north with a direct highway to Malabo. Additionally, we enumerated a higher number of gun hunting signs in the Eori region (n = 281; 24.87 signs per kilometer), further supporting the conclusion that hunting is a driving factor in the decline in primate abundance in the region.

These results illustrate an increasingly desperate situation for the monkeys of Bioko. Conservation strategies need to focus on reducing hunting pressure immediately, beginning with legitimate enforcement of the existing ban on the hunting, sale, and consumption of primates (EG 2007). These measures would greatly improve the current status of Bioko's primates. We advocate for government-supported conservation efforts (e.g. training of national staff, sensitization of government, police, and military personnel, and conservation education programs), with an emphasis on protecting the GCSH and Pico Basilé National Park. Effective conservation and management of Bioko's two protected areas can still secure a future for the Bioko's monkey species.

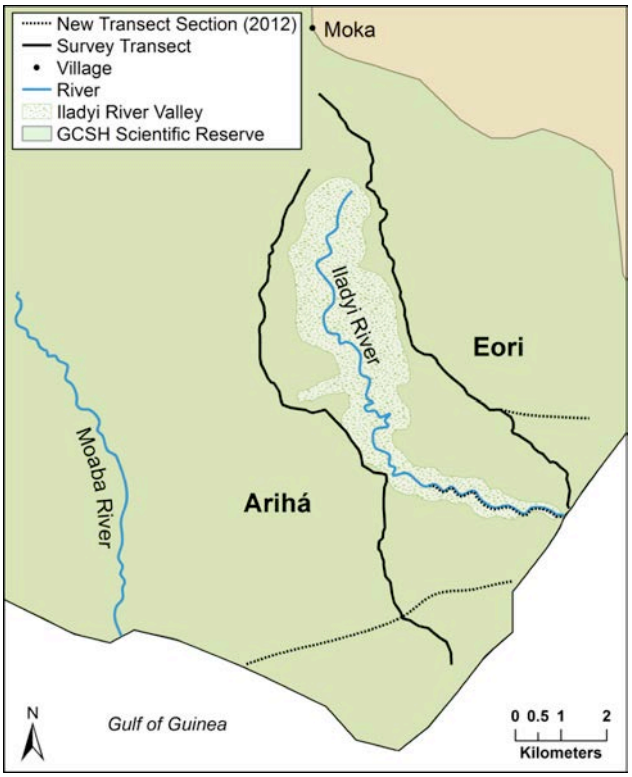


Figure 2: Location of the survey transects in relation to the Iladyi River valley in southeast Bioko.

Drew T. Cronin[1,2,†], Cirilo Riaco[2] &
Gail W. Hearn[1,2]

[1]Department of Biology, Drexel University, 3245 Chestnut Street, PISB 503, Philadelphia, PA 19104
[2]Bioko Biodiversity Protection Program, Calle Botuku Luba s/n, Barrio Presidencia, Malabo, Bioko Norte, Equatorial Guinea

Report from Captive Care Grant Recipient Nicky Cercopan

The Centre for Education, Research and Conservation of Primates and Nature (CERCOPAN) is a UK-registered Charity (Reg. No. 1116955) with operations in Cross River State, Nigeria. Since 1995, CERCOPAN has worked to conserve Nigeria's monkeys and their rainforest homes. CERCOPAN's work benefits monkeys, communities, and the rainforest to ensure long-term sustainable impact.

In Nigeria, a lot of monkeys fall victim to the animal trade. Baby monkeys are taken from the wild, and kept as pets; the mothers are usually killed and eaten. CERCOPAN rescues the orphan monkeys in order to give them a better life. In Calabar, CERCOPAN currently cares for 107 monkeys of 8 species: the red-capped mangabey *(Cercocebus torquatus),* the Red-eared guenon *(Cercopithecus erythroitis),* the Mona guenon *(Cercopithecus mona),* the Putty-nosed guenon *(Cercopithecus nitctitans),* Sclater's guenon *(Cercopithecus sclateri),* Preuss's guenon *(Cercopithecus preussi),* the Patas monkey *(Erythrocebus patas),* and the Tantalus monkey *(Chlorocebus tantalus).* Four of the species are classified as vulnerable or endangered and thus represent the future for in situ captive breeding, with the Sclater's guenon group representing the only captive breeding population in the world.

The monkeys are often sick and traumatised upon arrival, and need medical care as well as behavioural and social rehabilitation. The monkeys, once healthy, are introduced into a group of their own kind. In these groups, social learning between individuals helps the monkeys improve their behavioural repertoires and portray more natural behaviours. Importantly, social groups are also a tremendous welfare improvement as compared to individual housing.

For those monkeys who are rehabilitated successfully, the ultimate goal is to be returned to the rainforest. In Rhoko Forest, 90km north of Calabar, CERCOPAN's monkeys live in a one-hectare open forest enclosure where they are prepared for life in the wild. A group of 54 Red-capped mangabeys, ranging from newborn to 18 years of age, are currently housed in this open enclosure. 15 individuals (selected based on comprehensive criteria such as behavior, dominance, health, and age) will be separated from the group and prepared for release in a pre-release enclosure. In 2012, IPS provided US$1,500 for the (re)construction of this pre-release enclosure in Rhoko forest.

1. **Enclosure setup in Rhoko**

The red-capped mangabeys in Rhoko are housed in a 1-hectare open topped enclosure with natural vegetation inside. Part of the Red-capped mangabey complex in Rhoko is a system of tunnels and enclosures, facilitating the easy separation of animals. While in the past it was only used for isolation of weak or sick animals, for the upcoming release these enclosures will be used to separate the 15 selected release candidate, and allow for time in a controlled environment during which they can develop social bonds. Despite regular maintenance, over time the tunnels and satellite enclosures had fallen into disrepair due to weather conditions, including fallen branches. Repairs were urgently needed to provide us with the necessary facilities to separate and build the future release group. Repairs of this system will furthermore greatly benefit our future animal management capacity of the Rhoko red-capped mangabey group. This will become increasingly important with the ageing of original group members who will need more care and individual attention over time.

2. **Planning the work**

Our Construction & Maintenance Coordinator, David Sunday, together with Rhoko Assistant Manager Obio Obio, made an inventory of the existing structures and the repairs that would be needed. Supplies included 4x4 wood, 2x3 wood, hinges, latches, mesh, concrete, nails (2, 3, 4, and 5 inches), and drill bits

The wood was sawn by an operator in Rhoko camp, while the remaining supplies were purchased in Calabar and sent to Rhoko by truck. Our Construction & Maintenance Coordinator, normally based in Calabar, spent over six weeks in Rhoko forest to oversee the work from beginning to end. He was assisted by three groundskeepers with occasional assistance from other staff.

3. **Work carried out**

Almost all wooden posts were replaced with new ones. The mesh was conserved in most places as it was still in good condition, although several parts of the mesh needed patching. All doors were replaced, and fitted with new padlocks. The sliding doors were replaced, or repaired where possible.

We are very grateful to IPS for the continued support for our activities. The renovation of this system of enclosures and corridors is a critical first step in the release of some of our red-capped mangabeys, while at the same time providing us with better animal management possibilities for the future.

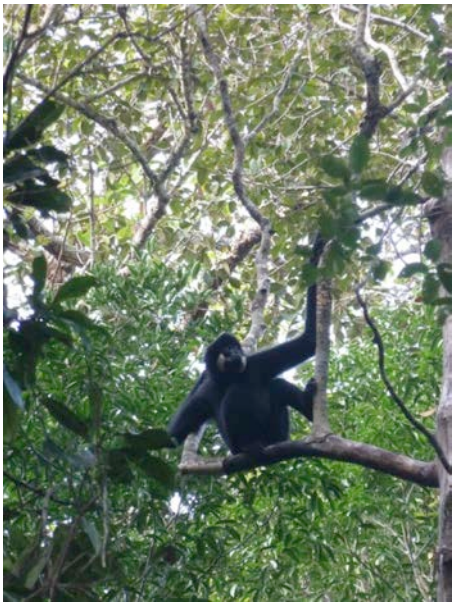
Nicky Cercopan

Report from Research Grant Recipient Jackson Frechette

The effects of gibbon seed dispersal patterns on plant diversity and coexistence

From May-June 2012 I sought to test whether northern yellow-cheeked gibbons' (*Nomascus annamensis*) pattern of depositing approximately 1/3 of seeds consumed beneath their singing trees had any effect on plant diversity beneath the trees. To do this I employed a comparative design method testing the diversity difference between plots beneath singing trees and random forest plots. I randomly selected 30 trees previously identified as trees gibbons used during their morning song and 30 random GPS locations within the gibbon focal group home range. In each location I set down a 3 x 3 m plot and identified and counted the total number of plants shorter than 2 meters. Plots beneath the singing trees were 1 meter from the trunk at a randomly selected compass bearing. For each plot I calculated a Simpson's diversity index to compare diversity between the two plot types.

Preliminary analysis indicates that there is no difference in species diversity between plots beneath singing trees and random forest plots. I was somewhat surprised at the results as gibbons deposit a large number of their swallowed seeds beneath these singing trees. But additional research has indicated that the microhabitat beneath the singing trees may not be ideal for the germination of some species of tree. I hope to investigate this further, as this could have important implications for gibbon's role as seed dispersers.



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Another issue I ran into was that I had great difficulty identifying saplings to species. We were able to group plants to give us a diversity index for each plot, but comparing Beta diversity was not possible. But, I was able to at least identify species that gibbons consume, even if the species identity is unknown. This data will require additional analysis, but preliminary assessments indicate that for many species gibbons ate, around 70% of the occurrences were beneath singing trees. In the coming months I will analyze this data further for any patterns that may emerge. But if this trend hold, it indicates gibbons may play an important role in beta diversity maintenance, and that their singing tree dispersal behavior may be an example of directed dispersal.

With the Community Conservation Initiative funds I hired eight local villagers to habituate a second group of gibbons. I have been assisting in training these eight villagers as tourist guides. They have been leading groups of tourists to view our main habituated gibbon group starting in January 2012. I have been working closely with them to help develop them to provide high quality guiding and interpretive services as well as developing their abilities to find and follow gibbons. The habituation of the second gibbon group has been progressing slowly. Once the funds ran out we had to stop before they were fully habituated. I am also afraid that a group of illegal loggers disturbed the gibbon group and made them scared of people. But hiring these guys has been very positive from a conservation point of view. One guide told me, "We need to make sure nothing happens to the gibbons, because their presence is how I make money.'

Jackson Frechette

PhD Candidate, Interdisciplinary Ecology
School of Natural Resources and Environment
Department of Wildlife Ecology and Conservation
Department of Biology
University of Florida
Gainesville, FL
jluc@ufl.edu

Report from Research Grant Recipient Caroline Phillips

Chimpanzee Diet – Pyrosequencing DNA in faeces

The total number of faecal template sequences (N=2077) best-matched 59% of the plant reference library. This represented 19 plant species (which was 29% of plant species collected). Of these plant foods, I saw the focal chimpanzees consume 12 on the first and second day, and two on the third day during focal-sampling periods. Of plant part consumed, nine fruits, two piths, five leaves and a blossom were eaten during the 48 focal-sample days. I did not see them feed on parts of six species: the fruit from *Ehretia* spp., *Dombeya kirkii*, or *Olea welwitschii*; the pith of *Pennisetum pauperum*, the wood of *Eucalyptus* spp., or the leaf of *Chrassocephalum vitellium*. The pith of *Pennisetum pauperum* and leaf of *Chrassocephalum vitellium* may have been eaten during simultaneous intake of multiple THV plant foods, either when they were out of view, or when they were in view (i.e. I missed its consumption during a focal-sample). The fruits of the three species are relatively small. I did not record them during macroscopic inspection (i.e. I found no evidence of fruit skin, seeds or pulp), however, it may have been that they were present, and were missed or misidentified as another species. Alternatively, if they were present in the faecal meta-sample, only fully-digested or pulverised components may have been present in the respective faecal subsample analysed. PCR bias may have occurred, in which despite a small quantity of these fruit parts being present, they monopolised the reagents during the reaction. This has been found in other analyses of faecal samples[1,9,10].

As previously stated, faecal template sequences that *best-match* a plant reference sequence do not confirm that this plant species (represented by its reference sequence) *is* in the faecal meta-sample. Faecal template sequences having ≤2 mis-matches best-matched plant reference sequences that represented 10 plant species, and 4 clustered plant groups. Only two of the 10 were not seen to be eaten; the pith of *Pennisetum pauperum,* which may have been ingested and missed, or eaten when out of view; and the fruit of *Ehretia* spp.

For the clustered plant groups, the highest frequency of template sequences (32%) was for CL4 which had sequences from *Aningeria altissima*, *Antiaris toxicaria* and *Trema orientalis*, but none of these were seen to be eaten. Preliminary work to refine the cluster implies that most template sequences best-match *Trema orientalis*, but further analyses is necessary in order to infer this with greater confidence. Again, the fruit of this species was not found during macroscopic inspection. However, the berries are black when ripe, are approximately 4 to 6mm in size, and have a dull black seed inside[11]. Therefore, this fruit may have been missed during macroscopic inspection, either because they were predominantly pulverised through mastication and digestion, or they were less visible to the naked eye in the faecal matter due to size and colour. A further study of passing crushed parts of these fruits (and others) through the mesh-sized sieves used may provide further clarification on this matter. The other clustered plant groups in which 48% of sequences best-matched their plant reference sequences had three species that were not seen to be eaten, two that were eaten on the third day, and seven that were eaten on the first and second day of focal-sampling periods. Further work to refine frequency of occurrence of the plant species within this cluster is yet to be done.

Plant species not represented in faecal meta-sample: However, 10 species were seen to be eaten, but were not represented in the faecal meta-sample. A number of factors may explain their apparent absence: First, the plant parts eaten from the 10 species may have been high in polyphenols. This secondary plant compound is hypothesised to function as an anti-predator strategy. Its astringent properties produce a bitter taste in the mouth. Some polyphenols are highly oxidising agents, while others have anti-oxidant properties[12]. Both can inhibit amplification and cloning of DNA. As oxidisation damages cells, their presence in plant tissue can reduce yield and purity of extracted DNA[13].

Polyphenols with anti-oxidant properties can interfere with enzymatic reactions[14] as they precipitate plant proteins[12]. Again this can inhibit plant DNA amplification of plant tissue[13].

Acidic polysaccharides (e.g. xylan, gum ghatti) also inhibit PCR products[15,16] as they interfere with the actions of enzymes, even at low concentrations[16]. Plant compound inhibitors including acidic polysaccharides can be removed using the Qiagen Plant DNeasy Kit[17]. I used this for the plant reference samples, but for the faecal samples, I used the Qiagen Stool Mini-kit instead. I had not used the InhibitEX tablet designed to remove inhibitors from the faecal samples during extraction, due to a concern that it may contain plant DNA and contaminate samples. Therefore, it is highly feasible that both of these PCR inhibitors were present in the faecal samples processed.

As these agents may inhibit DNA amplification of certain plant tissues, PCR bias may occur toward some plants in a faecal sample containing multiple species. For plant tissue with highly degraded DNA, amplification may be further inhibited by these compounds, compared to those with higher quality DNA. PCR bias has been observed with the analyses of a mixed template, as found in faeces[10].

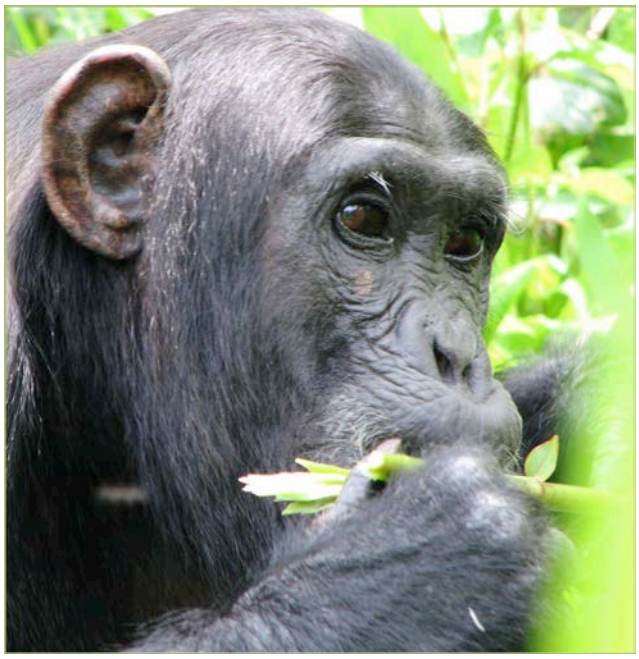
The failing of a primer at one end of the Product A_F amplicon likely had a considerable impact on the pyrosequencing of the faecal meta-sample, by reducing the total number of template sequences produced. More of the plant species may have also been revealed if this primer had also worked. Why the primer did not work remains unknown.

SIGNIFICANCE OF STUDY AND FUTURE RESEARCH

This preliminary study is the first application of this high-throughput technique investigating the dietary repertoire of a primate population. Having pyrosequenced faecal samples of 10 focal individuals, findings provide 'proof of concept' for future application of this technique for primate dietary analyses. A major advantage of pyrosequencing faecal samples, over other genetics methods is that sequences from multiple species can be obtained from one sample. As found for herbivores[10], this study appears to have identified plants to species level for this omnivorous ape. This method has immense potential for identifying plants and animal species in the dietary repertoire of an individual, by analysing each faecal sample separately, or for an ape population, by analysing a faecal meta-sample.

This study adds a potential six plant species to the list of species that were identified from macroscopic inspection (five of which the leaves or pith were eaten). Therefore, this method appears to be useful for identifying species that are pulverised in faeces, assuming that pulverised food-items are invisible to the naked eye at macroscopic level.

However, this study could only highlight species, but not the plant part eaten[2]. The primer (of a plant gene region) used to amplify plant DNA in faeces should be conservative enough to contain universal nucleotides found across plant species, but also variable enough to contain uniquely substituted nucleotides in order to distinguish species. Further work is required in order to determine if the rbcL chloroplast gene region is most suited for this task.



Caroline Phillips

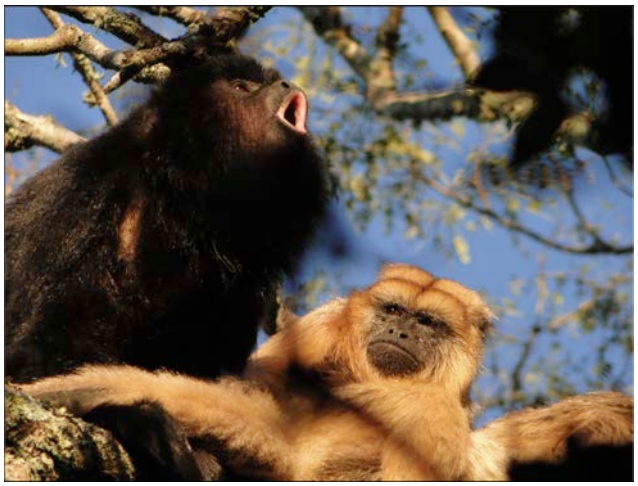
Bernard Price Institute for Palaeontological Research
School of GeoSciences
University of Witwatersrand
Private Bag 3
Wits 2050
SOUTH AFRICA
Caroline.Phillips@wits.ac.uk

Report from Research Grant Recipient Mariana Raño

Although the genus *Alouatta*, is the most widely distributed in the Americas, studies of behavior and hormones in wild howlers are scarce. *Alouatta caraya* is a sexually dichromatic primate's species in which females mate during both reproductive and nonfertile periods. However, little is known regarding their reproductive-endocrine cycles. Kowalewski & Garber (2010) reported in *A. caraya* that individual females exhibit a range of alternative mating strategies that may serve to increase offspring genetic variability, reduce the risk of infanticide, and/or an increase offspring survival. However, these conclusions are based solely on behavioral data and, studies of year-long changes in hormone production and mating behavior are needed to better understand the costs and benefits of individual reproductive strategies. Van Belle et al (2009) recently conducted a study on reproductive behavior in *A. pigra* females in Southern Mexico combining hormonal and behavioral data. In the context of the present study, her results will facilitate direct comparisons across howler species and will offer a strong sociendocrinological framework from which to understand the social and ecological consequences of different reproductive tactics in the genus. Given their behavioral and phenotypic plasticity, coupled with sexual dimorphism and dichromatism, black and gold howler monkeys provide an excellent model to evaluate current hypotheses of socioecology and sexual selection in primates.

My research questions explore the sociosexual behavior of adult howler monkey females in order to evaluate the ability of females to choose among competing males during different stages of their reproductive cycle.

From August 2011 to August 2012 I were record proceptive and attractive socio-sexual behaviors using a focal animal-sampling technique on adult females. Also, every 10 minutes I was record instantaneous 2-minutes scan samples of each animal to explore spatial distribution of the individuals; during a total of 365 days with the help of 4 field assistants in two gropus that inhabit in gallery forest fragments from San Cayetano (27° 30' S-58° 41' O), Corrientes, Argentina. We complete a totally of 3960 hours of scan samples y 9640 horas of focal animal-sampling.



Adult male of *Alouatta caraya* howling and subadult female waching him.

I finished the field phase on August from the last year and from April to June 2013 I will analyze the urine samples (N = 900), that were collected during the field phase, using enzyme immunoassay (EIA) methods for obtaining individual hormonal profiles of progesterone (PdG) and estrogen metabolites (E1C) at the Reproductive Ecology Laboratory-UPENN (USA).

Me collecting successfully urine samples.

Funding Opportunities

Nominations solicited for the Charles Southwick Conservation Education Commitment Award

In honor of Dr. Charles Southwick's longstanding commitment to conservation education, we have developed the Charles Southwick Conservation Education Commitment Award. This award is dedicated to recognizing individuals living in primate habitat countries that have made a significant contribution to formal and informal conservation education in their countries. The amount of the award is $1,000: $750 will be given directly to the recipient and $250 will be given in the recipient's name to a project of their choosing in their community.

We encourage investigators working in primate habitat areas to nominate members of their staff (or of the local community) that they feel have made a significant contribution to conservation education in their study area. Eligible candidates must be residents of the region in which they are working and include education staff, field assistants, graduate students, or other individuals that are directly involved with providing educational programs to the people living around the project area.

Candidates do not need to have an advanced degree to be eligible. Nominators should provide the name, title and full mailing address of their nominee, along with a letter of recommendation stating the nominee's qualifications for the award, focusing on past and potential contributions to conservation education. A copy of the nominee's resume should also be included. Supporting letters from other individuals acquainted with the nominee's work may be submitted as art of the packet.

Deadline for applications is **March 1st, 2014**. Email applications to:
Dr. Elizabeth Lonsdorf
elizabeth.lonsdorf@fandm.edu

Matha J. Galante Award

Grant proposals are solicited from professionals of habitat countries of primates. Money awarded is to be used for conservation training including: transportation to the course or event location, course or event fees, or expenses during the event period.

Deadline for applications is **March 1st, 2014.**

People interested in receiving this award should:

• be officially enrolled in an academic institution or a similar organization (either taking or giving courses or doing research or conservation work)
• provide information about the program of interest (courses, congresses, symposia, field work, etc.)
• send a letter explaining his/her interest in participating in the course or event (in English)
• send a C.V. in English
• include a letter of acceptance for the respective course
• provide two recommendation letters (including information about referee).

Send the completed grant proposal by email to:
Dr. Janette Wallis
janettewallis@sbcglobal.net

Lawrence Jacobsen Education Development Grant

The Education Committee of IPS solicits grants of up to $1,500 to support the development of primate conservation education programs as part of the Lawrence Jacobsen Conservation Education Award. These initiatives should support field conservation programs, work with local community and/or schools, or are used to provide training in conservation education techniques.

Application information and forms are available on our website.

Deadline for submission is **March 1st, 2014.**
If you have any questions regarding this award please contact

Dr. Elizabeth Lonsdorf
elizabeth.lonsdorf@fandm.edu

IPS Research Grant

The IPS Research Committee awards grants of up to $1,500 to support outstanding primate research proposals. We invite proposals for primate-oriented research projects with a strong theoretical component. These projects can be conducted in the field and/or in captivity. Scientific excellence will be the primary selection criterion. Proposals for projects focusing solely on primate conservation or on the captive care of nonhuman primates will not be considered by the Research Committee and should be directed to the Conservation or Captive Care Committees.

Deadline for applications is **March 1st, 2014.**
If you have any questions regarding this funding mechanism, please contact

Dr. Joanna Stechell
joanna.setchell@durham.ac.uk

IPS Conservation Grant

The Conservation Committee of IPS is soliciting applications of up to $1,500 to support the development of primate conservation field programs. The committee expects to distribute up to $10,000.00 per year.

The deadline for this award is **March 1st, 2014.**
For guidelines about the application process please see the IPS website or contact

Dr. Janette Wallis
janettewallis@sbcglobal.net

IPS Captive Care Grant

The Captive Care and Breeding Committee of IPS awards grants of up to $1,500 for projects focusing on captive care issues that relate to: (1) the status of primates in captivity (e.g., sanctuaries, private, commercial) in range countries, (2) information from local wildlife officials and field researchers on the problems relating to captive primates, and (3) improving conditions for the well-being of captive primates in range countries.

Deadline for applications is **March 1st, 2014.**
For guidelines about the application process please see the IPS website or contact

Dr. Christoph Schwitzer
cschwitzer@bcsf.org.uk

Upcoming Meetings

5th CONGRESS OF THE EUROPEAN FEDERATION FOR PRIMATOLOGY
Dates: 10 – 13 September 2013
Location: University of Antwerpen, Belgium
Web site: http://www.ua.ac.be/main.aspx?c=.EFP2013

7TH ANNUAL ORANGUTAN SSP HUSBANDRY WORKSHOP
Dates: October 14- October 16, 2013
Location: Los Angeles Zoo & Botanical Gardens in Los Angeles, California
E-mail: thomas.heitz@gmail.com

IX. GÖTTINGER FREILANDTAGE: THE SOCIALITY-HEALTH-FITNESS LINK
Dates: December 03- 06 16, 2013
Location: German Primate Center Göttingen, Germany
E-mail: gft@gwdg.de

Membership Application/Renewal Form 2013

(please type or print legibly or attach business card)

Address all membership Correspondence and remit payment to:
Steven J. Schapiro, Ph.D.
IPS Treasurer
UTMDACC
650 Cool Water Dr.
Bastrop, TX 7802 USA
512-321-3991
512-332-5208 (fax)
sschapir@mdanderson.org

Name: ……..
Mailing Addresse: ……..
……..
City: ……..
State/Province: ……..
Postal code: ……..
Country: ……..
Phone: ……..
Fax: ……..
Email: ……..
Specify National Primate Society Membership:

Dues (please place an X in all boxes that apply)

Regular member

Annual:……$ 40.00 US ☐

Lifetime:……$ 520.00 US ☐

Lifetime (installment payment plan):…… $ 260.00 US ☐

Student member:……$ 20.00 US ☐

Complimentary annual membership for an individual residing in a developing country who is financially unable to pay dues……$ 0.00 US ☐

Int. J. Primatology Subscription (hard copy & electronic, annual)…$ 48.00 US ☐

Int. J. Primatology Subscription (electronic only) ……$ 37.00 US ☐

Contribution to Conservation Fund……$.....US ☐

Contribution to General Fund ……$.....US ☐

Voluntary contribution to offset credit card fees (4%)……$.....US ☐

TOTAL PAYMENT $.....US

Method of payment (please place an X in the appropriate box)

Check in US $ enclosed ……..☐

(Make check payable to International Primatological Society)

Credit card payment ……☐

Visa ☐ Master Card ☐

Card number …….. Expiration date……

Name on card……

Signature to authorize IPS to charge the card for the total payment above

……

Visit the IPS membership website at/ www.asp.org.:IPS:MembersOnly:selectloginoptions.cfm