



EFN News

Tracking Forest Raptors in the Peruvian Amazon

by Maria Ursula Valdez Ortiz, Peru, Russell E. Train Fellow (2005)

When walking in the Amazonian rainforest one can hear the first sounds of mysterious forest dwellers announcing the beginning of a new day. Among those sounds are the rattling calls of piping guans, the soft call of a group of rufous motmots, and the bark-like calls of the elusive forest-falcons.

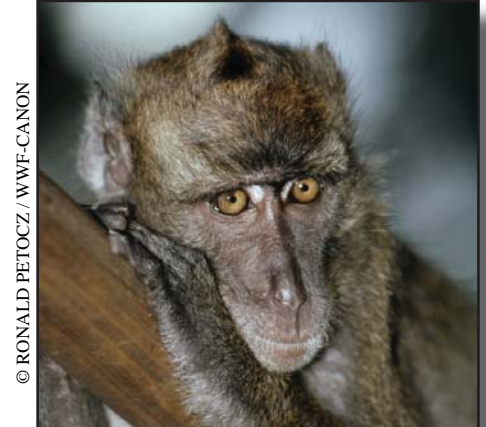
Forest-falcons belong to the genus *Micrastur* of the family Falconidae and are distributed exclusively in Neotropical forests. Little has been known about these forest raptors mainly because their secretive habits have been a big challenge for the handful of researchers who ventured to study them. Considering that a complete set of predators is a good indicator of an ecosystem health, it is important to learn the ecological role of avian predators in the tropical rainforest and the specific factors that might limit their populations. As high rates of deforestation are constantly reported for the Amazon rainforest and habitat loss is known to be a major threat to many raptor species, it is imperative to conduct ecological studies on forest raptors and protect their habitats.



Maria Ursula Valdez Ortiz

As part of a project that began in 2004, a doctoral research study was conducted on forest-falcons in the Amazonian rainforest of Los Amigos River in Madre de Dios located in southeastern Peru. With the help of a small group of field assistants, the study was conducted over four months and focused on auditory surveys before dawn and after dusk, the times of the day in which forest-falcons are most vocally active. By detecting and recording their characteristic calls during the surveys, the group confirmed the presence of five forest-falcon species at Los Amigos Research Station. That was a great first step, considering that there are a total of only seven described species of forest-falcons. Over the next three years, the Russell E. Train Education for Nature Program, Amazon Conservation Association, Wildlife Conservation Society, Association of Field Ornithology, Sigma Xi, Raptor Research Foundation, Hawk Mountain Sanctuary, The Peregrine Fund, and the University of Washington supported more research in this area to study the ecology and habitat use of forest-falcons. The project looked at the abundance and distribution of each of the five species of forest-falcons and the movement patterns, home ranges, activity areas, types of habitat used, and the degree of habitat overlap among these species. The breeding biology and natural history of these species were also documented and found novel information on the nesting biology of Buckley's Forest-falcon (*Micrastur buckleyi*). Countless hours were spent trying to capture forest-falcons detected at the survey locations and eventually a total of 26 targeted birds from all the five species were fitted with radio transmitters. The movements of these tagged birds were tracked at Los Amigos both from the canopy and the ground during the dry and rainy seasons. The final analyses of the data will be complete in 2009. The next step in this research is aimed at fully understanding the complex species interactions, calling behaviors, and trophic relationships of forest-falcons and other forest raptors, all of which has been partially documented during the research conducted at Los Amigos.

In 2005, Maria Ursula Valdez Ortiz received a Russell E. Train Fellowship supported through the Moore Foundation to pursue a doctoral degree in ecology and evolution at the University of Washington in the United States. Her thesis is on the ecology of forest-falcons in Amazonian lowland rainforest in southeast Peru. During her time as a Fellow, she has trained 25 students in raptor bird research techniques. She was instrumental in opening the Tambopata Center for Conservation, Science and Education in Puerto Maldonado, Peru to promote rainforest conservation through ecological research and education opportunities. A bird monitoring program has been started at the center with the help of bird enthusiasts and local students, aimed at understanding the changes in bird populations as a response to habitat changes in the area.



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In this Issue

- 2 Russell E. Train Fellows Upcoming Conferences
- 3 EFN Professional Development Grants
- 4 Beta-diversity in Bryophytes: Local and Regional scale
- 5 New Fellowship Competition
- 6 Caracterización de reptiles y percepción local en el Río Copán, Honduras
- 7 Notes from the Field

To learn more about the Russell E. Train Education for Nature Program, please contact:

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Russell E. Train Fellows

EFN recently awarded four Russell E. Train Fellowships to conservationists in Mozambique. The Fellows selected are studying in four countries around on the world and focusing on a myriad of topics from rural development to biotechnology.



**Etelvina Araujo
Mesquita de Sousa**

Etelvina Araujo Mesquita de Sousa, M.S. rural development, Universidade Eduardo Mondlane, Mozambique.

Bruno Alberto Nhancale, Ph.D. biodiversity management, University of Kent, DICE, UK

Julio Alberto Sequela, Diploma in wildlife management, College of African Wildlife Management, Tanzania

Luisa Simbine, M.S. biotechnology, Universidade de Mogi das Cruzes, Brazil

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Upcoming Conferences

The IUCN World Conservation Congress

Barcelona, Spain • 5-14 October 2008
cms.iucn.org/news/events/congress/index.cfm

A range of innovations will be showcased at the Congress, including community and local initiatives, policy and governance reforms, solutions based on traditional and indigenous knowledge, more sustainable business models and investment opportunities, initiatives inspiring ethical behavior and youth, innovative methods for integrating gender equity into conservation work, the latest technologies and emerging multi-sector partnerships. A major focus will be the role of economic tools and markets in supporting the transition to sustainability by stimulating new production practices and consumption patterns.

ICESE 2008 : International Conference on Environmental Sciences and Engineering

Venice, Italy • 29-31 October 2008
www.waset.org/icese08/

The conference aims to bring together researchers, scientists, engineers, and scholar students to exchange and share their experiences, new ideas, and research results about all aspects of environmental sciences and engineering, and discuss the practical challenges encountered and the solutions adopted. The conference seeks proposals for workshops on foundational and emerging topics in areas relevant to environmental sciences and engineering. The conference workshops provide a

challenging forum and vibrant opportunity for researchers and industry practitioners to share their research positions, original research results and practical development experiences on specific new challenges and emerging issues.

9th National Conference on Science, Policy, and the Environment: Biodiversity in a Rapidly Changing World

Washington, D.C., United States • 8-10 December 2008
ncseonline.org/conference/biodiversity/
Biodiversity in a Rapidly Changing World is an opportunity for dialogue with leading scientists, policy makers, industry leaders, educators, and other solutions-oriented innovators to develop a new biodiversity conservation strategy. The conference aims to develop and advance science-based solutions to address the challenge the changing world poses to biodiversity and to humanity. The conference combines world-class speakers and discussions with interactive facilitated breakout sessions to develop recommendations for conserving and using biodiversity sustainably.

International Conference on Implementing Environmental Water Allocations

Port Elizabeth, South Africa • 23-26 February 2009

ewa.innercirclestudios.co.za

This international conference is focused on promoting the sustainable use of rivers, wetlands, estuaries and groundwater and making it happen! The overall

objective will be to identify and critique global trends in the implementation of environmental water allocations.

ENVIROENERGY 2009: International Conference on Energy and Environment

Chandigarh, India • 19-21 March 2009
www.enviroenergy2009.org

The Conference aims at addressing the challenges in the emerging areas of energy and environment to achieve sustainable development. EnviroEnergy 2009 shall provide a useful forum to academics, technologists, entrepreneurs, and policy makers worldwide for exchange of concepts and emerging technologies in the fields of energy and environment. The Conference shall attempt to evolve an agenda for environmental policies, identification of green technologies, and their subsequent implementation for sustainable development.

World Ocean Conference

Manado, Indonesia • 11-15 May 2009
www.woc2009.org/home.php

The World Ocean Conference (WOC) 2009 is a forum for the world community to discuss current issues in the marine field which are related to climate change, in order to achieve an international agreement and draw up an adaptive strategy to use marine resources wisely for the benefit of humanity. It will provide a platform where world leaders and decision makers will come together to make commitments for sustainable development of marine resources.

EFN Professional Development Grants

BRAZIL

Joao Paulo Soares de Andrade—Program Coordinator, Instituto Centro de Vida. ISEE 2008 Conference on applying ecological economics for social and environmental sustainability, International Society for Ecological Economists (ISEE), Kenya



Joao Paulo Soares de Andrade

CAMEROON

Francis Mondembe Menyoli—Department Head of the Conservation Agroforestry Unit, Centre for the Environment and Human Development. International Training Workshop on Non-Timber Forest Products Development and Utilization, International Network for Bamboo and Rattan, China



Margarita Olarte's grant was made possible by a gift from Dr. Irene Fabrikant of California.

COLOMBIA

Edna Margarita Olarte Zethelius—Director of Sustainable Development Division, Corporación Colombia en Hechos. Beahrs Sustainable Environment Management Summer Certificate course, University of California Berkeley, USA

DEMOCRATIC REPUBLIC OF CONGO

Didier Mopiti Ilanga—Member of the Administrative Council, Avocats Verts. Climate Change and Developing Countries: Training on International Legal and Market-based Instruments, International Development Law Organization, Italy

NAMIBIA

Kevin Stephanus—Lecturer, University of Namibia. Economic Tools for Conservation, Conservation Strategy Fund, USA

NEPAL

Mahesh Pathak—Conservation GIS Officer, Society for Wetland and Biodiversity Conservation. 11th Annual Society for Conservation GIS Conference, Society for Conservation GIS, USA

PERU

Pedro Fernando Solano Morales—Conservation Program Director, Sociedad Peruana de Derecho Ambiental. Economic Tools for Conservation, Conservation Strategy Fund, USA



Mahesh Pathak

TANZANIA

Robinson Mdegela—Lecturer, Department of Veterinary Medicine at Sokoine University of Agriculture. 2008 Envirovet Summer Institute, University of Illinois at Urbana-Champaign, USA

Professional Development Grants in the Congo Basin

The following grants in the Democratic Republic of Congo were made possible through a generous gift from the Liz Claiborne Art Ortenberg Foundation which is working with EFN to help build capacity for women conservationists in the Congo Basin.



Veronique Tshimbalanga Mbombo

is a senior program officer at WWF-Democratic Republic of Congo. With support from EFN, she will attend the Economic Tools for Conservation training course hosted by the Conservation Strategy Fund at Stanford University in the United States.



Veronique Tshimbalanga Mbombo



Chantal Shaluk Ndukura

Chantal Shaluk Ndukura

is a conservation research assistant at Institut Congolais pour la Conservation de la Nature-Parc Kahuzi Biega. With her professional development grant from EFN, she will attend the International Seminar on Protected Area Management conducted by the University of Montana in the United States.

Beta-diversity in Bryophytes: Local and Regional Scale

by Ratnakoemarie Chequita Bhikhi, Suriname, Russell E. Train Fellow (2006)

The Guianas is a distinct floristic area within the Amazon region. The plants of the Guianas are studied by Flora of the Guianas, a collaborative project among nine international herbaria with guidance from the National Herbarium of the Netherlands – Utrecht University. Under this project, the Amazon Tree Diversity Network recently studied the patterns in tree diversity on a local and continental scale. This network brings together botanists, ecologists, and taxonomists to find the main driving forces underlying tree diversity patterns and contributes to creating more effective conservation strategies in the Amazon region. This network project aims to collect and disseminate more information on the patterns in bryophyte diversity in the Amazon region and how bryophytes communities are assembled over local and continental scales.

Bryophytes are very small plants that have no protective cuticle which allows the free entrance of solutions and gasses to the living cells of the plant. In general, bryophytes are divided into three groups, namely: Hepaticae (liverworts), Anthocerotophyta (hornworts) and Bryophyta (mosses). In tropical forests, the majority of bryophytes are epiphytic, which means that these plants live on the bark, leaves, and branches of other plants. A small proportion live on rocks, logs, soil, and roots. Moisture content and light intensity are two important factors influencing the species composition of epiphytic bryophytes along the vertical gradient of a tree from the canopy to the understory.

STUDY GOALS

The pattern of bryophyte diversity and community composition across the Amazon is currently being studied at the Utrecht University in the Netherlands. Part of this research project focuses on the beta diversity of bryophytes, or the rate at which these species move between habitats at the local and regional scale. The main goal of the study was to investigate whether distance and microclimatic conditions significantly affect the composition of bryophyte communities. The study was implemented in a lowland terra firme, or un-flooded forest in Tiputini, Ecuador. Data collected in Tiputini was compared with data collected in the Guianas to test the effect of distance on



the moss composition between the sites. The comparison had expected to show a very low similarity in bryophyte composition between height zones in the vertical gradient of the trees since moisture and light conditions between the tree trunk and the canopy are extremely varied. It was also expected that there would be more similarities, or lower beta diversity, in bryophyte composition between communities under the same microclimatic conditions. Furthermore,

when dealing with communities with the same microclimatic conditions, the study was expected to show more similarity between the communities in the Guianas, at a local scale, than between communities in Ecuador and Guianas, at a regional scale, because bryophytes tend to disperse better over shorter distances than over greater distances.

RESULTS AND DISCUSSION

The study focused on bryophytes including the liverworts and the mosses in the trees. Each tree was schematically divided into five height-zones. Plots were established randomly in each zone to collect the bryophytes.

In the past, some studies on the diversity of mosses have been carried out in the Guianas. After comparing the data of the Guianas with data collected in Ecuador, a 28% similarity in species composition was found between Ecuador and Guyana and a 35% similarity between Ecuador and Suriname. These percentages, however, are only a sub-sample and do not indicate the complete bryoflora of the sites. The dataset is a start to make comparisons of bryophyte diversity possible on a local and regional scale and to try to unravel the underlying forces for these patterns.

In the 8 investigated trees in Tiputini, the study found approximately 144 species of bryophytes (48 moss and 96 liverworts). In comparison to the numbers of bryophytes species collected in Guyana and in French Guiana, the numbers in Tiputini are relatively higher. (See table below)

Study Location	Number of trees in study	Number of bryophyte species
Tiputini, Ecuador	8 trees	144 species
Mabura Walaba, Guyana	11 trees	81 species
Mabura Mora, Guyana	15 trees	104 species
French Guiana	28 trees	154 species

Detrended Correspondence Analysis (DCA) was used to find patterns between bryophyte communities and height zones. At the local level, ordination analysis on species and genera level of epiphytic bryophyte communities revealed that zonation, as an ecological gradient, explained most of the variation in the data. At the regional level, zonation and distance between regions explained most of the variation in the data.

More testing was conducted to find the differences in species composition between groups in similar height zones. Significant differences in species composition between height zones were found in all studied areas. Pairwise comparisons between height zones showed a highly significant difference among height zones 1 and 6 in all the studied areas. Overlap in species composition occurred between height zones 2 to 5 within the studied sites. In Mabura Mora, all heights zones were significantly different in species composition. Separation of bryophyte communities among height zones might be explained by affects of micro-environmental conditions that are variable along the tree gradient. Significant differences between canopy and understory bryophyte communities might be explained by the more severe micro-environmental conditions in the canopy and in the understory.

The mantel test was used to test the influence of geographical distance on the species composition among height zones. The study found that there is a highly significant relationship between species similarity and geographical distance, but the effect of distance on the similarity was relatively small when compared at the local and regional scales and within height zones. Despite the affect of micro-environmental conditions, distance also influences the composition of epiphytic bryophyte communities. Since the majority of bryophyte spores are spread within the vicinity of the parent plant, dispersal limitation might strongly influence the composition of communities at regional scales and local scales, and under the same micro-environmental conditions within height zones.

In comparison with the Guianas, Tiputini consists of rich epiphytic bryophyte flora and further investigation is likely to show an increase in the numbers



of moss and liverworts species. Since epiphytic bryophyte data of Suriname is lacking, investigating this area would also give a better overview of the moss flora of the Guianas, especially since the Guianas is a distinct floristic area within the Amazon region. Further research can lead to clearer differences between bryophyte communities between these regions. The results derived from this study will give a better understanding of the moss diversity of the Amazon region and will contribute to better conservation strategies for the region.

Chequita received her fellowship in 2006 and is currently completing her master's degree in plant biology at Universiteit Utrecht in the Netherlands. Her fellowship is supported through the Moore Foundation. She plans to complete her research in August 2008 and return to Suriname to continue her work in conservation to improve the management of protected areas in the Guianas.

Russell E. Train Fellowships AVAILABLE FOR MALAYSIA 2009-2010

EFN is offering Train Fellowships for master's and doctoral study to Malaysians working in the Heart of Borneo and the Coral Triangle. (see maps)

To be eligible for a Russell E. Train Fellowship, you must meet the following criteria:

- You must be a citizen or legal permanent resident of Malaysia.
- You must have at least two-year's work experience in conservation activities.
- You must be enrolled, be admitted, or have applied to a graduate degree program (master's or PhD) at an institution of higher education by the application deadline AND you must plan to begin your studies no later than one year after the application deadline.
- You must commit to working in conservation in Malaysia or a neighboring country for at least two years after the completion of your degree.



Your field of study must pertain to one of the following:

- A natural science discipline relevant to sustainable natural resource management, ecosystem services, or biodiversity conservation in the Heart of Borneo or Coral Triangle regions
- A social science discipline relevant to sustainable resource management, sustainable economic development or community-based participation in the Heart of Borneo or Coral Triangle regions
- Business planning, environmental economics and/or policy, or public-private partnerships that promote sustainable natural resource management or biodiversity conservation in the Heart of Borneo or Coral Triangle regions
- Endangered species protection and management in the Heart of Borneo or Coral Triangle regions



* * * * *

The application deadline for Russell E. Train Fellowship Program is **DECEMBER 31, 2008.** All applications must be postmarked by this date. Applications sent after this date will not be considered.

To request an application or if you have any questions, please visit www.worldwildlife.org/efn or contact EFN by email at efn@wwfus.org.

Caracterización de reptiles y percepción local en el Río Copán, Honduras

por Jose Bayardo Alemán Mejía, Honduras, becario de Russell E. Train (2005)

En las zonas tropicales del mundo la expansión de la ganadería bovina y la explotación forestal son consideradas las principales actividades antrópicas con efecto degradatorio sobre los ecosistemas naturales y la principal causa de pérdida de biodiversidad. En relación con la ganadería tradicional los sistemas silvopastoriles (SSP) han sido propuestos como alternativa de solución para incrementar la producción ganadera y conservar los recursos naturales.

Sin embargo, la implementación de los SSP está limitada por la actitud de resistencia de adopción por los productores, generada por diversos factores. Entre los factores culturales se ha mencionado el ofidismo, sobredimensionado por la creencia popular que los SSP representan un hábitat ideal para las serpientes venenosas.

Durante el periodo febrero-agosto del 2007, había una investigación caracterizando a los reptiles y la percepción local hacia las serpientes en fincas ganaderas de la subcuenca del Río Copán, Honduras. El estudio se dividió en dos componentes: el biológico y el social.

El objetivo biológico fue estimar la diversidad de reptiles en seis usos de suelo predominantes en las fincas ganaderas. El objetivo social fue conocer la percepción local hacia las serpientes, la preferencia por tipos de potrero y cuantificar la incidencia del accidente ofídico en humanos y en animales domésticos. Para este fin la investigación social se orientó a los dos grupos socioculturales de la región: la población indígena maya-chortí y la mestiza.

RESULTADOS

El estudio identificó una riqueza total de 56 especies de reptiles con una abundancia de 325 individuos que corresponden al 24% de la lista actual de Honduras (234 especies). Nueve especies se reportan por primera vez para la subcuenca del Río Copán. Asimismo, se estimó en 78 el número de especies esperadas para la subcuenca.

Las serpientes fueron el grupo dominante en riqueza con 34 especies, seguido de las lagartijas con 21 especies, y una especie de tortuga. En cambio, cinco lagartijas agruparon el 73% de los individuos resultando las especies de mayor abundancia. Seis serpientes, correspondieron a especies venenosas: cinco vipéridos y un elápidio. 28 especies no venenosas: un boido, un typhlopido y 26 colúbridos. La riqueza y abundancia de reptiles fue mayor en el bosque latifoliado seguido en orden de importancia por el bosque ribereño, bosque de pino, cerca viva, potrero con árboles y potrero abierto.

El 91% de los productores prefieren el potrero con pasto mejorado y árboles dispersos (PAD) y el 9% el potrero con pasto mejorado sin árboles dispersos.

Se determinó una morbilidad anual, por accidentes ofídicos para los 73,229 habitantes de los cuatro municipios incluidos en el estudio, de 2 personas (0.003%) con mortalidad de 0.6 (27%). Sesenta y siete por ciento de la mortalidad (2 personas) fue



provocado por la *Bothrops asper*, y el 33% (1 persona) por la *Micrurus diastema*.

En relación con la ganadería, se estimó una morbilidad anual por accidente ofídico de nueve bovinos (0.20%) y mortalidad de nueve (100%) en los 4438 animales reportados como la población total de los 42 ganaderos consultados. Las mordeduras fueron atribuidas a la *Bothrops asper*. La mortalidad correspondió a un promedio anual de a 0.20 animal que, valorado a un precio promedio de US\$ 434, resultó en US\$ 87 (L. 1653) como la pérdida económica anual por ganadero.

CONCLUSIONES

- La riqueza de especies de reptiles en la subcuenca del Río Copán es alta en comparación con paisajes boscosos poco intervenidos. El hecho que 9 de las 56 especies registradas se reportan por primera vez refleja el poco conocimiento sobre la diversidad de reptiles en este paisaje.
- La matriz agropecuaria del paisaje de la subcuenca contiene el 70% de la diversidad de reptiles encontrados y los parches de bosque latifoliado el 30%. Además, se determinó que los bosques remanentes mostraron mayores valores de diversidad en comparación con los cinco usos de suelo predominantes en las fincas ganaderas.
- La riqueza y abundancia de reptiles está asociada a la cobertura vegetal y humedad relativa de cada hábitat.
- El sistema silvopastoril (SSP) pasto mejorado con árboles dispersos (PAD) resultó como el potrero ideal para los productores. Contrario a lo esperado, ningún productor indicó que el ofidismo sea desventaja en el SSP-PAD.
- Los productores perciben a las serpientes no venenosas con el calificativo de “buenas”, y las venenosas como “malas”. La categoría “malas” predominó en la percepción de los ganaderos mestizos. En cambio, para los agricultores maya-chortí predominó la categoría mixta que hay serpientes “buenas y malas”.
- Los productores mostraron mayor certeza en identificar las serpientes venenosas y menor certeza para identificar las serpientes no venenosas.

RECOMENDACIONES

- Para lograr el registro de las 78 especies esperadas en la región se recomienda aumentar el esfuerzo muestral.
- Con el fin de contribuir a conservar la diversidad de reptiles y al incremento en producción ganadera se recomienda la conversión de potreros tradicionales a SSP. Asimismo, se debe promover la conservación de la cobertura forestal

del área de la subcuenca, en función de su particular importancia como hábitat para los reptiles y en general para la biodiversidad y por los servicios ecosistémicos que generan para la sociedad copáneca.

- Como estrategia de transferencia técnica, se debe evaluar con la participación de los ganaderos, el beneficio económico que generan los SSP.
- Incorporar activamente al pueblo maya-chortí, principalmente las comunidades donde se desarrollan pequeños proyectos ganaderos, a las iniciativas locales sobre la transferencia técnica de los SSP.
- Brindar información sobre las 34 especies de serpientes registradas en la región, indicando la correcta identificación de las seis venenosas y las 28 no venenosas.

- Desarrollar educación sobre la prevención y manejo del accidente ofídico en humanos y animales domésticos. Además, se debe asegurar localmente la disponibilidad de banco de suero antiofídico médico-hospitalario y médico-veterinario.

In 2005, Jose Bayardo Aleman Mejia received a Russell E. Train Fellowship, supported by the Moore Foundation, to pursue a master's degree in management and conservation of tropical forests and biodiversity from Centro Agronómico Tropical de Investigación y Enseñanza Costa Rica. His thesis focused on the characterization of reptiles and the local perception towards snakes in the cattle farms of the subbasin of the Río Copán in Honduras.

Notes from the Field

Gustavo Sebastian Cabanne, Argentina, Russell E. Train Conservation Leadership Award (2002)

In 2004, through his grant from EFN, he completed a master's degree in biology and genetics from the Universidade de São Paulo in Brazil. At the end of 2008, he will finish his doctoral degree at the

University of São Paulo. His final project, partially funded by an EFN alumni grant, focuses on the biogeography and conservation of Atlantic forest birds in Argentina and Brazil. One of the results of the project is the discovery of a population of an Atlantic forest bird that is genetically differentiated and therefore may be considered a new species. His study was in collaboration with another EFN alumnus that works in Atlantic forest, Gustavo Zurita. In 2007, his results were presented at the Neotropical Ornithology Congress in Venezuela. All of the results were published, or are being published, in international journals such as the *Biological Journal of the Linnean Society*, *Bird Conservation International*, and *Ornitologia Neotropical*. He continues to work on biogeography and conservation of neotropical birds, with emphasis on Atlantic Forests endemics.



Gustavo Sebastian Cabanne

University of São Paulo. His final project, partially funded by an EFN alumni grant, focuses on the biogeography and conservation of Atlantic forest birds in Argentina and Brazil. One of the results of the project is the discovery of a population of an Atlantic forest bird that is genetically differentiated and therefore may be considered a new species. His study was in collaboration with another EFN alumnus that works in Atlantic forest, Gustavo Zurita. In 2007, his results were presented at the Neotropical Ornithology Congress in Venezuela. All of the results were published, or are being published, in international journals such as the *Biological Journal of the Linnean Society*, *Bird Conservation International*, and *Ornitologia Neotropical*. He continues to work on biogeography and conservation of neotropical birds, with emphasis on Atlantic Forests endemics.

completing his degree, he worked as a village tourism advisor for the Rural Poverty Alleviation Program in Nepal. In 2008, he completed his master's degree in applied natural science at Colorado State University and will begin pursuing a doctoral degree in resource management and sustainable development at West Virginia University, USA. He has received two alumni grants in 2004 and 2007. His 2007 grant helped him attend a social inclusion training course hosted by the Nepal Participatory Action Network in Nepal.



Rajendra Poudel

Jumapili Magotto Chenga, Tanzania, Russell E. Train Scholarship (1998)

Jumapili received a Russell E. Train Scholarship to complete a diploma in wildlife management at the College of African Wildlife Management in Tanzania. In 2006, he graduated from the University of Dar es Salaam with a bachelor's degree in wildlife conservation and management. He continued to work in the Tarangire National Park as a park ranger and in 2008 began working as a program officer for TRAFFIC Eastern and Southern Africa, a wildlife trade monitoring network and partner of WWF. He is currently analyzing data from a recent research on bush meat use and trade in a refugee camp in the northwestern region of Tanzania.

Ali Juma Ali, Tanzania, Russell E. Train Scholarship (1997)

In 1997, Ali was selected as a Russell E. Train Scholarship recipient and, in 2000, he received a diploma in forestry at the College of African Wildlife Management in Tanzania. In 2006 and 2007, he worked with CARE International in Tanzania to facilitate a community forestry project based in Zanzibar and helped initiate 8 community forest management agreements in villages adjacent to Jozani Chwaka Bay National Park. In September 2007, Ali received a scholarship from the Japanese International Cooperation Agency to attend a training course on enhancing adoption of social forestry in Africa. He is now working with the Department of Commercial Crops, Fruits and Forestry in Zanzibar as the community conservation and extension warden at Jozani Chwaka Bay National Park.

Samuel Lekimaroro, Kenya, Nsanjama Scholarship (2004)

In 2004, Samuel received a Nsanjama Scholarship to attend the College of African Wildlife Management in Tanzania to complete a degree in wildlife management. He had been working for the Kenya Wildlife Service as a ranger, but since completing his degree in 2005, he was promoted and now serves as an instructor in the Kenya Wildlife Service Training School. He is currently teaching his colleagues from the Kenya Wildlife Service and other organizations in Kenya about conservation.

Rajendra Poudel, Nepal, Russell E Train Scholarship (1998)

In 1998, Rajendra received a scholarship to pursue a bachelor's degree in forestry at the Pakistan Forestry Institute. After



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