2017 Wild Felid Legacy Scholarship Awards

WFA received 11 exceptional applications for this year's scholarship. The WFA Council is pleased to announce Lucero Vaca, Roberta Paolino, and Christian Osorio as this year's recipients. The 2017 scholarships were supported by the Summerlee Foundation and donations from WFA members. We thank all the applicants for their hard work and dedication to understanding and conserving wild cats.

Lucero Vaca, PhD candidate, Department of Zoology, University of Oxford, United Kingdom; *lucerovaca@gmail.com*

Advisors: Dr. John Polisar, *jpolisar@wcs.org;* Professor Claudio Sillero-Zubiri, *claudio.sillero@zoo.ox.ac.uk*; Dr. Robert M. Montgomery, *montg164@msu.edu*
Objective: Because there are no longer pristine areas in Mesoamerica where large felids such as jaguars can survive without any human contact, Lucero believes we must address human-felid conflict to effectively conserve them. Consequently, Lucero's main career objective is to use an interdisciplinary approach to generate accurate information to inform conservation strategies to different stakeholders, not only for jaguar conservation, but also for pumas and medium and small size felids like ocelots, margays and jaguarundis. Lucero's goal is to work with rural communities, improving the strategies for felid conservation, while considering both the cat's ecological requirements and human socio-economic needs.
John Polisar states: "The project is focused on jaguar movement, energetics, resource selection patterns (including prey) - synthesized with the perspectives, practices, and especially involvement of local communities. Through accelerometers, GPS telemetry, and evaluations of prey base and diet, this ground-breaking ambitious project has relevance for La Selva Maya (including Guatemala's Maya Biosphere Reserve and northwestern Belize's Rio Bravo and Gallon Jug complex), and also potential global significance. Lucero's application for a WFL Scholarship is to help with the field work with local communities. When I mentioned I was working with Lucero, a Mexican colleague commented, 'That is the future of jaguar conservation in Mexico."

Roberta Montanheiro Paolino, PhD candidate, University of São Paulo, Brazil; *paolinorm@usp.br*
Advisor: Dr. Adriano Garcia Chiarello, *bradypus@ffclrp.usp.br*
Dissertation: Consequences of jaguar local extinction on terrestrial medium and large-sized mammal populations in the Atlantic Forest.

Research objectives: To understand trophic cascade effects caused by the local extinction of an apex predator to the diversity of mesopredators and prey, their populations and habitat use in the Atlantic Forest. To determine how the absence of the apex predator influences other animal populations, the human impact on this process, and how humans can be affected.
Specific objectives: a) Compare the medium and large-sized mammal diversity in two protected areas of the Atlantic Forest, one with less human interference and an intact trophic chain; the other under greater human impact with a weakened trophic chain. Examine differences in each area's historic human occupation, geography and landscape. b)Analyze whether jaguar absence changes landscape use and occupancy, the abundance and density of

prey species, and mesopredators in space and time. Account for the influence of landscape covariates and human factors to test the mesopredator release hypothesis. c)Assess the patterns of co-occurrence of mesopredators and prey populations and how the presence of one species influences the other in areas with and without the jaguar. d) Estimate the frequency of poaching and its motivations in each study area, as well as the impacts on the study populations and, consequently, on jaguar conservation. e) Identify the human-fauna and human-human conflicts in the study areas, their political, economic, social and cultural causes and how they are impacting coexistence between local residents and wild mammals. Define, together with residents and managers, actions that improve tolerance of the protected areas and reduce the negative impacts on the fauna.
Completion date: August 1, 2020
J. Andrew Royle, Senior Scientist, USGS writes: "Roberta is an exceptional student because she excels at the design and implementation of field sampling methods for camera trapping studies of wild felids and also is enthusiast about statistical modeling and analysis of the resulting data. … she has … enormous potential to serve as an "ambassador" between the community of biologists doing field study of wild felids and those who focus on data analysis and modeling. ….in my view, these groups are comprised largely of different people altogether! ….. the systems [Roberta works in] are extremely sensitive and imperiled. During her master's research she studied the effects of protected areas on ocelot population density in highly disturbed agricultural landscapes in Brazil. Subsequently she has developed and is currently implementing…. a study of jaguars in the Atlantic forest of Brazil. I believe these species are relatively much rarer in these habitats of Brazil and therefore of great conservation concern. Roberta is diligent and enthusiast in her research and in her studies…. Moreover, she is very personable and good at working with other people. She is an all-around great student, colleague, and collaborator."

Christian Osorio, PhD candidate, Virginia Tech, Blacksburg, VA, USA, *ctosorio@puc.cl*
Advisor: Dr. Marcella Kelly, *makelly2@vt.edu*
Dissertation: Spatiotemporal and community ecology of wild felids in Central Andean Chile using camera trapping, genetic sampling, and GPS telemetry.
Objectives: To estimate puma population density, determine felid spatial ecology, including habitat selection and genetic connectivity; determine puma trophic (diet) ecology; explore spatiotemporal interspecific interactions between wild felids and other carnivores such as culpeo foxes (*Lycalopex culpaeus*).
Completion: January 2021
Dr. Kelly writes: "Christian's PhD research will be cutting edge as he will combine camera trapping to estimate puma and small cat density, with GPS collaring and genetic sampling methods (molecular scatology) to examine ranging behavior and connectivity across the fragmented landscape in central Chile. This study is particularly timely as central Chile experienced some of the worst fires in history over the past summer and Christian's study site was luckily spared the fire. Therefore, his site represents an important refuge for carnivores and their prey and may function as source populations for recolonization as habitat recovers. In addition, there is almost nothing known about pumas and other small cats in the central Chilean Andes as most studies focus on southern Chile and Patagonia. Christian's study will therefore fill a large knowledge gap in our understanding of felid ecology. He is highly likely to be successful given his knowledge of the landscape and previous research experience there."