GENERAL INFORMATION

Program sponsor: Princeton Environmental Institute

Position number: B2PRI

Project title: Monitoring the Ecological Restoration of Species and their Interactions in Gorongosa National Park

Organization/research group: Pringle Lab

Primary location(s) of internship: Gorongosa National Park, Mozambique

Additional cities and/or countries to be visited (if applicable): n/a

Note: If this internship is located in a country with an International SOS risk rating of High or Extreme, final candidates must participate in a travel review process overseen by the Travel Oversight Group (TOG), and obtain safety guidance prior to departure. The University reserves the right to revoke support and funding for travel at any time there has been a significant deterioration in the safety and security conditions surrounding travel arrangements, or in the sector of the country, or countries, where travel is to occur.

FACULTY SPONSOR(s)/HOST INFORMATION

Name(s): Robert M. Pringle

University Department(s): Ecology and Evolutionary Biology

E-mail: rpringle@princeton.edu

Phone: 6092588273

Website: pringle.princeton.edu

INTERNSHIP/RESEARCH PROJECT INFORMATION

Internship/project description:

Ecosystems are collections of species that are often intimately connected. Over the course of the summer, the interns will assist with collecting data on several of the ways in which species are connected to each other in Gorongosa National Park, Mozambique. Primarily, data collection will focus on the reintroduction of large predators to Gorongosa. Due to a devastating civil war at the end of the last century, Gorongosa currently lacks 7/9 large carnivore species. However, the national park is now actively engaged in bringing those species back and in June 2018, reintroduced African wild dogs.

The reintroduction of large predators is not without consequence and, indeed, it is expected that the return of these species will have large effects on ecosystem structure. To understand some of these dynamics, we will collect data on several aspects of herbivore ecology and ecological interactions between other parts of the ecosystem. Specifically, we will examine vigilance behavior, diet, habitat use, and parasite loads in large herbivores as well as diet in baboons and predation on birds' nests. Together, these lines of inquiry will describe how and in which parts of the ecosystem the reintroduction of predators is most acute. In addition, the interns will have the opportunity to assist with a side project that aims to understand whether large herbivores have a strong effect on the pollinators of the plants that they eat.

Student's role and responsibilities:

First and foremost, the interns will work with the primary supervisor to undertake biodiversity monitoring surveys aimed at quantifying the effects of predator (leopard and wild dog) reintroduction to Gorongosa. These surveys will involve observing the plant diet and parasites of large herbivores, the behavior of those herbivores, and their habitat use. In each of these surveys, interns will be responsible for collecting data and making observations including mapping animal locations, undertaking surveys of herbivore vigilance, and fecal sample collection. To do so, the interns will accompany the primary supervisor and be trained in all data collection techniques. In addition, the interns may spend some time working with the additional supervisor to collect and process botanical samples. Finally, the interns will have the opportunity to engage in the broader research community in Gorongosa over the summer.
Internship/project learning objectives:
The student will gain a range of skills in this internship. First and foremost, the student will be exposed to several types of ecological fieldwork and some lab-based work. Because the variety of activities involved in this internship range from estimating animal population density and surveying vigilance behavior to field botany and diet sample processing, the internship will provide experience in a set of skills that will be particularly applicable to those considering graduate school in EEB. Aside from these skills and experiences, the internship will provide the student with a broad experience of undertaking scientific research, turning observations into testable hypotheses, and a greater understanding of African savanna ecosystems.

PROGRAM REQUIREMENTS
Academic background and any course pre‐requisites:
No prerequisites. Any enthusiastic and dedicated applicant will be seriously considered. Additionally, students of all class years may apply, and will be given equal consideration.

Technical skills:
n/a

Additional training(s):
Learning some basic phrases in Portuguese will be a great help to the intern in communicating with Mozambicans.

Equipment:
n/a

Physical demands:
Fieldwork, especially in savanna ecosystems, can be strenuous. Days in the field are often long (up to 8 hours in the field per day) and temperatures in Mozambique in June/July can range into the upper 80s and down to the 50s.

Language abilities/competencies (if applicable): Portuguese is beneficial, but not required

Additional information about the internship/project:
Participating students will need to complete Health and Safety for Animal Workers (IACUC) training prior to departure. For immunizations, and travel health information, please contact UHS.

Participating students tend to camp in the national park for the duration of the internship. The campground provides cooking amenities and a restaurant. Students tend to take one meal per day in the restaurant and cook the remainder.

INTERNATIONAL TRAVEL REQUIREMENTS (if applicable)

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<th>Visa(s) required?</th>
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<th>Research permit/pass required?</th>
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<th>Immunizations required?</th>
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INTERNSHIP/PROJECT SUPERVISOR(S)

Name and title of primary supervisor: Matt Hutchinson

Email: mcch@princeton.edu  Phone: 6099178879

Name and title of additional supervisor, if applicable: Arjun Potter

E‐mail: apotter@princeton.edu  Phone: 2036055700

PROGRAM DATES AND FUNDING INFORMATION

Weekly Stipend: $500 (plus int'l travel award)  Number of Positions Available: 2

Tentative Start Date (mm/dd/yyyy): 06/10/2019  Number of Weeks: 8

Tentative End Date (mm/dd/yyyy): 08/10/2019  Note: PEI funding is for full‐time work, 35 hours per week minimum, and for a period of at least 8 continuous weeks.

Application deadline: January 11, 2019