



U.S. National Science Foundation funding promotes cutting-edge research in Gorongosa National Park (Mozambique)

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Mozambique, Africa – Researchers from the University of Idaho and Princeton University have been awarded a prestigious grant from the National Science Foundation in the USA to continue their ground-breaking research in Gorongosa National Park, Mozambique. The Principal Investigators, Dr. Ryan Long of the University of Idaho (USA), and Drs. Rob Pringle and Corina Tarnita of Princeton University (USA), together with their students, have been studying the large herbivore communities of Gorongosa since 2013. This new \$1.25 million collaborative grant will enable them to continue and expand their work over the next four years.



From left to right, Principal Investigators Dr Ryan Long, Dr Corina Tarnita and Dr Rob Pringle fitting a satellite collar to an immobilized kudu antelope in Gorongosa National Park

The study will focus on three closely related antelopes that vary five-fold in body size: bushbuck, nyala and kudu (all in the genus *Tragelaphus*). In natural ecosystems like Gorongosa, resources are not uniformly available across space and time. Consequently, animals must adjust their behavior in response to changing environmental conditions to maximize survival and reproductive success. In theory, the ability to make such adjustments is constrained by body size, because fundamental traits such as energy requirements are strongly influenced by size. Yet, how body size limits animals' ability to respond to environmental variation remains poorly understood. This research will improve understanding of (a) how body size limits the range of behaviors available to animals for coping with environmental change or variation, and (b) how the distribution of resources such as food, concealment cover from predators, and favorable microclimates interacts with behavior to determine the success of individuals and populations that differ in body size.

As these three antelope species are relatively common in Gorongosa, understanding their ecology is relevant to understanding the broader system. This fits with the search for the general principles or rules that link ecology and behavior, and how understanding such rules gives us a deeper understanding that may be applicable in all ecosystems, not just in Gorongosa. For example the study could also help to inform the management and conservation of North American species with high recreational and economic value (e.g., deer, elk, and moose) that also span a range of body sizes.

The project will facilitate STEM (Science, Technology, Engineering and Mathematics) training and education for students from both the U.S. and Mozambique. For example, two U.S. PhD students will work on the project, and a Mozambican research assistant will be employed and trained. In addition, an immersive field course based on key conceptual themes of the project will be developed during years three and four, and will be offered to both U.S. and Mozambican students.

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The Gorongosa Restoration Project integrates conservation and human development with the understanding that a healthy ecosystem will benefit human beings, who in turn will be motivated to support Gorongosa Park objectives.

Scientific research is an integral part of the long-term Gorongosa restoration effort, as a deep understanding of Gorongosa's ecosystem will guide effective conservation decisions. The E.O.Wilson Biodiversity Laboratory, opened in March 2014, positions Gorongosa to become a premier research hub in southern Africa. The laboratory has already attracted regional, national, and international attention. Scientists from Mozambican and international institutions, such as Universities of Eduardo Mondlane and Lúrio in Mozambique, Coimbra University in Portugal, and Universities of Harvard and Princeton in the USA, have been conducting research in the Park.

One of the laboratory's most critical roles is to provide training to the next generation of Mozambican scientists in the Park, and also to send them to universities for advanced degrees. Several students, receiving full or partial financial assistance from the laboratory, have already begun studying for future careers as veterinarians, ecologists and lab technicians at universities.

If you would like more information about this topic, or would like to schedule an interview with those involved in the project, please call Vasco Galante at +258 822970010 or email vasco@gorongosa.net.

For more general information, visit <http://www.gorongosa.org>