National Geographic Society funds research project

BAR HARBOR — A National Geographic Society Research and Exploration Grant totaling $17,850 has been awarded to a team of College of the Atlantic scientists, Ian Medeiros ’16, Nate Pope ’07, and Professor Nishanta Rajakaruna ’94 plan to travel to South Africa this winter to begin their project studying lichen.

“I am excited about this project, as it is both an example of a faculty-student collaboration, and it involves international experts from the U.S. and South Africa,” Rajakaruna said. “Our efforts to investigate the diversity and ecology of lichens, an under-studied group of organisms, in a biodiversity hotspot like South Africa will greatly contribute to our understanding about lichen diversity in that country.”

The project, officially titled “Examining the role of substrate chemistry and climate on the diversity of lichen species in South Africa,” includes collaborators Alan Fryday from Michigan State University and Stefan Siebert and Ricart Boneschans from North-West University, South Africa. Pope, a COA graduate, is currently a doctoral student in plant ecology at the University of Texas, Austin.

The lichen study will help shed light on how climate change is likely to affect elements of the South African natural world, Rajakaruna said.

“Our efforts to document rock-dwelling lichens along climatic gradients can help demonstrate how geology interacts with climatic factors to generate patterns of lichen diversity, providing insight on how climate change may affect South Africa’s lichen biota,” he said.

The National Geographic grant award is very competitive, with just 25 percent of applicants deemed worthy in any given year.

Informing conservation efforts

The project will examine how climate variables such as rainfall and temperature interact with rock and soil chemistry to influence the diversity of saxicolous (rock-dwelling) and terricolous (soil-dwelling) lichen species. Research will collect lichens from adjacent serpentine and non-serpentine sedimentary outcrops distributed along a rainfall gradient to examine how diversity is influenced by both substrate chemistry and climate.

Rajakaruna, currently appointed as a visiting researcher in South Africa, feels that this project will help expand critical research abilities in that country.