



RHODES UNIVERSITY

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ADVERT FOR MSc. IN BOTANY AND ENTOMOLOGY.

The following Masters project will be offered in the Botany Department at Rhodes University in Grahamstown in collaboration with the Albany Museum. It will be co-supervised by Drs. Anusha Rajkaran and John Midgley. The award of the bursary will be competitive and the decision final. All interested applicants should forward their C.V. and academic transcript to Dr. Anusha Rajkaran: A.Rajkaran@ru.ac.za

Deadline for applications – 27th of February 2015

Duration of project: April 2015 - December 2016

Title of project: Do they stay or do they go? Investigating the occurrence of incidental or obligate insects in mangrove forests along Eastern Cape coastline.

Background information: The ecological role of insects in plant communities has been widely studied for a variety of vegetation types. The insects in mangrove ecosystems are known to significantly alter the physiology, health and ecology of mangrove forests and this can be monitored by assessing the growth and mortality rates, production and survivorship of propagules and forest functioning. Various insects are found in the mangrove forest, some of which may be permanent residents whilst others are visiting from adjacent vegetation, some of which are of ecological importance, for example butterflies and moths which are pollinators, others occur as pests, causing extensive damage to the mangrove trees. The plants may protect themselves from herbivory by increasing their defense compounds; tannin levels and C:N ratios to deter insects. This is one of the reasons that insect diversity is thought to be low in mangrove forests; the inedible leaves. Other reasons include the high salt concentrations and the greater suitability of adjacent terrestrial habitats. Insect studies in temperate mangroves are few and studies for mangrove forests and adjacent estuarine habitats in South Africa are fairly non-existent. Insect diversity is expected to decrease as latitude increases therefore tropical and sub-tropical mangroves have a greater diversity than temperate forests. This is due to the structural limitations (number of trees and patch size) of temperate forests and other habitat specific requirements. This study will investigate insect communities in mangrove forests and adjacent habitats along a latitudinal gradient and seasonally to determine whether these communities are incidental or obligate residents. If incidental fraction is high, there is nutrient flow going into the surrounding ecosystem. If low, mangroves are discrete ecosystems. How will the expansion of mangrove forests due to climate change affect insect communities in estuaries? This study will add knowledge to the topic of expanding mangrove distributions and associated faunal responses.

Bursary information: A student bursary of R40 000 p.a. has been secured for the successful applicant and will be renewable in the second year of study. Further information on Postgraduate studies at Rhodes University can be found at <http://www.ru.ac.za/postgraduategateway/>

Applicant requirements: This study requires knowledge of both Botany and Entomology. It will entail both plant and insect identification therefore the applicant must have suitable qualifications. This is a field based; estuarine study therefore the applicant must be hardworking and able to cope with generally muddy, and all weather conditions. A driver's license is a requirement.

I look forward to hearing from you. Please don't hesitate to contact me if you have any questions.

Dr. Anusha Rajkaran
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