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Student Placement in Rainforest Restoration Ecology

National Botanic Garden of Wales, Danau Girang Field Centre and KOPEL

The National Botanic Garden of Wales is dedicated to the research and conservation of biodiversity, sustainability, lifelong learning and the enjoyment of our visitors. For the last five years, Head of Science, Dr Natasha de Vere has been leading field courses for students from Aberystwyth University to the Danau Girang Field Centre (DGFC) in Sabah, Malaysian Borneo.

This is an opportunity for a 12 month placement to support our rainforest restoration research working with the National Botanic Garden of Wales, Danau Girang Field Centre and KOPEL. The successful student will spend six months at the National Botanic Garden of Wales in Wales and six months in Sabah, Borneo.

Project Background

The Kinabatangan Floodplain in Sabah, Malaysian Borneo, contains a variety of rare habitat types including riverine forest, seasonally flooded forest, swamp forest, dry dipterocarp forest, nipa palms, and mangrove. The wide range of habitats harbors a mega-diversity of wildlife, much of which is critically endangered and endemic to Borneo.

The Danau Girang Field Centre, located in the Kinabatangan, is a collaborative research and training facility managed by Sabah Wildlife Department and Cardiff University. Its purpose is to further scientific research with the aim of contributing to long-term conservation projects in the Kinabatangan area. To mitigate large-scale losses, the development of effective conservation strategies is crucial. Research at the centre aims to determine the landscape-level requirements critical for the viable persistence of tropical species in highly fragmented landscapes.

KOPEL (and formerly the MESCOT Initiative) has been carrying out rainforest restoration in degraded floodplain forests since 1999. The forest habitat restoration work began in response to unprecedented forest fires that occurred during the widespread droughts of 1983 and 1998. Studies showed almost zero natural regeneration after the 1983 fires. From what started as an experimental program in swamp and flooded forest the project has pioneered a number of restoration techniques including planting canopy forming tree species and clearing of vines and weed grasses.

We are interested in investigating how the secondary forest within the Kinabatangan is regenerating and the potential for rainforest restoration on cleared sites. A combination of morphological, DNA barcoding and DNA metabarcoding approaches can be used to identify tree species of all age classes to assess the health and future development of the rainforest. The placement student will contribute to this ongoing research into tropical forest restoration.

In addition to contributing to research, the placement will also involve working with KOPEL to help develop interpretation materials on the rainforest and its conservation.

Placement Schedule

- Placement starts at NBGW, background research on rainforest restoration and DNA barcoding, training in molecular biology (July 2018).
- Travel to Sabah with Aberystwyth University group, attend field course in tropical ecology: (September 2018).

- Fieldwork at DGFC and KOPEL. Surveying rainforest restoration areas, collecting samples for DNA barcoding and metabarcoding, working with KOPEL on rainforest restoration interpretation materials: September 2018 – March 2019 (6 months).
- Return to NBGW, analyse DNA barcoding samples, write-up project report April – June 2019 (3 months).

There is one placement available for a student registered at a UK University or for a recent graduate. You will receive a bursary of £3,000 for the year and when residing at the National Botanic Garden of Wales you will be provided with free accommodation (including utility bills) in a student house on the edge of our nature reserve. The student will need to fund a flexible, open return flight to Sabah and internal flights as required, in addition to a research visit outside Malaysia after three months in Sabah. The cost of food and accommodation at DGFC for six months is approximately £1200 and is also funded by the student.

For further information: Please email Natasha de Vere (natasha.devere@gardenofwales.org.uk) and visit our website at www.botanicgarden.wales.

Applications, in the form of a cover letter and CV should be sent, by email to laura.jones@gardenofwales.org.uk by 5pm on the 29th December 2017. We will also require full contact details (including email and telephone details) of TWO referees willing to provide a reference for your application. Selection from amongst the applicants is competitive and offers of interview will be limited.

Interviews are currently planned for January 2018 and will involve a face-to-face interview at the Botanic Garden and a Skype interview with colleagues at DGFC.