



Press release

2006-11-20

UJ scientists barcode flora of the Kruger National Park

A small group of scientists led by Dr Michelle van der Bank of Department of Botany and Biotechnology at the University of Johannesburg (UJ) has launched an ambitious project to collect all the plants of the Kruger National Park and use DNA sequencing and barcoding techniques to study this rich flora of South Africa.

DNA sequencing has becoming a popular tool to study organisms. In plants, it is used to study relationships, to track down the history of species diversification or to draw the “genealogical trees” of groups of organisms.

In 2004, the Consortium for the Barcode of Life launched an initiative to promote DNA barcoding, a process enabling the rapid and inexpensive identification of the estimated 10 million species on Earth.

The technique has been successfully applied to animals. However, in the case of plants, the search for short fragments of DNA that will act as “barcode” has thus far proved unsuccessful. Now scientists from 11 institutions all over the world are searching for the elusive gene that will allow them to barcode all 300 000 species of plants on Earth.

As part of this effort, Dr Van der Bank and her team – Vincent Savolainen of the Royal Botanic Gardens in Kew, UK, and three UJ postgraduates students, Olivier Maurin, Renaud Lahaye and Sylvie du Thoit - started collecting plants in the Kruger Park in September 2005. To date they have collected more than 1 600 specimens of plants. This endeavour represents the most complete and recent inventory of the park’s rich flora. It is also the largest and most diverse sampling ever made for barcoding purposes in a protected area.

All samples are taken back to the UJ where they are analysed, categorised and stored. DNA duplicates are then sent off to the Kruger Park and other institutions such as Kirstenbosch Botanical Gardens. Plans are also underway to have this data placed on the website of the Consortium for the Bar of Life where it will be available for other scientists.

“We hope to be the team to identify the genetic barcode for plants. Such a discovery would allow botanists to do groundbreaking identification of species using the barcoding method,” says Van der Bank.

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