



## SA affirmed as biodiversity hotspot

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*The Toyota Enviro Outreach team that travelled across the country, collecting thousands of plant and animal specimens.*

An amazing 3 544 plant and animal species were collected for DNA sampling during a recent environmental outreach that brought together 17 scientists from across South Africa and two Canadian scientists. The Toyota Enviro Outreach expedition was aimed at collecting plant and animal DNA for the International Barcode of Life project.

This year is the International Year of Biodiversity. There are 34 biodiversity hotspots in the world, and South Africa is highly ranked amongst them.

Prof Michelle van de Bank and her team, from the University of Johannesburg, were accompanied on the expedition by various entomologists, herpetologists and avid bird watchers. The team of scientists focused their sights on the amazing plant and animal diversity of the Western Cape. Their target: To collect 1 500 species to be DNA-bar-coded.

The first leg of the trip took the team to Noup, a mining area along the West Coast of South Africa, and into the world of succulent plants. It was here where the team got introduced by Marius Burger, the resident reptile and amphibian specialist, and to the Namaqua Dwarf Adder, the smallest adder in the world.

The second leg of Enviro Outreach took them back to Klipbokkop, which had assumed the position of home base and makeshift laboratory. Here, yet more specimens were collected during the day (this time the fynbos-kingdom offered its samples), which were painstakingly processed at night. It was on this leg of the race that the target of 1 500 specimens was surpassed. "During the past 3 weeks, we collected at least 3500 species which represent about 5000 specimens for the trip. Most of these samples came from the insect people, although we also collected lots of plant material, also reptiles and spiders," said Prof Michelle van der Bank. She credits a large part of this success to Christian Deschodt and his team who worked with the insect collections.

On the third leg of the trip, the forest at Diepwalle in the Knysna area was targeted, and despite the rain, proved to be a huge success.

Although the Enviro Outreach is now over, the project is not. The specimens must now be analysed and sent over to the International Barcode of Life headquarters in Canada. "We still have a long way to go," tells Prof van der Bank. "The target for South Africa is 20 000 specimens by April next year. Our big target, of course, is to have at least 60 000 specimens from South Africa bar-coded within the next 3 years."

South Africa's University of Johannesburg received the news whilst on the expedition that UJ had been shortlisted to host the International Barcode of Life (iBOL) conference in 2011. If South Africa does host the international conference next year, it would have many positive repercussions for bar-coding in South Africa. Over 400 barcoders would then come to South Africa, and awareness of the amazing biodiversity of the country would gain more recognition.

The aim of the iBOL project is to provide every living organism a barcode that will be available in a large database. Eventually, a handheld device will be available that, when fed a photo or sample of DNA, connect to the database and give the user a complete idea of the specimen in their possession. This could prove very useful, not only for nature enthusiasts, scientists and specialists in the field, but also for anybody interested in conservation, for example identifying food samples in restaurants and markets.

The highlight of the trip was the absolute amazement of the Canadian researchers, who marvelled at our country's wide range of plant and animals species. "It's shocking!" said Erin Corstorphine, the project coordinator. "I have never seen anything like it! Your researchers have an enormous task ahead of them with such a high diversity. With the plants, insects and animals, every time we go somewhere different we find something different, which means that the level of endemism is extremely high. This means a very big job for researchers here, but such a wonderful opportunity to showcase the wonderful diversity of South Africa."

*Jamaine Krige*

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