

Press Release: TOYOTA TO HELP SCIENTISTS STUDY LIFE ON MARS

28 March 2013

There is life on Mars. That's Mars, the biggest date farm in the southern hemisphere, situated in the arid, Martian landscape of Klein Pella near Pofadder in the Northern Cape Province.



It is in this remote and poorly explored part of South Africa that Toyota South Africa Motors, through its Enviro Outreach programme and in conjunction with the International Barcode of Life initiative, will be assisting scientists to collect and study rare and threatened plant species.

The 2013 Toyota Enviro Outreach, the fifth in the annual scientific study programme that seeks to safeguard our natural wealth and reduce biodiversity loss, will start on April 2 at the Klipbokkop Mountain Reserve near Worcester in the Western Cape Province and will run until April

14. During this time scientists and students from the University of Johannesburg, the South African National Biodiversity Institute, University of Pretoria and University of Cape Town will visit several floristically interesting sites in the extremely arid Gariep region, that includes the Gariep Desert and Bushmanland Inselbergs and quartz patches, and the Upper Nama-Karoo region.

The goal is to collect material for herbarium specimens and DNA barcoding, as well as information about species distribution, population surveys of threatened species, habitat and threat assessment data while also recording information about plant utilisation.

“Although the area is composed largely of Nama-Karoo, it also includes arid bioregions of the Savannah and Succulent Karoo biomes as well as the Gariep Desert along the Orange River, a region that harbours many rare and little-known plant species eking out a living in some of South Africa’s most arid environments,” said project leader Professor Michelle van der Bank of the University of Johannesburg.

“Many of these plants are only known from few and very old herbarium records. Thanks to the valuable ongoing support of Toyota South Africa Motors, we have this opportunity to do surveys of their populations and observe their habitats and the threats to them. This will enable improved conservation assessments and accurate locality information, vital components to ensuring the conservation of rare and threatened species when this data is applied to the development of conservation plans and land use decision support systems.”

South Africa is the third most mega-diverse country in the world, with almost 10 percent of the world’s plant species. “Without fundamental knowledge of this diversity the country will be limited in its ability to use this national asset to solve environmental and human welfare challenges,” added Prof van der Bank. “Furthermore, with the current unprecedented rate of extinction no other generation will have access to the number and diversity of species that we have now (many of which still remain unknown to science).

“The resources our biodiversity holds, especially species that are poorly

known, are therefore extremely important and their preservation for future generations pivotal. Efforts such as the 2013 Toyota Enviro Outreach enable scientists to make strides in the exploration of these hidden treasures, ensuring their preservation,” Prof van der Bank concluded.

In order for South Africa to meet the targets of the Global Strategy for Plant Conservation (GSPC), the South African National Biodiversity Institute has committed to produce a national electronic Flora documenting all the species in the country by 2020. However, due to the immense scale of the South African flora, the compilation of smaller, more manageable regional Floras are necessary as a first step towards this goal. Several such Floras for South Africa have been completed with the result that the Northern Cape Nama-Karoo, along with the adjacent summer rainfall areas, is the last remaining region within the country still requiring a floristic treatment. This will also provide valuable information to draw up conservation strategies particularly in light of various potential threats to the region, such as proposed hydraulic fracturing (fracking) and various other mining activities in some parts of the Karoo.

The Toyota Enviro Outreach project is a part of the Canadian-led research alliance, the International Barcode of Life, which spans 26 countries including South Africa and brings together hundreds of leading scientists in the task of collecting specimens, obtaining their DNA barcode records and building an informatics platform to store and share the information for use in species identification and discovery. By 2015, iBOL participants will gather DNA barcode records for five million specimens representing 500 000 species, delivering a highly effective identification system for species commonly encountered by humanity and laying the foundation for subsequent progress towards a barcode reference library for all life.

For additional information, go to:

African Centre for DNA Barcoding - <http://www.acdb.co.za>

iBOL project - <http://ibol.org>

Toyota Enviro Outreach 2011 – <http://www.toyotaoutreach.com>

ispot Southern Africa <http://www.ispot.org.za/>

Global Strategy for Plant Conservation <http://www.plants2020.net/>

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