



## Finding fairies and other gems where biomes collide

6 October 2020

*Start*

Under the leadership of the Endangered Wildlife Trust, renowned botanist Jan Vlok, on a field trip to the karoo was recently able to catalogue an incredible 814 species of plants on just one property in under five days. These species occur in no less than ten vegetation units identified on the property. The property, Lettas Kraal in the Klein Karoo, is currently going through the process of being declared as a Nature Reserve under the National Environmental Management: Protected Areas Act, through a partnership between the landowner, the Endangered Wildlife Trust (EWT), and CapeNature. Lettas Kraal sits at the intersection of three biomes: Succulent Karoo, Fynbos, and Subtropical Thicket. This “collision” of three biomes, as Jan Vlok describes it, has resulted in a stunning array of biodiversity, ranging from fairy shrimps in shallow rock pools on remote mountain peaks to several undescribed plant species. The five-day biodiversity survey was coordinated by the EWT and CapeNature, and supported by several volunteers. As expected, the most populous family was the daisy family (*Asteraceae*) at 180 species. The most prominent genus was *Crassula* with 37 species, followed by the 20 *Pelargonium* species and 18 *Hermannia* species.

Vlok said afterwards, “No wonder my head was spinning at the end of the week! No ways that I could have hit more than 80% of the species as I did not even cover 10% of the reserve’s area. This means that a true total count will be around 975 species. What can I say but ‘gee-whiz’, I would never have guessed that there would be that many – a total of about 10% of the species in the entire Cape Floristic Region. So, who still says that arid areas are boring plant wise?” Besides the known species recorded so far, Vlok was last seen heading for his microscope and the herbarium, to identify several plant treasures found on the property, some of which may be new species.

In addition to the focussed botanical assessment, specialists from the EWT, CapeNature, and a group of volunteers went in search of small mammals, reptiles, birds, bats, butterflies, and moths. Guy Palmer, retired CapeNature Scientific Manager for Biodiversity (Scientific Services), joined two CapeNature faunal ecologists for small mammal surveys, but found very little, although they did trap and release two common rodent species and one species of sengi (elephant shrew). Palmer says the lack of small mammal activity is indicative of the severity of the protracted drought.

The discovery of small mammal bones in an old Barn Owl roost in the God’s Window cave suggested that small mammals were far more abundant in the past. Going hand in hand with this, and demonstrating the domino effect when food chains are disrupted, few observations of birds of prey were made. However, on a positive note, and reflecting the resilience of dryland species, most of the small mammals that were caught were females, and many of them appeared to be pregnant; a good sign of things to come.

Andre Fourie (volunteer) and Marienne de Villiers (CapeNature) spent many night hours cataloguing bat species using ultrasonic bat recorders. At least three bat species were detected in this way, but a more in-depth analysis of the data is likely to add to the list. Most of the bat activity was around the Lettas Kraal homestead, where there is permanent water and an abundance of bugs attracted to the lights. A bonus find was a Horseshoe Bat in a narrow crevice near the God's Window cave.

JP le Roux (EWT) and Martine Jordaan (CapeNature) led the search for aquatic species, documenting four frog species and multiple aquatic invertebrates, and atop a mountain, they discovered fairy shrimps (Class *Branchiopoda*) in a single shallow rock pool.

Renier Balt (volunteer), Dr Dominic Henry, and Dr Ian Little (EWT) conducted bird surveys, while Stefan Theron (Dept Agriculture: LandCare, Western Cape) assessed priorities for restoration. Altogether 97 bird species were recorded on the property over the five days. A further 53 species recorded in the immediate area, including migrating visitors, will bring the bird list total to 150 species.

Although it was a bit early in the season, as temperatures are still relatively low, Chair of the Lepidopterist's Society of Africa, Andrew Morton, assisted by his son Sasha, did manage to record some insect activity as well. It will be particularly interesting to do more extensive surveys of insects and other invertebrates when temperatures are warmer, as the diversity of species may well be correlated to the incredible plant species diversity.

The Succulent Karoo is threatened by mining activities, overgrazing, and the illegal collection of and trade in succulent plants, leaving less than 30% of the hotspot pristine. We must conserve as much of this unique biome as possible, given that so much of it has already been transformed and degraded.

Where agriculture is being practised, we must explore ways to implement more sustainable land management that integrates the conservation of the remaining biodiversity with agricultural priorities. Partnerships between landowners, CapeNature and NGOs such as the Endangered Wildlife Trust, present a win-win solution for effectively conserving the region's biodiversity. Together we can ensure that Lettas Kraal's future as a hub of biodiversity, is bright; anyone spending time here cannot but help become a champion for the conservation of the Succulent Karoo.

*The Endangered Wildlife Trust, Drylands Conservation Programme's work is made possible through support and partnerships with landowners. In addition, our broader work in the Drylands landscape forms part of the Global Environment Facility (GEF5) funded Sustainable Land Management Project at the United Nations Development Programme (UNDP), in partnership with the Department of Forestry, Fisheries and the Environment (DFFE). Projects are also supported by Rand Merchant Bank.*

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### **About the Endangered Wildlife Trust**

The Endangered Wildlife Trust (EWT) has worked tirelessly for nearly 50 years to save wildlife and habitats, our vision to promote a healthy planet and an equitable world that values and sustains the diversity of all life. The EWT's team of field-based specialists is spread across southern and East Africa, where committed conservation action is needed the most. Working with our partners, including businesses and governments, the EWT is at the forefront of conducting applied research, supporting community conservation and livelihoods, training and building capacity, addressing

human-wildlife conflict, monitoring threatened species, and establishing safe spaces for wildlife range expansion.

A beacon of hope for Africa's wildlife, landscapes and communities, the EWT is protecting forever, together. Find out more at [www.ewt.org.za](http://www.ewt.org.za)

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