



## Getting the Picture by Knowing how the Dots are Connected

Many sites of special biodiversity dot the Namib landscape. But how did these species come to be there, and what keeps these sites so distinctive? Why does it not all end up in one big melting-pot, an amorphous mass of desert survivors, and instead, the physical landscape is also a feature-laden landscape of biodiversity?

As every Namib toktokkie knows, the individuals populating each site are there by virtue of the ability of their species first having somehow arrived there and survived, and in most cases also to have successfully reproduced to sustain a population. Populations are dynamic and experience all the ups and downs that the desert throws at them, and many populations are dependent on their connection to several sites between which they commute or migrate.

For example, the Walvis Lagoon and Sandwich Harbour are characterised by normally having some forty thousand flamingos. But where are the flamingos now? Not here at the coast. In fact they are now on the inland pans at Etosha and Makgadikgadi, to nest and raise their young, and they will eventually all come to the coast to feed. Inland pans and coastal lagoons are inextricably interconnected, and it is pointless managing one without the other, because what would our flamingo populations be if they could not breed at one place and at other times feed elsewhere? It still remains to be figured out by which route flamingos get from one place to the other, an important puzzle to solve soon if we are not to cut their low-flying night-flight routes with neck-breaking power lines or towering industry. It is presumed that linear landscape features, such as riverbeds and roads give flamingos visual navigation cues to find their way, but scientists still do not know exactly which routes they use.

The case of the flamingos is by no means singular. Populations of many creatures, large and small, microbes, plants and animals, can only exist at a site by being connected to other places where individuals need to spend parts of their life for a special purpose or to get a crucial resource, such as zebra grazing here, drinking there. In other cases, dispersal replenishes remote sites with new populations or provides new genetic vigour. While it may seem straightforward to map landscapes in terms of their holdings of biodiversity, and characterise these features across the Central Namib, it is another matter to do so in terms of where crucial connections lie and how they function. But this is exactly the challenge faced by a team of scientists, coordinated by Fauna and Flora International, in an assessment of biodiversity vulnerability at the landscape level for the Ministry of Environment and Tourism.

*Zophosis moralesi*, our toktokkie with the bottom-line, marvels at the wonderful complexity of the Namib. While we may readily think of different special points of interest, it is difficult to get a proper picture until we know how the dots are connected.

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