

PROFILE

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Project: Fungal Biodiversity associated with mesembs in the Namaqua National Park in the Succulent Karoo Biome

Synopsis:

The International Union for Conservation of Nature (IUCN) has identified the Succulent Karoo biome in South Africa as a very definite gap on the World Heritage list. The Karoo is the most biologically diverse arid area in the world, the only arid biodiversity 'hotspot' of the 25 recognized globally. No investigation into the fungi associated with flora of this winter rainfall area has been done.

It is very likely that numerous fungi will be isolated for the first time – many of these may be endophytes. During preliminary surveys over the past 2 years diseased mesembs appear to be on the increase, perhaps due to climate change. In addition fracking threatens this floristic kingdom, which is a major tourist attraction and source of income for local populations. We need to isolate, identify and study the fungal flora in order to be able to protect the region sufficiently. These organisms will also possibly have potential benefits for commercial applications.

The objectives of the project are to: a) collect diseased and healthy plants as well as their seeds and the surrounding soil; b) barcode the mesembs (as morphological identification is difficult and knowledge in the field is restricted); c) identify and barcode the fungi isolated from the soil, seeds and plant material. All these organisms will be preserved thus adding to the primary biodiversity data set of the South African Biodiversity Information Facility (SABIF) and contributing to the National Collections of Fungi (SASFUN).