

Project proposal for Kirstenbosch Scholarship 2018/19

Horticultural Mentor: Mr Benjamin Festus

Project title: Investigating hybridization and seed longevity in storage, in the *ex situ* Living Plant Collections at Kirstenbosch National Botanical Garden

Level of project: B-Tech Horticulture

Location: Kirstenbosch National Botanical Garden (KNBG)

Period: 2018 - 2019

Background:

Living Plant Collections at KNBG produce a variety of seeds from annuals, bulbs, climbers, herbaceous, perennials, shrubs, succulents and trees. Most of the seed produced is as a result of open pollination in the garden. Therefore, the probability of hybridization of certain species is high. This means, the integrity of seed produced cannot be guaranteed, except in hand pollinated species. This is compromising SANBI's Garden conservation mandate and efforts. Therefore, a study to investigate the problem is required.

This problem is further compounded by the fact that, seed longevity of various species that are stored in controlled environment storage at KNBG is not well researched. This creates an opportunity for an investigation to improve existing knowledge in this area.

Project aim:

The project is aimed at investigating hybridization and seed longevity in storage to in the *ex situ* Living Plant Collections, so as to effectively meet and support SANBI'S garden conservation mandate.

The following goals been identified:

- i) To identify the plant species in the garden that hybridize easily, to find ways to prevent it and to draw up a comprehensive list of these plant species.
- ii) To conduct seed viability trials on the seeds stored at KNBG under current conditions.

This project is suitable for candidates interested in seed conservation.

Key contact:

Benjamin Festus: b.festus@sanbi.org.za