

## **Diversity of culturable soilborne oomycetes in Cape Point Nature Reserve**

Oomycetes are fungus-like organisms commonly found in soil and aquatic environments. Several oomycetes are known for their devastating impact on food security or naturally occurring flora and fauna; however, many oomycetes are saprophytes that may be important in food webs by decomposing debris or serving as food for other organisms. Records of oomycetes in South Africa have mainly been gathered within an agricultural context. Surveys involving indigenous hosts or natural environments have mainly focused on the genus *Phytophthora*, indicating a diverse set of *Phytophthora* spp. in the Western Cape, including new species such as *P. capensis* and *P. taxon emzansi*. Few records of other oomycete genera in Western Cape natural soils exist and species identities have often not been provided. This project aims to assess the diversity of culturable soilborne oomycetes in Cape Point Nature Reserve. Soil samples will be taken from coastal, inland, and wetland sites, mountain peaks, and sites with increased human activity. Soil will be baited for oomycetes with a variety of baits. Baits will be plated on three selective media for oomycetes and a general medium for fungal growth. Isolates will be grouped based on cultural and morphological characteristics, as well as internal transcribed spacer (ITS) PCR-RFLP profiles. Representative isolates will be identified by sequencing and phylogenetic analyses of the ITS and, where necessary, the cytochrome c oxidase subunit 1 (cox1) regions. New species will be characterised morphologically. This will be the first comprehensive survey of oomycetes in soils in a nature reserve in the Western Cape. The data gathered will expand available knowledge on oomycete diversity in South Africa, identify pathogens that could threaten native biodiversity and indicate the possible role of human activity in the dispersal of these pathogens.