Oomycete diversity in three coastal reserves in the Cape Floristic Region

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. Surveys of oomycetes on indigenous hosts or in natural environments in South Africa have mainly focused on the genus *Phytophthora*, indicating a diverse set of *Phytophthora spp.*, including several new species and hybrid species. A recent FBIP funded survey identified 70 oomycete species, including 42 putative new species, in a single nature reserve (Cape Point Nature Reserve). The majority of species (n=56) were of the genus *Pythium*, while only one *Phytophthora* species was recovered. This project aims to further expand on the diversity and distribution data of oomycetes in South Africa by assessing the diversity of culturable soilborne oomycetes in three additional coastal reserves in the Cape Floristic Region. Soil samples will be taken from coastal, inland, and wetland sites, 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. Cox1 barcodes will be generated for at least one isolate per species. The data gathered will expand the available knowledge on oomycete diversity in South Africa, including the distribution of species previously only identified in Cape Point Nature Reserve. Furthermore, pathogens that could threaten native biodiversity will be identified.