

# **BOTRYOSPHAERIACEAE ASSOCIATED WITH *CONIODICTYUM CHEVALIERI* ON *ZIZIPHUS MUCRONATA* AT BUZZARD MOUNTAIN FARM, LIMPOPO PROVINCE**

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A study investigating the diversity of fungal species associated with dieback on *Ziziphus mucronata* (Rhamnaceae, buffalo thorn), as well as possible co-infection between *Coniodictyum chevalieri* and these fungal species in different locations of Limpopo Province is in progress. *Ziziphus mucronata* has been recorded as a host of *Coniodictyum chevalieri*, a pathogen that causes smut disease. However, no information about other fungi associated with this tree is currently available.

During our field work, branches of *Z. mucronata* showing dieback were collected. The collection took place at Buzzard Mountain Farm, which is 20km west from Louis Trichardt. This site was selected due to abundance of the trees and the presence of smut disease on the trees (see below).



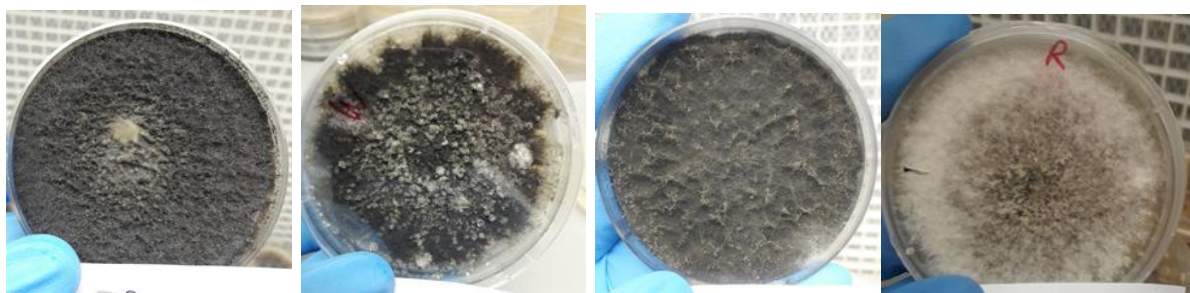
**Smut galls on fruits and branches of *Z. mucronata***

Isolates collected from the site were identified on culture morphology and DNA sequences. First, isolations from dieback branches were made and pure cultures obtained. The isolates were then identified as belonging to the fungal family Botryosphaeriaceae based on the growth morphology on media (Figure). Isolates that belonged to this family were subsequently identified based on their internal transcribed spacer (ITS) sequences. For this purpose the ITS region was amplified and sequenced, the sequences were then compared for similarity against sequences available in a public DNA sequence database.



**Branches showing dieback**

Different species were identified from Buzzard Mountain Farm. Of the total 152 isolates collected from the collection site, 73 isolates were considered belonging to the Botryosphaeriaceae. DNA sequence comparisons revealed the presence of *Spencermartinsia viticola*, *Spencermartinsia* sp, *Dothiorella samentorum*, *Dothiorella viticola*, *Dothiorella acacicola*, *Diplodia pseudoseriata*, *Lasiodiplodia theobromae* and *Dothiorella iberica*.



***Spencermartinsia viticola*    *Dothiorella samentorum*    *Dothiorella viticola*    *Dothiorella acacicola***

**Some of the sequenced cultures obtained from dieback branches.**

Species in the Botryosphaeriaceae are well known to remain latent in plant parts and only initiate diseases when plants are under stress. This study further aims to determine if the smut pathogen is one of the stress factors on *Z. mucronata* that facilitates dieback by species of the Botryosphaeriaceae. Preliminary conclusion that can be drawn from these results is that Botryosphaeriaceae species are responsible for dieback on *Z. mucronata*. This evidence supports the fact that most of Botryosphaeriaceae species are associated with dieback in most plants.