## VYT 2025 Entry #6

The Dirt on Disease: Tracing Mycobacterium outbreaks from the ground up.

## Natalie Klukowski

PhD, third year

Department of Microbiology, Anatomy, Physiology and Pharmacology (MAPP), School of Agriculture, Biomedicine and Environment (SABE)

ORCID iD: <u>0009-0003-2914-3988</u>

[Start transcript]

This is one of 250 Plains-wanderers remaining. They are the most evolutionarily-distinct birds on Earth, having survived since the times of Gondwana. They are also one of the most important species for conservation.

Under our wing, they began to recover ... But a new villain lurks beneath the surface; known as Mycobacterium Avium.

Mycobacterium is a soil loving and tuberculosis causing bacteria. It has managed to infiltrate the trenches of several conservations, damaging the lungs and liver, causing inflammation and leaving mortality in its wake.

I'll be digging in the soil to uncover these dirty details. Looking at the affected and unaffected areas of Mycobacterium outbreaks, I can uncover factors that increase the risk of infection or even the reservoirs where they hide.

Ultimately, by identifying the conditions that can limit the growth of these pathogens, I may be able to help design safer management strategies against them.

[End transcript]