OF BUGS, BRIERS AND BAD HAIR DAYS: AN OVERVIEW OF THE INDIGENOUS TREE HEALTH PROJECT IN VENDA

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Five postgraduate students at the University of Venda received funding from the Centre of Excellence in Tree Health Biotechnology to work on the health of indigenous fruit trees in Limpopo province. Four students work on three indigenous fruit trees: marula (*Scerocary abirrea*), munii (*Berchemia discolor*) and mutshetshete (*Ziziphus mucronata*). The fifth student is studying the prevalence of psyllids and, the natural enemies of another indigenous tree, mopane (*Colophospermum mopane*). All these trees are important to the rural communities of the Tshikundamalema area in Vhembe District Municipality, Limpopo. They are among almost 30 indigenous fruit trees that are used for various purposes in this area.

One only has to drive along rural roads in the Limpopo and Mpumalanga provinces to see how these fruit trees are used. People selling traditional marula beer, also known as mukumbi, are not difficult to spot because bottles of the whitish beer are a common sight. The beer ranges from sweet to bitter and its strength depends on the period of fermentation. A sip from highly concentrated traditional marula beer has been known to go straight to the head!

All the parts of the marula fruit can be used in different ways. The skin of the fruit is processed to make jam. The nuts inside the fruit are also consumed as fruit and are eaten as similar to macadamia nuts. The oil extracted from the nut can be used for cooking and as a body lotion. The local people believe that the bark of the tree is useful for determining the sex of an unborn

baby. It is said that if a baby boy is desired, the pregnant woman must drink a beverage made from boiling the bark of the male marula tree in water. The leaves are used as fodder for livestock and the roots are used for treating snake bites, wounds and toothache.

The fruit of the *B. discolor* tree are eaten by both livestock and people. The fruit can be dried and stored for food in times of famine. . The fruit can be crushed and its pulp mixed with marula pulp to make a soft porridge. The bark is used for tanning traditional baskets and mats. It is also used to decorate the outside of houses. The bark is boiled and used for treating stomach ache, high blood pressure and ulcers and is also used as an aphrodisiac. The fruits of *Z. mucronata* are edible but are rarely used as a food source in this community. Though the leaves are mostly eaten by goats, they are also used to treat abscesses and boils.

Fruits and spices of *Ziziphus mucronata*

Sampling for insects and pathogens in Tshikundamalema and at Wits Rural Facility, near Kruger National Park (KNP). When students are out sampling, it's always an early start: there is no time for fancy hairdos!

Rollet Ramavhale, an MSc student, is studying comparative seasonal abundance and the diversity of insects on marula and munii. Trees that were previously selected for sampling are identified using GPS, after which collecting sheets are laid out underneath the tree canopy to be sampled. Insects on the canopies of both tree species are then sampled using fogging with a pyrethroid insecticide to knock down insects.

Fogging, and collecting insects in sampling sheets

Dinah Maeko, an MSc student, is carrying out a survey of pathogens associated with munii. During our surveys, these trees generally look very healthy with little signs of disease. However, some trees show symptoms of “bleeding”. Dinah sampled 200 trees from two sites in

Tshikundamalema. Branches were cut down from trees showing bleeding symptoms, and taken to the laboratory for further study.

Rofhiwa Mmbengeni climbing a munii tree

Rofhiwa Mmbengeni, a MSc student, is working on mopane psyllids. Many a time he was our tree-climber, tasked with cutting down branches with bleeding symptoms. It can be a hair raising experience to see him delicately balanced on a branch that he is cutting down.

MSc student Elelwani Ramabulana focuses on diseases of marula trees and fruits. She sampled branches from 200 marula trees that will be used to determine the presences of endophytes. Diseased marula fruit both on the tree and on the ground were also collected for analysis.

Elelwani Ramabulana collecting branches from a marual tree (left). Marula trees produce fruit in abundance (right)

PhD student Lovejoy Tembo works on smut diseases on *Z*iziphus *mucronata.* For her study, she collects samples and monitors the disease at two study sites: Buzzard Mountain Farm in Louis Trichardt and Wits Rural Facility, near KNP. She has laid out four quadrats at each site, each with at least 40 trees. These sites will be monitored over the next two years.

Between sampling there were moments to just stop, stare and enjoy the beauty of nature