

NORTHERN AREAS REGION COMBATS QUEEN OF THE NIGHT



Where it all started in 2007 (Vissershoek, Pretoria)

Tackling the problem, the biological way

The Queen of the Night *Cereus jamacaru* Bio-Control Project is a pioneering effort that addresses the ecological challenge posed by a succulent Alien Invasive Plant (AIP). Its vigorous spread, fuelled by it being planted in gardens abutting natural areas and spread by birds eating its fruit caught the attention of conservationist John Wesson in 2007. Determined to combat its spread, John presented a proposal to WESSA NAR, outlining a strategy that involved targeted reduction and containment of the problem plant, starting in the Magaliesberg, and expanding outward to other regions of South Africa. Herbicide control and mechanical control were ruled out as a method of destroying the Queen of the Night due to the accessibility issues in many cases.

The most effective long-term solution is biological control. Gauteng Nature Conservation was approached to obtain the first batch of mealybug-type aphids called *Hypogeococcus pungens*. These were then attached to large stands

Queen of the Night, a major invasive species, originates from Brazil, and has spread widely in South Africa forming dense stands, reaching heights of up to 6 m. Birds largely spread the seed. In around 2007, the obvious spread of the Queen of the Night cactus in the Magaliesberg and especially in the protected natural environment was of major concern for John Wesson. A proposal for a project was put to WESSA Northern Areas Region (NAR) by John to start reducing the spread, and combating the problem plant, working first in the Magaliesberg, then radiating outwards into the region.

Written by John Wesson with inputs by Dr Cathy Dzerefos
Photographs by John & Jenny Wesson



WESSA 'Groen Sebenza' students assisting in harvesting of Queen of the Night bugs in the Magaliesberg 27 May 2014



De Rust, Magaliesberg, successful growth of bugs (26 February 2022)

of Queen of the Night plants in one valley in the De Wildt area of the Magaliesberg including a substantial number on the Wesson Farm. The plan was to create a 'nursery' for the bugs, and a ready source, in time, to start the treatment of plants on a wider scale. After around five years the project could start in earnest. Plant stems were cut around 400m in length, with the bugs on them, and ready to be attached to host Queen of the Night plants.



A colony of mealybugs on the stem of the Queen of the Night

Each stem segment can have up to four colonies of the bug. Staff on the farm conducted the harvesting with saws and pangas. The process then started with the treating of Queen of the Night plants in the *Peglerae Conservancy* between Silkaatsnek and Hornsnek in the Magaliesberg. The process was to place the stem with bugs as high as possible up the stem. Initially, wire was used to fasten them to the Queen of the Night plant. The use of cable ties later became a far easier option. In some cases, the bug-carrying cutting was simply placed on the plant or near the plant when accessibility was a problem. Small garden forks were adapted to facilitate the handling to avoid being injured by the deadly spines.

Over the next many years, most areas in the Magaliesberg were treated, up to and beyond Rustenburg. Bugs were also supplied to farmers and conservancies. From here the spread of bugs was expanded into the Lanseria area, and from Brits to the Waterberg, and around Thabazimbi



Queen of the Night bio project on the go - 28 April 2019



Treating a large stand of cactus in Fourways



John Wesson releasing bugs in the Bonamanzi Game Reserve (23 May 2017)



Large, dense stands of the plants in the Bonamanzi Game Reserve



Candice du Preez delivered and placed the bugs out under the watchful eye of a game guard in the Malelane area. Kruger National Park (2022)

and onto Bela Bela, and up the N1 highway to Polokwane and into Tzaneen. The team consists of John placing the bugs and his wife Jenny photographing and taking the GPS coordinates.

Each excursion sees about fifty stems with around 150 colonies being placed at a time. Other parts of Gauteng followed then into the Free State down to Kroonstad, Parys and into the Potchefstroom area. During this period John and Jenny visited Bonamanzi Game reserve in Northern KZN to find a major Queen of the Night infestation. Bonamanzi was offered assistance, and a few months later a large consignment was taken by John and Jenny to the Reserve and a large number of plants were treated throughout the reserve.

All locations were determined by GPS and a detailed maps were drawn up. On follow-up



Bugs in Bonamanzi showing rapid growth (10 November 2019)

visits the bugs had grown extremely well due to the warm climate and were spreading rapidly. Hopefully, in time, the bugs will move out of the reserve and into the highly infested surrounding areas. It is planned to take a consignment up to do the region between the reserve and Lake St Lucia to Mkuze in 2024.

In the interim, it was noted that Kruger National Park also had a major problem and assistance was offered. A scientific project was registered with SANParks and so the Wessons started their work in Kruger National Park, delivering bugs to Punda Maria and Skukuza; followed by their daughter Candice doing the Malelane area and actually placing the bugs out under the eye of an armed warden! More deliveries followed to Pretoriusskop in 2022, and Punda Maria again in March 2023. Marakele



A close-up of the bugs (10 November 2019)



Bugs loaded for treatment of the Queen of the Night (28 April 2019)



John Wesson in the Rhenosterspruit area (1 March 2020)



Rhenosterspruit area (11 March 2020)



Rhenosterspruit area (24 December 2023)



Polokwane Game Reserve



Projet on the go in areas toward Thabazimbi



Polokwane Game Reserve (27 November 2021)



When one cannot reach the plants one has to use available options, Honeydew



Placing of stems with bugs using an adapted fork



Typical scene of invasive plants in indigenous tree landscapes



Kroonstad, February 2022

National Park in the Waterberg received their first consignment of bugs on the 20 May 2023.

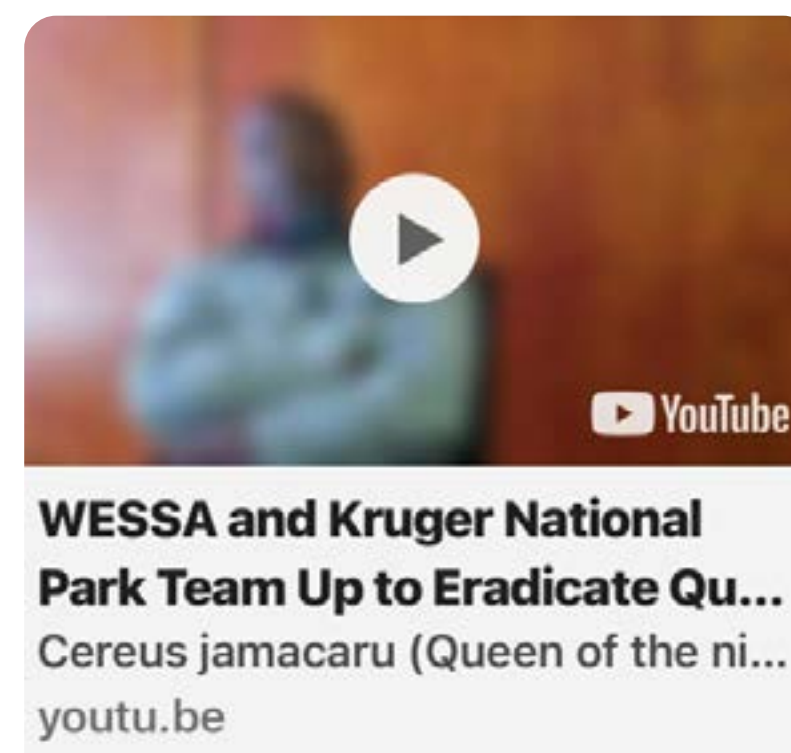
In general, it takes from two to five years for the bugs to take hold, depending on the climatic conditions, but they rapidly attack the growth points and flowers, stopping seed production. Large plants can take up to ten years to die off



Supplying bugs to residents in Rustenburg (18 July 2020)

completely but as indicated from an early stage they cannot reproduce or spread anymore. See pictures illustrating this.

This project showcases the power of volunteers embracing ecological solutions that work in harmony with nature, to restore balance in ecosystems. This initiative not only mitigates the spread of an AIP but also paves the way for raising awareness amongst people on South Africa's biodiversity. Through research, strategic partnerships, and a commitment to preserving South Africa's natural heritage, the Queen of the Night Bio-Remediation Project sets a remarkable precedent in the realm of environmental stewardship. 🌱



<https://youtu.be/JG2tUqrWflg>

19:22

For more info follow this link:
<https://www.youtube.com/watch?v=JG2tUqrWflg>