

CHROMOLAENA ODORATA: WE HAVE DECLARED WAR

Entering Hluhluwe – iMfolozi Park (HIP) before 07h00 you will witness over 500 people loaded onto trucks and bakkies singing as they enter through the gates of the Park. Clad in khaki overalls and green t-shirts they are off to fight a war. Not so much a war against people but a war of a different nature as the slogan on the back of their t-shirts read: “Impi ka Sandanazwe”, translated into English this means “War against Chromolaena” Hluhluwe –iMfolozi Park with the local community has declared war against Chromolaena...

The workers you will see are employed by the Chromolaena Clearing Project, a Project of Ezenvelo KZN Wildlife (EKZNNW), that has recently celebrated its first anniversary. Over 15 000 hectares of chromolaena (as well as other alien invasive plants) have been cleared, inside as well as in areas surrounding the Park.

The Project, with a budget of R 5 million per year (allocated for the next three year/s) from Provincial Government, aims at controlling the spread of chromolaena inside as well as in a buffer zone surrounding the Park, thereby creating employment to local communities. All the contractors and workers are employed from the ten tribal authorities surrounding the Park. Strict standards were kept when employing people to ensure that the Project would benefit only the poorest in the communities. Preference was given to persons affected or infected

by HIV/ Aids, only one person per household was employed and at least 60% of all workers are women.

The Project has come a long way since the Project officially started on the 10th of November 2003. With one employee and a R 5 million budget that had to be spent by end March 2004, things were looking chaotic. However, we managed and by the end of March we had secured an office, purchased vehicles, housing, equipment, herbicide, protective clothing, employed management staff, employed 147 workers (including contractors), trained them and managed to set standards for the Project. By end of March 2004 we had cleared close to 1500 ha and spent the budget. This has only been possible because of the tireless support of the entire EKZNNW team from Procurement, Human Resource Management, Reserve management, the Steering Committee to the CEO, and the Executive Board who has realized the impact chromolaena has on areas like HIP.

Since chromolaena was first detected in HIP in 1961 various control efforts have been implemented. Most were unsuccessful to a certain extent as the rate of spread outweighed the budget allocated to these brave efforts and because follow up funding either dried up, or follow up was just not done timeously. Currently it is estimated that there is over 9500 ha are densely invaded, 24500 ha of medium invasion with the rest of the Park varying between low and sparse invasion. Facing these infestations, HIP would need approximately R 12 million per year to effectively control the spread of invasive alien species in and around

the HIP.

The current budget of R 5 million is not enough, and we have been hard at work to source additional funding. Our efforts have paid off and we have received and extra R 1.5 million from the Department of Agriculture and Environmental Affairs, thus increasing our budget to R6.5 million for this financial year.

We are confident that the war is ours. With promises of a major increase in budget for the next financial year, a great team and enough support we can only win.

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are born. It has been estimated that each adult female produces approximately 40 young per year.

Breeding probably occurs throughout the warmer months of the year. Young rats mature rapidly and are weaned when about three weeks old. They are able to reproduce at approximately three months of age.

Longevity

Wild individuals have been known to live for over a year, whereas in captivity they have survived for over four years.

Predators and Defence

Snakes, hawks, owls, and most carnivorous mammals are potential predators of black rats.

Parasites

The bacterium disease Yersinia (formerly Pasteurella) pestis - a bacillus is a rodent disease transmitted by rodent fleas, The bacillus is fatal to rats and potentially to fleas, as well as to humans. As rats die, fleas move humans and may also even survive briefly without any host.

Prickly Pear

invasive task group of the sanparks honorary rangers

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LEWELLYN'S PRICKLY CORNER

Biological control in the Kruger National Park

Llewellyn C Foxcroft

Biological control has been defined as the use of living organisms to reduce the vigour, reproductive capacity, or effects of weeds. It is also regarded as the only sustainable mechanism to prevent the spread of invasive alien species in the long term. In South Africa the biological control of weeds has been practiced since 1913 and since then some 47 weed species have been subjected to the effects of approximately 85 species of biocontrol agents.



Neohydrotomus affinis

In an effort to intensify the control of invasive alien species in the Kruger National Park (KNP) a total of 16 biological control agents have been released onto seven weed species: The first release of a biological control agent was that of a snout weevil (*Neohydrotomus affinis*) on Water lettuce (*Pistia stratiotes*) on the Nhlanguvu pan in the Pafuri region of the KNP in 1985.

Of the 16 agents released, six have provided complete control on four invasive alien plants, thereby allowing the KNP to redirect its limited resources to combating other invasive species. Seven agents have provided substantial control, thereby assisting in the management of the weed to varying extents.



Pistia stratiotes

Through a programme that re-distributed the agents throughout the infestations in the KNP, the agents are now widely dispersed within and along the boundaries of the KNP and contribute toward ongoing, long-term control of those plants.

In South Africa the biological control of weeds has been practiced since 1913 and since then some 47 weed species have been subjected to the effects of approximately 85 species of biocontrol agents.

Further efforts are being made to breed agents under protected conditions, for release within and adjacent to the KNP. Post-release monitoring and evaluations are continuing on agents for *Opuntia stricta*, *Pistia stratiotes*, *Eichhornia crassipes* and *Azolla filiculoides*.

From:
Merritt, B. W. and L. C. Foxcroft. Catalogue of biological control interventions on invasive alien plants. Kruger National Park, 04401. ©30 2001. South African National Parks. Kruger National Park, Scientific Services Section.
Appendix 1: Release of biological control agents against weeds occurring in the KNP (Adapted from African Entomology, Memor no. 1, June 1999)

JUNIOR HONORARY RANGERS SHOW THE WAY

The junior honorary rangers from the Lowveld region carried out an alien plant control exercise for a weekend at Berg en Dal. The group included nine Junior Honorary Rangers and five Senior Honorary Rangers. We had amazing support from the SANParks staff (Conservation, Alien Biota and Tourism). The exercise was co-ordinated by Bruce Lesley. The area that we targeted was outside the rest camp focussing on plants that had either re-grown or had been missed by Working for Water. We were given three game guards, and were accompanied by two students in the area, as well as someone from the alien biota unit in Skukuza. We targeted aliens such as Lantana, Ricinus, and Bug weed. Our first task was to clean

up the rest camp. This was done quickly as very few were found. We then moved out of the camp, cleaned up the Mafutu Spruit close to the Camp, and then around the sewerage dams. We decided not to use chemicals and, mechanically removed the plants. These plants were taken by bakkie to the rubbish tip for destroying at a later stage.

A total of 65 Lantana camara and 23 Ricinus communis were removed. The exercise was a great success and we will be doing more of these in the future.

Grant Coleman
Lowveld Region



South African National Parks
Honorary Rangers
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AN ALIEN ON A BOAT

Black Rat - *Rattus rattus*

The black rat is a non-native (exotic) species that is thought to have arrived to South Africa on ships. It is native to Asia Minor and Orient and is abundant in seaports. It is a medium-sized, slender brownish-grey/black rat with coarse fur and a long, sparsely haired, scaly tail. The tail is longer (approximately 110 percent) than the combined length of the head and body.

NATURAL HISTORY

Habitat

The black rat is found primarily in and around human habitations such as barns, warehouses, and buildings in urban residential areas. It is a very agile climber and can apparently burrow under buildings.

Reproduction

Black rats are prolific. After a gestation period of approximately 22 days, an average litter of about six young

Weed	Degree of control	Biocontrol agents	Year of release	Established	Main feeding guild	Damage to weed
ARACEAE <i>Pistia stratiotes</i> (water lettuce)	Complete	<i>Neohydronomus affinis</i> (Curculionidae)	1985	Yes	Leaf and stem borer	Considerable
AZOLLACEAE <i>Azolla filiculoides</i> (red water fern)	Substantial	<i>Stenopelmus rufinusus</i> (Curculionidae)	1997	Yes	Leaf chewer	Extensive
CACTACEAE <i>Opuntia stricta</i> (sour prickly pear)	Substantial	<i>Cactoblastis cactorum</i> (Pyralidae)	1980's	Yes	Stem borer	Extensive
		<i>Dactylopius opuntiae</i> (Australian biotype) (Dactylopiidae)	1997	Yes	Sap sucker	Extensive
PAPILIONACEAE <i>Sesbania punicea</i> (red sesbania)	Complete	<i>Neodiplogrammus quadrivittatus</i> (Curculionidae)	1984	Yes	Stem borer	Extensive
		<i>Rhysomatus marginatus</i> (Curculionidae)	1984	Yes	Seed feeder	Extensive
		<i>Trichapion lativentre</i> (Apionidae)	1970's	Yes	Flowerbud feeder	Extensive
PONTEDERICEAE <i>Eichhornia crassipes</i> (water hyacinth)	Substantial	<i>Cercospora rodmanii</i> (Hyphomycetes, Moniliales)	1992	Yes	Causes leaf spots	Considerable
		<i>Eccritotarsus catarinensis</i> (Miridae)	1996	Yes	Sap sucker	?
		<i>Neochetina bruchi</i> (Curculionidae)	1990	Yes	Stem borer	Considerable
		<i>Neochetina eichhorniae</i> (Curculionidae)	1974-1985	Yes	Stem borer	Considerable
		<i>Niphograptus albiguttalis</i> (Pyralidae)	1990	Yes	Petiole borer	Considerable
		<i>Orthogalumna terebrantis</i> (Galumnidae)	1989	Yes	Leaf miner	Considerable
SALVINIACEAE <i>Salvinia molesta</i> (water fern)	Complete	<i>Cyrtobagous salviniae</i> (Curculionidae)	1985	Yes	Stem borer	Extensive
VERBENACEAE <i>Lantana camara</i> (lantana)	Negligible	<i>Falconia intermedia</i> (Miridae)	1999	?	Sap sucker	?
		<i>Octotoma scabripennis</i> (Chrysomelidae)	1971-1975	Yes	Leaf miner	Considerable

SANPARKS WORKING FOR WATER

SANParks and Wetlands

What is a wetland?

According to the South African Water Act, a wetland is "land which is transitional between terrestrial and aquatic systems, where the water table is usually at or near the surface or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil".

This definition allows us to conclude that there are three indicators - which allow us to decide whether an area of land is a wetland, or not:

- A high water table
- Hydromorphic soils
- Hydrophytic plants living in these soils

As a conservation body, SANParks is committed to conserve and where necessary restore and rehabilitate the wetlands within their Parks

Wetland destruction

The worst damage anyone can inflict on a wetland is to drain it for the production of pastures and crops. Other problems include - overgrazing, excess cattle trampling and the incorrect burning regime. Mismanagement of a wetland usually results in erosion, especially in the form of head-cuts (this is a type of erosion that eats uphill towards the flow of water, leaving a huge gully behind it). The cause of this erosion is most often as a result of poor land management such as:- removal of streambank vegetation, invasion of alien plant species, excess cattle trampling, overgrazing, and flooding because of land disturbances in the upper catchment.

SANParks wetlands

As a conservation body, SANParks is committed to conserve and where necessary restore and rehabilitate the wetlands within their Parks to ensure optimum functioning of the wetlands. Where areas outside the Park's boundary have an impact on the wetland, these areas will also be considered for rehabilitation.

Future Projects

Most of the National Parks, have wetlands within their boundaries and although these wetlands are relatively pristine and conserved, external factors such as flooding, previous policy and infrastructure such as roads, are impacting the wetlands.

A process is being developed whereby wetland inventory will be carried out, simultaneously evaluating the condition of the wetland. This will feed into a strategy that will prioritise rehabilitation activities for wetlands within the different Parks.

Management framework.

The programme is still in its early days and therefore a lot still needs to be done to ensure proper strategic planning to prioritize wetland rehabilitation sites within Parks. The Invasive Species Control Unit within SANParks, in close liaison with the Conservation Services of the Park is managing the programme.



Aerial view of the Makuleke wetland

Contact details

For any enquiries please contact the Unit Coordinator of the Invasive Species Control Unit of SANParks, Ms Olga Jacobs, at 012 426 5000 or Marius Snyders, at 072 201 7936

detail about general functioning of the KNP with specific details of wetlands, the following web site can be consulted: www.wetland@org.za



South African NATIONAL PARKS