



SAPIA NEWS

SOUTHERN AFRICAN PLANT INVADERS ATLAS

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Invasive plants Stop with You!

The problem of invasive alien plants rests with us all—from national government whose responsibility it is to promulgate and enforce laws, and to provide management strategies for implementation by provincial and local government authorities; to importers, growers and sellers of plants who should only deal with non-invasive plants, and ultimately all landowners who are the custodians of the land—whether it be a pocket-sized urban garden or a vast farm or reserve.

The problem of alien plant invasion in South Africa is exacerbated by failures to meet responsibilities at all levels, and that includes government. National government has failed to implement regulations on invasive species under the National Environmental: Biodiversity Act (NEMBA) which was promulgated in 2004. These delays have also delayed the revision of the Conservation of Agricultural Resources Act (CARA). Enforcement of laws is, and has always been, inadequate or totally lacking.

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Now the people are taking government to court:

The Kloof Conservancy in KwaZulu-Natal has initiated High Court proceedings to compel the government to implement Invasive Alien Species legislation. For details, including copies of the Notice of Motion and the Founding Affidavit, visit the Kloof Conservancy website: www.kloofconservancy.org.za



Water poppy (*Hydrocleys nymphoides*) an emerging invasive aquatic plant

Photo: H. Sithole

Early Detection and Rapid Response is a government initiative to stop invasive alien species before they become a problem. Read about water poppy and Mauritius hemp on pages 2 and 3.

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Lynne Thompson, founder of KwaZulu-Natal's 'Stop-the-Spread' campaign—an initiative of the Wildlife and Environment Society of South Africa (WESSA), passed away from a long illness on 29 November 2012.

Thank you Lynne for your enthusiasm and dedication in championing the fight against invasive alien plants in the province for nearly two decades!. Your legacy will live on!

Blow the trumpet and stop Water Poppy (*Hydrocleys nymphoides*) from invading our wetlands!

Jabu Sithole, EDRR Programme, SANBI, KwaZulu-Natal

In memory of Lynne Thompson from WESSA who initiated the ‘**Stop-the-spread**’ campaign, please don’t be a vector spreading Water Poppy; help STOP THE SPREAD of invasive alien plants.

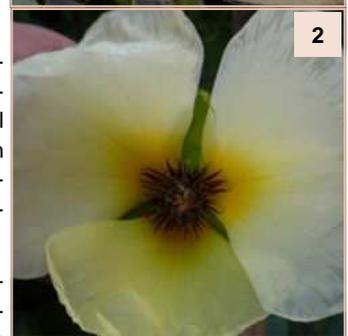
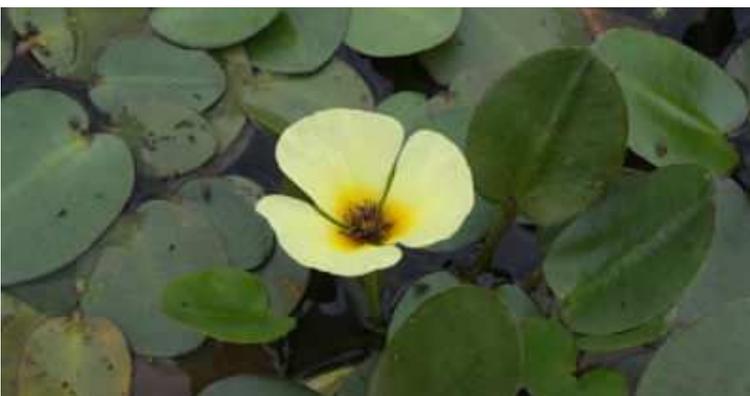
Early stages of alien plant invasions should be given urgent attention because it may be possible to eradicate small populations. Alien plants which have a history of invasion in other parts of the world that share similar climatic conditions with South Africa, are likely to also become invasive in South Africa. In order to manage and control introductions of invasive or potentially invasive plants the legislation on invasive plants need to be applied and stringently enforced.

Water poppy is an invasive aquatic plant from Brazil. In South Africa this species is listed as Category 1a under the draft NEMBA regulations. Unfortunately the regulations have not yet been promulgated and thus the enforcement is not effective.

The aesthetic value of water poppy has resulted in its introduction to many countries through the horticultural trade. It has been recorded invading water bodies in countries such as England, Japan, Australia, New Zealand, Fiji and in one South African locality, Howick in the midlands of KwaZulu-Natal (KZN). There is a possibility that there are more unknown localities in South Africa as the first specimen was collected in 1951 from one of the botanical gardens in KZN. The purpose of this article is to request readers to report any sightings of water poppy in order to facilitate the development of an appropriate management plan for the species.

When a new invasion is detected, the Early Detection and Rapid Response (EDRR) programme conducts initial surveys that entail collecting plant specimens in order to confirm its taxonomic identification, mapping the extent of known infestations and conducting a risk assessment for the species in South Africa. Assessing the risks is done to determine its potential invasiveness and to enable the planning of an appropriate eradication campaign. Thus far 20 dams within an area of 20km² from the point of infestation have been surveyed. Certain parameters were assessed at each dam to try to find out why the species has not yet spread to them. Initial results from the risk assessment indicate that the high incidence of frost in Howick is the likely barrier limiting spread of the species. However, frost-free parts of the country are likely to be able to support water poppy invasions. Eradication is still possible at this stage and it is likely that an experimental eradication campaign will be initiated in 2013.

In order to support the EDRR programme, please survey your ponds and look for aquatic plants with the following characteristics: a cup-shaped yellow flower (photo 1) with a reddish-brown centre (photo 2) , round to heart-shaped floating leaves (photo 3), tangles of long stems that are rooted in the sediment (photo 4). It prefers to grow in ponds, slow-moving water and under warm temperature conditions. Leaves form a very dense mat that blocks the penetration of light—an average of 250 leaves were counted per m² in the dam where it invades.



To report sightings please contact Jabu Sithole, of the EDRR programme.

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Clearing of Mauritius Hemp (*Furcraea foetida*) in KwaZulu-Natal: Efforts of the EDRR* Programme

Reshnee Lalla, EDRR Programme, KZN Regional co-ordinator, SANBI

History....Mauritius hemp comes from South America and the Caribbean, and was most likely imported into South Africa more than 130 years ago by the Natal Botanical Gardens (today the Durban Botanic Gardens) (Crouch & Smith 2011). Plants were propagated and plant material distributed throughout KwaZulu-Natal (KZN) in support of the growing fibre industry. In recent years, naturalized populations of this species have been noted as plants may have escaped from old plantations in KZN. Populations of Mauritius hemp are also known to occur in the Eastern Cape, Mpumalanga and Western Cape provinces of South Africa (SAPIA database 2011; Smith 2011).

The Problem....Mauritius hemp is a succulent with sword-shaped leaves arranged in a basal rosette. Upon reaching maturity, flowering stalks bearing thousands of bulbils (vegetative propagules) are produced from the centre of the rosettes. As a monocarpic species, the mother plant dies after fruiting and carpets of young plants result from the bulbils. Mauritius hemp is already an invasive problem in several island nations which include La Réunion, Mauritius and New Zealand, and has naturalized in other African countries including Zambia and Zimbabwe (Smith 2011).

Mauritius hemp can be identified by its lush, light green, often pliable leaves, and light green, almost fluorescent flowering stalks. Bulbils are globular, and if present flowers are creamy-white and appear droopy. Marginal thorns are rare, and if present, usually occur at the leaf bases



The invasive threat of Mauritius hemp in South Africa was first brought to the attention of the KZN unit of the EDRR Programme by horticultural consultant Mr Geoff Nichols in 2009. Awareness-raising efforts, surveys and successful stakeholder collaborations have increased our knowledge of the naturalized populations in KZN.

Clearing Efforts of the EDRR Programme....A clearing team comprising 12 people was appointed to clear Mauritius hemp in KZN from September to November 2012. More than 12 000 plants from over 45 localities throughout KZN were cleared in 50 working days. Leaves were hacked away and Plenum herbicide at a concentration of 2.5% was applied to the stumps.

The Way forward....Clearing efforts in KZN are due to continue in early 2013, and will serve as a pilot project for broad-scale management of this species in South Africa. The lessons learned will be applied to the other provinces in which this species occurs, and will ultimately culminate in a National Management Strategy for Mauritius hemp in South Africa.

References:

Crouch, N.R. & Smith, G.F. 2011. Agavaceae. *Furcraea foetida*: an invading alien in KwaZulu-Natal, South Africa, *Bothalia* 41: 196–199

Smith, G.F. 2011. Agavaceae in Walters, M., Figueiredo, E., Crouch, N.R., Winter, P.J.D., Smith, G.F., Zimmermann, H.G. & Mashope, B.K. *Naturalized and invasive succulents of southern Africa*, ABC Taxa: Belgium, pp. 34–63

The EDRR programme can be contacted at alienplants@sanbi.org.za or call the KZN office on 031 201 9091

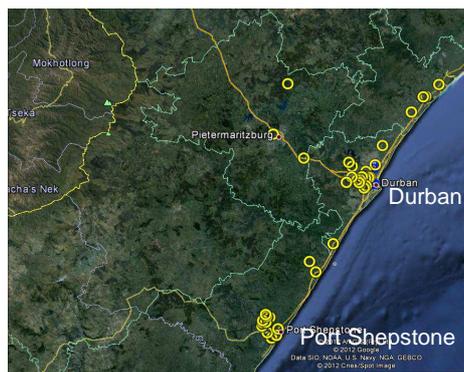
EDRR*—The Early Detection and Rapid Response Programme is positioned in the South African National Biodiversity Institute and funded by the Working for Water Programme



Before clearing operations



During clearing operations



Populations of Mauritius Hemp cleared from September to November 2012

Pitch Apple (*Clusia rosea*): Emerging invader

Clusia rosea is native to tropical America and is variously known as pitch apple, balsam apple and autograph tree. It is an evergreen tree up to about 10 m high, with a short trunk and thick leathery leaves, which can be etched with graffiti, hence the common name 'autograph tree'. Flowers are white, aging to pink, opening at night, and fading to brown. The fruit is light green, poisonous, turning brownish when ripe and splitting open to reveal bright red seeds surrounded by a black, resinous material which was once used to caulk the seams of boats, hence the name pitch apple. The seeds are bird-dispersed.

Pitch apple is an ornamental tree that is adapted to both dry and moist conditions as well as to sea spray. It has been cultivated in KZN and has been reported to have spread into the Krantz-kloof near Durban, and along the coast near Port Shepstone.

Like strangler figs and *Schefflera* trees reported in SAPIA News No. 26, this species can also germinate on palms and in the forks of trees and grow as an epiphyte, sending down aerial roots that will eventually smother the host tree.



Flower. Photo: Forest & Kim Starr



Seedling in tree. Photo: Forest & Kim Starr

Pitch apple is invasive in Hawaii which shares many invasive species with the KZN coast. We should heed the warnings from Hawaii to make this an early detection species and try to prevent infestations from developing. It should also be banned from cultivation.



Immature & ripe fruit. Photo: Forest & Kim Starr

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The Weeds Research Programme of the ARC-Plant Protection Research Institute is responsible for research on the ecology and control of invasive alien plants in South Africa. These plants were introduced either intentionally (e.g. for ornamental use or agroforestry purposes), or accidentally (e.g. in livestock feed) and now threaten biodiversity and agriculture. In addition, they reduce run-off from water catchments, thus diminishing flow in streams, and adversely affect the quality of life of communities.

- Biological control
- Chemical control
- Bioherbicides
- Integrated control
- Monitoring the emergence and spread of invasive alien plants

We are on the Web:

www.arc.agric.za

Quick link:

Invasive alien plants

see Plant Protection News

for current news from the
Weeds Research
Programme

Read *Plant Protection News* No. 94 for the following news from the Weeds Research Programme:

- A Century of Biological Control of Invasive Alien Plants in South Africa
- Helping Heuningvlei community to surmount their cactus dilemma; and Strangler invaders: a new threat