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SAPIA NEWS

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Inside this issue:

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SAPIA newsletters are posted at ARC website: www.arc.agric.za and Invasive Species Website: invasives.co.za

Conservation starts at home

We can all help to conserve South Africa's biodiversity by cultivating indigenous plants in our gardens. This edition of SAPIA News takes a look at the popular drought resistant plants commonly known as mother-in-law's tongue (*Sansevieria* species). There are six species in South Africa—three of which are widespread and could be very useful drought resistant feature plants for the garden. A West African, and potentially invasive species, *Sansevieria trifasciata,* is being widely cultivated in South Africa. Of particular concern is its cultivation in many of our conservation areas including national and provincial reserves.

The West African *Sansevieria trifasciata*, mother-in-law's tongue, is potentially invasive in South Africa. Photographed near Hluhluwe in northern KwaZulu-Natal.

Invasive species are a liability to landowners

Do you know what the law says about invasive species on your property?

NEMBA Alien and Invasive Species Regulations (2014) state that the seller of any immovable property must, prior to the relevant sale agreement, notify the purchaser of the property in writing of the presence of listed invasive species on that property.

Yellow bells (*Tecoma stans)*

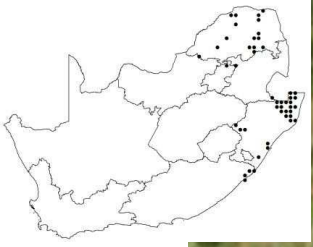
A copy of the *Declaration of Invasive Species* form must be lodged with the Compliancy Officer, Biosecurity Services, Department of Environmental Affairs.

The South African Green Industries Council (SAGIC) has been training invasive species consultants to the property industry. For more information go to:

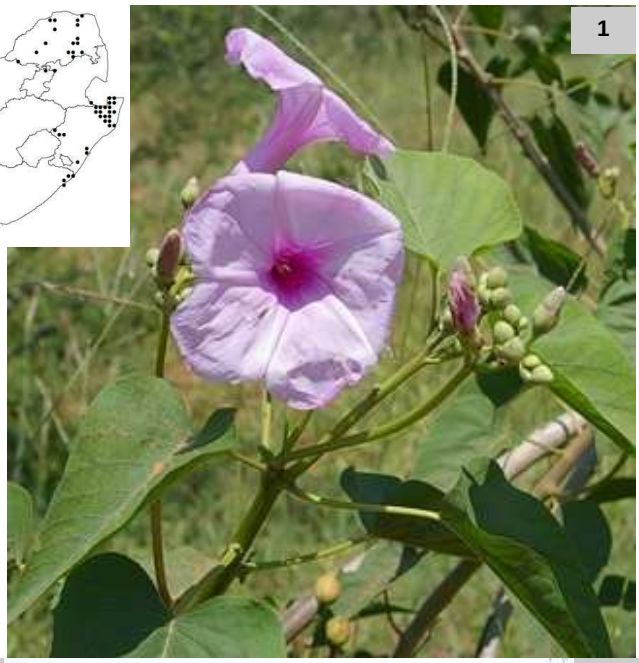
www.sagic.co.za, www.sali.co.za or www.invasives.co.za or phone 011 723 9000

Morning-glory bush (*Ipomoea carnea* subsp. *fistulosa*) —a toxic invader of dams and rivers

Morning-glory bush (*Ipomoea carnea* subsp. *fistulosa*) is native to tropical America and is now a pantropical weed.



It is a multi-stemmed, erect to scrambling shrub up to 3 m high. The stems are woody at the base and hollow. The leaves are a dull green, shortly hairy, oval to lance-shaped, 10–25 cm long. The flowers are pink to rose-purple, 5–9 cm long and occur in clusters at the branch tips (**photo 1**). The fruit is a capsule containing seeds covered in long, brown hairs.


1

It has been cultivated as an ornamental and hedge plant from the Eastern Cape and northern KwaZulu-Natal to Limpopo Province. It has a wide ecological tolerance, growing along roadsides, drainage channels, dry riverbanks, in seasonally wet areas, swamps and even water up to 2 m deep (**photos 2 & 3**). It has become a serious weed in northern KwaZulu-Natal, and is a category 1b invader under NEMBA.

It is poisonous to goats, causing irreversible brain damage and death (pers. comm. Prof Theuns Naudé, Onderstepoort Veterinary Research Institute, 1998). Other mammals are likely to be affected in the same way.


2

Photo: Geoff Nichols


3

Photo: Nebo Jovanovic


4a


4b

Photos: Roddy Ward

Morning-glory bush is a serious threat to wetland habitats. The hollow stems arise from a woody rootstock (**photos 4a,b**). Plants spread from seed and stem fragments.

The SAPIA Editor thanks the late C.J. (Roddy) Ward for the photos of the rootstock of morning-glory bush, together with detailed notes about its occurrence at the Inanda Dam in 1993.

Roddy Ward was an ecologist, plant taxonomist, lecturer and prolific collector of herbarium specimens. He died, aged 88, earlier this month. He will be remembered for his exceptional contributions to Botany and the plant flora of KwaZulu-Natal.

Skeleton weed (*Chondrilla juncea*): a potential ecological threat to the Eastern Cape

Sihle Manzama, Invasive Species Programme: EDRR, SANBI, Eastern Cape

Description…..*Chondrilla juncea* is a perennial herb in the daisy family (Asteraceae), which forms a flat rosette (**photo 1**) with leaves measuring 4–12 cm long and 1.5–4.5 cm wide. A mature plant is a mass of thin stems (**photo 2**) with small yellow flowers and nearly leafless stems (**photo 3**). The plant can grow to 1.3 metres high with a tap-root that reaches 2.5 metres. Stems produce a milky juice and the seed colour varies from light brown to black. A single plant may produce as many as 20,000 parachute-like seeds which are dispersed by wind, water, animals, and humans (Jacob et al., 2009).

History and invasive status…..Its native range extends from Western Europe and North Africa to central Asia. It is invasive in the USA, Australia, New Zealand and elsewhere. Skeleton weed invades rangelands, roadsides and disturbed habitats, displacing native species, and reducing forage for livestock and wildlife. The first SAPIA record of the species in South Africa dates back to 2003, where it was recorded in a maize field in Mtati village, Peddie in the Eastern Cape. Skeleton weed is listed as a Category 1a invader under the NEM: BA regulations, requiring immediate and compulsory control.

Ecological threat…..Infestations of skeleton weed can reduce maize yield, livestock and wildlife forage and the latex in the stems causes serious problems with harvesting machinery (Anon). According to farmers in Lower Gwalana and Mtati villages, this species affects the quantity and quality of yield, and its deep regenerative roots make weeding particularly difficult.

Managing the problem…….SANBI's invasive species programme has initiated a project to assess the invasiveness of this species and a management plan is in progress. Initial surveys have revealed new populations in maize fields (**photo 4**) and home gardens across Lower Gwalana and Mtati villages, suggesting that the species is far more widespread than initially anticipated. The programme is currently encouraging the public to report new sightings of the species. In other countries integration between chemical and mechanical control is the best method of control for this species. The programme has selected two sites in maize fields where these methods will be tested.

References:

Anonymous. A guide to weeds in British Columbia (http://www.weedsbc.ca/pdf/rush_skeletonweed.pdf)

Jacobs, J., Goodwin, K., Ogle, D. 2009. Plant Guide for rush skeleton weed (*Chondrilla juncea* L. Published October, 2009). USDA-Natural Resources Conservation Service, Montana State Office, Bozeman, MT 59715.

Please report this plant to Kanyisa Jama, email: k.jama@sanbi.org.za, cell: 0780631985, Tel: 0437267492 or to Sihle Manzana email: S.Manzana@sanbi.org.za, cell 0730092182. Where possible please provide the locality (GPS co-ordinates or distinguishing landmarks), the infestation size, estimate of the number of hectares invaded and/or estimated number of plants.


1


2


3


4

Conserve biodiversity: cultivate the indigenous *Sansevieria* species

Sansevieria species are leaf succulents with horizontal, usually subterranean, fleshy stems (rhizomes—which produce roots and new shoots), often forming dense clumps. The leaves are stiff, fibrous and usually erect. The flowers are produced in spike-like clusters and the fruits are berries.

The West African *Sansevieria trifasciata* (**photos 1a,b,c,d**) can be distinguished by its tall, erect leaves, with distinct bands of lighter (often silvery) and darker green, and green (var. *trifasciata*) or yellow (var. *laurentii*) leaf margins. Both varieties and their many cultivars are potentially invasive in South Africa.

The indigenous *S. hyacinthoides* has shorter, broader leaves which are mottled or have less well-defined banding; mature leaves have reddish margins (**photos 2 a,b,c**).

West African *S. trifasciata* var. *trifasciata* with green leaf margins

West African *S. trifasciata* var. *laurentii* with yellow leaf margins

South African *Sansevieria hyacinthoides* with reddish leaf margins

Sansevieria continued

The indigenous species are widespread in the summer rainfall region in eastern and northern South Africa, occurring in dry savanna, karoo and subtropical forest. They thrive under trees and amongst rocks.

The three most widespread species in South Africa are: *S. hyacinthoides, S. aethiopica* and *S. pearsonii.*

S. hyacinthoides (**photos 3a,b,c**), occurs in dry inland and coastal areas from the E Cape through KwaZulu-Natal to Limpopo. It is very variable, but usually distinguished by its broad, sword-shaped leaves which are either flattened or somewhat folded.

S. aethiopica (**photo 4**) occurs in dry inland areas from the E Cape to Limpopo. Leaves are narrow, deeply channelled/folded with distinct bands, in dense basal clusters.

S. pearsonii (**photo 5**) occurs in dry inland areas from northern KwaZulu-Natal to Limpopo. Leaves are rigid and cylindrical, ending in very sharp tips.

S. hallii occurs in dry habitats in northern Limpopo. *S. concinna and S. metallica* occur in forest habitats in northern KwaZulu-Natal.

More information on the *Sansevieria* species in southern Africa can be found in:

Pooley, E. 2005. *Wild flowers of KwaZulu-Natal and the Eastern Region.* The Flora Publications Trust.

Plants of Southern Africa Online (POSA): http://posa.sanbi.org/searchspp.php

Van Jaarsveld, E. 1994. The *Sansevieria* species of South Africa and Namibia. *Aloe* 31: 11—15.

Walters, M. 2011. Dracaenaceae (*Sansevieria*), in Walters *et al.*, Naturalised and invasive succulents of southern Africa. *Abc Taxa* Vol 11.

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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

Weeds Research URL:

http://www.arc.agric.za/arc-ppri/Pages/Weeds-Research-Information-Hub.aspx

see Plant Protection News

for current news from the Weeds Research Programme