



SOUTHERN AFRICAN PLANT INVADERS ATLAS

Newsletter of the Southern African Plant Invaders Atlas, an initiative of the Weeds Research Division, Agricultural Research Council, Plant Health and Protection (ARC-PHP)

SANBI Biological Invasions Directorate weed alerts

Inside this issue:

SANBI BID weed alerts	1
Brazilian prickly pear (<i>Brasiliopuntia brasiliensis</i>)	1
Green honey myrtle (<i>Melaleuca diosmifolia</i>)	2-3
More newly recorded weeds:	
Prickly paperbark (<i>Melaleuca styphelioides</i>)	4
Port Jackson pine (<i>Callitris rhomboidea</i>)	
Spiral ginger (<i>Costus afer</i>)	



Photo: SANBI BID W Cape

SANBI Biological Invasions Directorate (BID) has the mandate to detect and assess new invasions of alien plant species. Green myrtle (*Melaleuca diosmifolia*) is one of several emerging invasive species in the W Cape which is being investigated at Tokai. (see page two).

Brazilian prickly pear invades KZN

Brazilian prickly pear (*Brasiliopuntia brasiliensis*) is indigenous in Brazil, Argentina and several other South American countries. It is naturalised in Florida, USA and has been recorded for the first time as an invader in KwaZulu-Natal at Mziki Pan Game Farm situated between Hluhluwe and Sordwana Bay.

Brazilian prickly pear is a tree-like cactus with a cylindrical central stem and horizontal to drooping side stems. The cladodes are slightly shrunken and a bright shiny green in colour. Flowers are yellow and fruits can range from red or orange to yellow or purple.

This cactus should be classified as an emerging invasive species. It has the potential to become very invasive and is a prime target for SANBI BID. A suitable and effective control programme must be designed. Thanks to Ian Macdonald and Jane Bertram for raising the weed alert.



Photo: Jane Bertram

Editor and SAPIA co-ordinator:
Lesley Henderson
ARC-PHP
Weeds Research Division
stationed at SANBI
Private Bag X101
Pretoria
0001
South Africa

e-mail: L.Henderson@sanbi.org.za
Tel: 012 843 5035
Fax: 012 804 3211

Articles and photos by Lesley Henderson
unless otherwise acknowledged

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

Weed alert: Green honey myrtle (*Melaleuca diosmifolia*)

Siviwe Lamani and Nolwethu Jubase Tshali, Biological Invasions Directorate (BID), South African National Biodiversity Institute (SANBI), Western Cape

Description

Melaleuca diosmifolia, commonly known as green honey myrtle, and native to the south west of Western Australia is a dense shrub growing to a height of 4 m. The alternately arranged leaves are narrow, oval or elliptical in shape, crowded close together and lacking a stalk so that the leaf blade attaches directly to the stem (**photo 1**). Flowers are bright lime-green or pale yellow-green and arranged in heads near the ends of branches and are seen in spring in South Africa (**photos 1 & 2**).

Melaleuca diosmifolia is currently not listed on the South African NEM:BA regulations. It is listed as an environmental weed in the Global Compendium of Weeds (Randall 2007) together with 27 other *Melaleuca* species. *M. diosmifolia* is reported to be naturalising in New Zealand.

In South Africa, *Melaleuca diosmifolia* was found naturalising at the Tokai plantation in Cape Town (**photo 3**). It is being investigated by SANBI BID in the Western Cape and a detailed species risk analysis is being undertaken to inform future legislative and management efforts.

History

SANBI BID, Western Cape, received an alert in 2017 from SANParks regarding a *Melaleuca* population that was growing in Tokai, Cape Town. BID staff visited the site to verify the species identification and assess its distribution (**photo 4**). During the initial site visit, a herbarium specimen was collected for taxonomic verification which was later confirmed to be *Melaleuca diosmifolia*. Upon further assessments, we found another record on iNaturalist website (<https://www.inaturalist.org/home>) in Cape Point. We visited the Cape Point site to verify the species but no *Melaleuca diosmifolia* plants were found to occur at this site. The date of its first introduction is unknown but the earliest herbarium record of *Melaleuca diosmifolia* in South Africa was collected from the Tokai Plantations in 1933. To date, there is currently only one verified population of *Melaleuca diosmifolia*, located at the Tokai plantation, Cape Peninsula.

The problem/Impacts

Melaleuca diosmifolia has the potential to replace native species and increase fuel loads in invaded areas. This makes these areas more fire-prone, altering the fire regime and potentially impacting on the structure and integrity of the invaded community. Although *M. diosmifolia* is not yet listed on NEMBA, it has been reported as naturalising in other parts of the world. *Melaleuca diosmifolia* has similar characteristics to other *Melaleuca* species that are invasive in South Africa.

There is very little literature available on this species and SANBI will lead in providing information on the distribution of the species and undertaking a risk analysis of *M. diosmifolia* as well as investigating the best control and eradication strategies for this species. Currently the distribution of *M. diosmifolia* in South Africa is restricted to one population, enhancing the opportunity for eradication.



1



2



3



4

Green honey myrtle (*Melaleuca diosmifolia*)

Management and research

In 2017, a contracted team of 12 people (**photo 5**) systematically walked an area that delimited the population at Tokai. Where they found plants, contractors marked the position of each plant using a hand-held GPS, measured the height of the plants, canopy widths, stem base diameter, whether the plants were flowering at the time of data collection and the treatment that was used to control the plants. All the plants were uprooted by hand. The data collected from the Tokai site will be used to write a paper on the status of this species in South Africa.

Conclusion

M. diosmifolia has a limited known distribution within South Africa. Given that plants can easily be hand pulled without using herbicide, extirpation of *M. diosmifolia* is feasible if management can detect and control all plants effectively at all known sites.

Future plans

We will continue to monitor and manage known *M. diosmifolia* populations. Furthermore, we will produce and distribute information pamphlets to encourage the public to report any additional populations. The future plan for this project is to employ a contractor every year to conduct follow-up surveys.

Sightings can be reported on the following platforms:

BID Project <https://www.inaturalist.org/projects/alien-early-detection-rapid-response-s-af>

SANBI – Biological Invasions Directorate

Western Cape Office:

Nolwethu Jubase Tshali

Tel.: +27 21 799 8762

E-mail: N.Jubasetshali@sanbi.org.za

National Office:

Tel.: +27 21 799 8403/4

E-mail: invasivespecies@sanbi.org.za



References

- Brophy, J.J., Craven, L.A. and Doran, J.C., 2013. *Melaleucas: their botany, essential oils and uses*. Australian Centre for International Agricultural Research (ACIAR).
- Jacobs, L.E.O., van Wyk, E. and Wilson, J.R.U., 2015. Recent discovery of small naturalised populations of *Melaleuca quinquenervia* (Cav.) S.T. Blake in South Africa. *BioInvasions Records*, 4(1): 53–59.
- Jacobs, L., Richardson, D.M., Lepshi, B.J. & Wilson, J.R.U. 2017. Quantifying errors and omissions in alien species lists: The introduction status of *Melaleuca* species in South Africa as a case study. *NeoBiota*, 32: 89–105.
- Hickley, K.I., Kaplan, H., Van Wyk, E., Renteria, J.L. and Boatwright, J.S., 2017. Invasive potential and management of *Melaleuca hypericifolia* (Myrtaceae) in South Africa. *South African journal of botany*, 108: 110–116.

More newly recorded weeds in the SAPIA database

Port Jackson pine or Oyster Bay pine (*Callitris rhomboidea*) (photo 1) is a tree belonging to the family Cupressaceae, and is indigenous to eastern and south-eastern Australia. It has naturalised beyond its native range in parts of Western Australia and is showing signs of becoming invasive at Tokai in the W Cape.

A control programme for this species is under way by Friends of Tokai.

Callitris rhomboidea is an evergreen, pyramidal-shaped tree with scale-like leaves. It might be confused with indigenous *Widdringtonia* species but its cones are distinctive.

Female cones are grey-brown, in clusters, with six, thick, rhomboidal or diamond-shaped scales, ending in sharp points (photo 2)



Photos: SANBI BID W Cape

Prickly paperbark or paperbark myrtle (*Melaleuca styphelioides*) (photos 3 & 4) is a shrub or tree belonging to the family Myrtaceae, and is indigenous to eastern Australia. It is showing signs of becoming invasive at Tokai and in the Kluitjieskraal wetland in Wolseley.

M. styphelioides has whitish, spongy bark peeling off in large sheets. Leaves are stalkless, twisted and with sharply pointed tips. Flowers are produced in white bottlebrush-like clusters. Fruits are woody capsules.

It has a preference for moist situations and streambanks.



Photos: SANBI BID W Cape

Spiral ginger (*Costus afer*) (photos 5 & 6) is a perennial herb belonging to the family Costaceae and is indigenous to tropical Africa where it has been widely used as a medicinal plant. It is showing signs of naturalising along the coast of KwaZulu-Natal (observation by Michael Cheek, SANBI, BID, Durban).

Costus afer is a rhizomatous herb growing to 4 m tall along forest margins and in moist sites. Leaves are arranged spirally. Flowers are white with pink margins and a yellow throat (nectar guide), borne on a compact, terminal, conical spike. Plants may reproduce from seed or from sprouting inflorescences or bulbils.



Photos: Geoff Nichols

ARC-PHP, WEEDS RESEARCH DIVISION



The Weeds Research Division of the ARC-Plant Health and Protection (PHP) is responsible for research on the ecology and control of invasive alien plants in South Africa.

Research Team Manager: Dr Roger Price, e-mail: PriceR@arc.agric.za