



# SAPIA NEWS

SOUTHERN AFRICAN PLANT INVADERS ATLAS

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ARC-Plant Protection Research Institute

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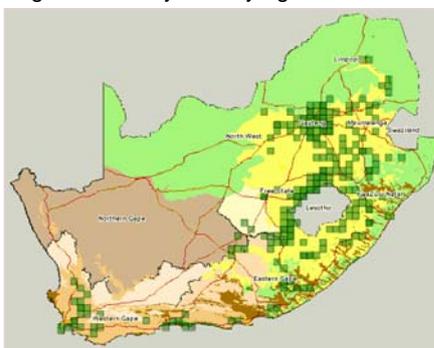
## Progress with SAPIA Phase II

### PLANT INVADERS—A THREAT TO OUR NATURAL RESOURCES

SAPIA Phase II was introduced in the first issue of SAPIA News (October 2006) which is posted at the Weeds and Invasive Plants website (WIP) within AGIS ([www.agis.agric.za](http://www.agis.agric.za)).

Particular emphasis will be placed on emerging weeds and proposed weeds and invaders under the Conservation of Agricultural Resources Act (CARA) and National Environmental Management: Biodiversity Act (NEMBA). Read more about progress with these Acts on page 2.

SAPIA II aims to make all the SAPIA information available to the broad public via the internet at the WIP website. **Information currently available includes distribution maps, species descriptions, species photos and ID expert. There is the option to view species distributions in relation to climate, soil types, vegetation (biomes, and Acocks Veld Types), land use and other variables.** The AGIS developers are busy with the construction of this website. Sometimes the maps are inaccessible—we apologize and ask you to try again later.



Persons wanting to participate in SAPIA can enter records at the WIP website. The current template for entering data is temporary and will be replaced with a more user-friendly template.

More information about SAPIA II can be obtained from Lesley Henderson at [Henderson@sanbi.org](mailto:Henderson@sanbi.org) or go to WIP ([www.agis.agric.za/wip](http://www.agis.agric.za/wip))

Distribution of *Pyracantha angustifolia* in relation to the biomes of South Africa

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### Special appeal

You are invited to participate in the SAPIA phase II project.

Submit records online at :  
Weeds and Invasive Plants website  
[www.agis.agric.za/wip](http://www.agis.agric.za/wip)

### Editor and SAPIA coordinator:

Lesley Henderson  
ARC-PPRI, Weeds Division  
c/o SANBI  
Private Bag X101  
Pretoria  
0001  
South Africa

e-mail: [Henderson@sanbi.org](mailto:Henderson@sanbi.org)  
Tel: 012 843 5035  
Fax: 012 804 3211  
website:  
[www.agis.agric.za/wip](http://www.agis.agric.za/wip)

## Pompom weed update

Pompom weed (*Campuloclinium macrocephalum*) is in full flower and making its presence known by swathes of pink along roads, in fields, on hillsides and valleys. Every summer this South American invader expands its distribution. See overleaf for an updated distribution map. Can you help add any new localities?

If you see isolated plants on your property then take immediate steps to eradicate the plants. Cut off the flowers and seedheads and place inside a plastic bag for burning. Either spray the plants with the registered herbicide Brushoff or dig out the entire plant including the rootstock.

A rust fungus is causing die-back of pompom weed in parts of Pretoria (see overleaf).

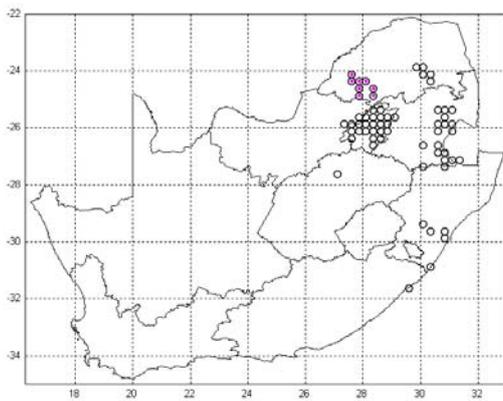


Photo: J.M. Goodall

## Pompom weed threatens the Waterberg

Pompom weed now threatens the relatively pristine Waterberg region in Limpopo Province. A survey in December 2006 by Lesley Henderson and Hildegard Klein of the PPRI's Weeds Research Division revealed an extensive infestation of pompom weed on the Welgevonden Private Game Reserve which borders on the Marakele National Park. Pompom weed was first noticed on Welgevonden only three years ago and the current infestation in the valley of the Grootfonteinspruit follows a burn in November 2005. The Welgevonden managers are aware of the problem and are committed to controlling pompom weed. Unfortunately the spread of pompom weed has been so rapid that now plants occur almost throughout the 33 000 hectare reserve.

The first record of Pompom weed in the Waterberg, near Kareefontein north east of Rooiberg, was submitted to the SAPIA database in January 1999. This site is approximately 30 km due south of Welgevonden. Other records of pompom weed prior to December 2006 were near the entrance to Mabula Game Reserve in January 2002, Vaalwater in February 2003 and Groot Nyloog south west of Nylstroom in February 2006. New localities recorded in December 2006 are on the Hoopdal–Tweeloopfontein road on the northern border of the Marakele Contractual National Park.

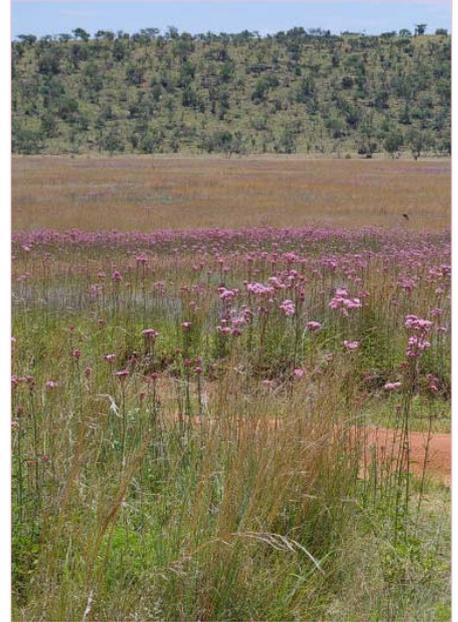


Distribution of pompom weed in South Africa with Waterberg sites in pink

Any new sightings of pompom weed in the Waterberg or elsewhere in South Africa can be sent to Lesley Henderson at [Henderson@sanbi.org](mailto:Henderson@sanbi.org) or entered at the WIP website. Include date, GPS or approximate locality, habitat and abundance.

The pattern of invasion by pompom weed in the Waterberg is similar to that in Gauteng where it initially establishes on disturbed sites, particularly roadsides, abandoned fields and urban open space and then invades grasslands, open savanna and wetlands.

Another invasive alien plant, purple top (*Verbena bonariensis*), is often associated with pompom weed and its presence in an area is a good indicator of suitable habitat for pompom weed.



Purple top, *Verbena bonariensis*

## Rust fungus kills pompom weed

In February 2006 a rust fungus was found to have caused considerable die-back of pompom weed plants in various localities within the Pretoria area. The rust fungus, seen as brown spots, causes yellowing of the leaves and stems, characteristically starting at ground level. The plants die back to the rootstock. Seedlings are killed by the fungus.

The identity of this fungus is currently being investigated by Dr. Alan Wood of the ARC-PPRI in Stellenbosch. Please send localities (and photos for confirmation) of any sightings of the fungus on pompom weed to Lesley Henderson.

## What has happened to the proposed legislation?

The revision of the regulations on weeds and invasive plants under the Conservation of Agricultural Resources Act, 1983 (Act No 43 of 1983) (CARA) will shortly be published for public comment.

Drafting of new legislation under the National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004) (NEMBA) has still not been finalized.

For information on the proposed legislation go to [www.invasive.species@sanbi.org](http://www.invasive.species@sanbi.org)



rust fungus on pompom weed

Photo: S. Nesper

## Emerging weeds

### Australian water-pear

Australian water-pear or brush-cherry (*Syzygium paniculatum*) is an evergreen shrub or tree 3 to 6 m high and is native to eastern New South Wales. It is a member of the myrtle family, Myrtaceae, and is related to the gums or eucalypts.

It is a popular ornamental and hedge plant in South Africa and is being sold by many nurseries as a good bird-plant because of its edible, pinkish-red berries. Unfortunately this is also the means by which it is being spread beyond cultivation into urban open spaces, riverbanks, forest edges and coastal bush. Records of this emerging weed have been received from Pretoria, Durban, Richards Bay, Uvongo, Pieter-

maritzburg, Plettenberg Bay and Cape Town.

#### Proposed legislation:

It has been proposed as a category 5 plant, species under surveillance, and may be listed as invasive after due investigation. No plants may be sold without the purchaser being informed of their legal status.

**Please send records of this species growing outside of cultivation and particularly invading natural or semi-natural habitats.**

NB: go to the WIP website for a full description and more photos of this species.



### Queensland umbrella-tree

Queensland umbrella-tree (*Schefflera actinophylla*) is indigenous in tropical Australasia. It is an evergreen tree up to 15 m high, with digitate leaves—leaflets arranged like the fingers of a hand. The red flowers are arranged in long spike-like inflorescences up to 80 cm long. The purplish fleshy fruits are relished by birds which then disperse seeds to new sites.

This is a popular ornamental tree in the more tropical parts of South Africa. It is already very weedy around Durban and could become invasive all along the KZN coast. It is very invasive in Hawaii.

It is a shade tolerant plant and can invade

undisturbed forest, eventually forming dense thickets that outcompete the indigenous species. It can even grow as an epiphyte in the forks of large trees.

#### Proposed legislation:

It has been proposed as a category 1b plant (requiring control as part of a management plan) in KZN, Mpumalanga, Limpopo and E Cape. It will be illegal to harbour, plant, sell or propagate this species.

The indigenous *Schefflera umbellifera*, false cabbage tree, is a suitable replacement. It can be distinguished by its leaflets that have markedly wavy margins and yellow flowers.



Photo: L. Fish

### Pine cone cactus

Pine cone cactus (*Tephrocactus articulatus*) is a low-growing, clump-forming cactus, similar in appearance to the indigenous Hoodia species. It is indigenous in western Argentina.

It has a white flower similar to the prickly pear but its fruit is dry-walled and contains corky, winged seeds that are adapted to dispersal by wind and water.

Pine cone cactus is invading dry and seasonal watercourses and drainage lines in the arid interior of South Africa. Records have been received from the Northern Cape

and Karoo. It should be declared as an invasive plant in South Africa and all further cultivation banned.



Photos: S. Milton

# ARC-PPRI, WEEDS DIVISION

## ARC-Plant Protection Research Institute

Weeds Research Division  
Private Bag X134  
Queenswood  
0121

Phone: +27 (0)12 356 9840  
Fax: +27 (0)12 356 9852

Contact: Division Manager: Mr. Arne Witt  
e-mail: WittA@arc.agric.za

General enquiries: Mrs. Hildegard Klein  
e-mail: KleinH@arc.agric.za



We are on the Web:

[www.arc.agric.za](http://www.arc.agric.za)

The Weeds Research Division of the 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

## Biological control of invasive plants



**Salvinia (*Salvinia molesta*)  
before and after biocontrol  
with the weevil *Cyrtobagous  
salviniae***

Photos: C.J. Cilliers

Biological weed control is the use of natural enemies to reduce the vigour or reproductive potential of an invasive alien plant. The principle is that plants often become invasive when they are introduced to a new region without any of their natural enemies. The alien plants therefore gain a competitive advantage over the indigenous vegetation, because all indigenous plants have their own natural enemies that feed on them or cause them to develop diseases. Biological control is an attempt to introduce the alien plant's natural enemies to its new habitat, with the assumption that these natural enemies will remove the plant's competitive advantage until its vigour is reduced to a level comparable to that of the natural vegetation. Natural enemies that are used for biological control are called biocontrol agents.

The potential risk posed by a candidate biocontrol agent is determined by biocontrol researchers through extensive host range studies (specificity tests) that are carried out in a quarantine facility. These trials determine the range of plants that a potential biocontrol agent is able to use as host plants throughout its life cycle, as well as its host plant preferences. Permission to re-

lease a biocontrol agent will be sought only if the host-specificity tests prove without doubt that the potential agent is sufficiently host-specific for release in this country. To be regarded as sufficiently host-specific, the candidate agent must be either monophagous (i.e. the insect feeds on only one plant species, the target weed in this case) or it could have a slightly wider host range, provided that none of the additional host plants occur in South Africa or surrounding countries, either as indigenous or introduced crop plants.

South Africa is regarded as one of the world leaders in the field of biological control of invasive alien plants. Since the 1930s we have brought 27 invasive alien plant species under biological control. In the process, 99 species or biotypes of natural enemies were released, 74 of which became established. Remarkable successes have been achieved with either controlling or reducing the invasive potential of many invasive plants including cacti, aquatic weeds, Australian wattles, chromolaena and lantana. Seed feeders feature strongly in many of our projects. Tested and safe biocontrol agents are distributed in co-operation with the *Working for Water* Programme of the Department of Water Affairs and Forestry.