SAPIA NEWS

SOUTHERN AFRICAN PLANT INVADERS ATLAS

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Excellence in Research and Development

WORKING FOR WATER

environmental affairs
Department:
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REPUBLIC OF SOUTH AFRICA

Inside this issue:

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SAPIA newsletters are posted at the ARC website: www.arc.agric.za under 'News Articles'

KZN south coast—biodiversity lost!

The Indian Ocean Coastal Belt that extends from East London in the Eastern Cape northwards through KwaZulu-Natal to the Mozambique border is the most threatened biome in South Africa. The mosaic of forest, bushveld and grassland that constitutes this biome has been largely destroyed and transformed by the development of cities, ports, industries, sugarcane and other plantations, roads and holiday homes. The remaining relics are being bombarded by invasive alien trees, shrubs, climbers, herbs, grasses and ferns—almost all of which, are ornamentals. The tragedy is that the extremely rich indigenous plant biodiversity is being replaced with a species-poor assemblage of alien plants that have little to offer the environment and its wildlife.

This SAPIA News is a plea to the residents and municipalities of the KZN south coast, which has suffered the greatest loss in biodiversity, to preserve what remains of their natural heritage; to control, or eradicate invasive alien plants wherever possible, and to replace them with indigenous plants. Some of the worst invasive plants, and newly emerging species, are illustrated in this newsletter.

A piece of precious coastal forest? Not any more! The relic patches of forest that survive between holiday houses and shops have been reduced to garbage dumps of human litter and invasive alien ornamentals! Pictured here is arrowhead vine or goosefoot, scrambling up the trunk of a tree and a carpet of Singapore daisy—just two of more than 100 alien ornamentals known to be invasive along the KZN south coast.

Requests for information from the SAPIA database and submission of records of invasive plants should be sent directly to Lesley Henderson at L.Henderson@sanbi.org.za. Descriptions and photos of most of the species mentioned in this newsletter can be found at the Weeds and Invasive Plants website: www.agis.agric.za/wip

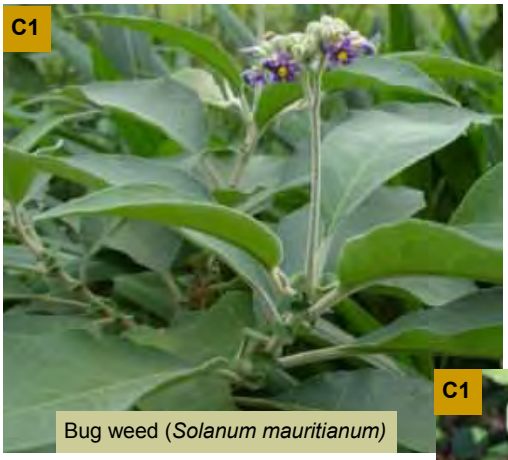
Well established species that are declared under CARA

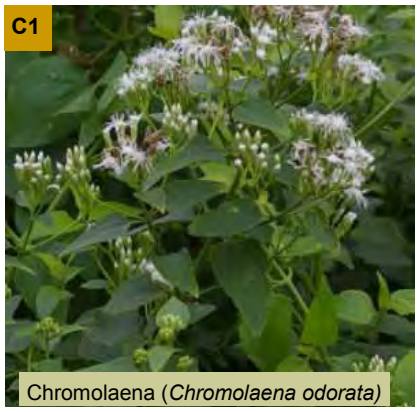
CARA (Conservation of Agricultural Resources Act, Act 43 of 1983), amended in 2001:
C1: category 1: prohibited; no trade or cultivation permitted
C2: category 2: allowed in demarcated areas; permit required;
C3: category 3: no more trade or cultivation of new plants

At least 80 species of invasive alien ornamental plants are well established on the KZN south coast. Other declared species not illustrated here include: peanut butter cassia (*Senna didymobotrya)* (C3), rambling cassia (*Senna bicapsularis*) (C3*), *Senna pendula* (C3*), castor-oil (*Ricinus communis*) (C2*), yellow oleander (*Thevetia peruviana*) (C1), granadina (*Passiflora subpeltata*) (C1), Mauritius thorn (*Caesalpinia decapetala*) (C1), leucaena (*Leucaena leucocephala*) (C2), jambolan (*Syzygium cumini*) (C3*), drooping prickly pear (*Opuntia monacantha*) (C1), mulberry (*Morus alba)* (C3**), pearl acacia (*Acacia podalyriifolia*) (C3*), pom pom weed (*Campuloclinium macrocephalum*) (C1), Formosa lily (*Lilium formosanum*) (C3*), Mexican ageratum (*Ageratum houstonianum*) (C1), ginger lilies (*Hedychium* spp.) (C1), Indian laurel (*Litsea glutinosa*) (C1), strawberry guava (*Psidium cattleianum*) (C3*).


C1
Lantana (*Lantana camara)*


C1
Photo: H Klein
Yellow Mexican sunflower (*Tithonia diversicolor)*


C1
Bug weed (*Solanum mauritianum)*


C1
Chromolaena (*Chromolaena odorata)*


C1
Inkberry (*Cestrum laevigatum)*


C2
Guava (*Psidium guajava)*


C3 *
Seringa (*Melia azedarach)*


C1
Brazilian pepper tree (*Schinus terebinthifolius)*

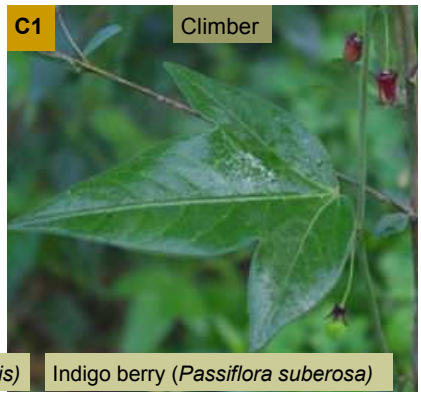

C1
Sword fern (*Nephrolepis exaltata* and *N. cordifolia#)*

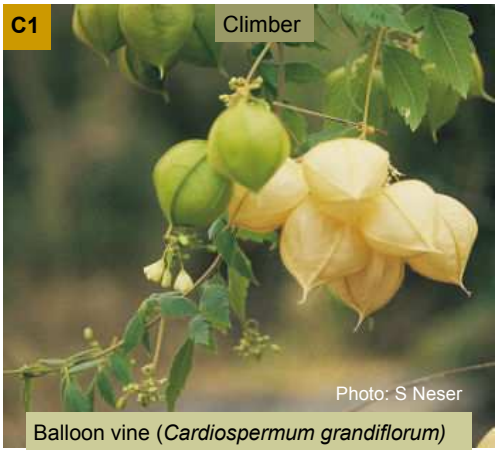
Extremely aggressive groundcovers that can cover large areas

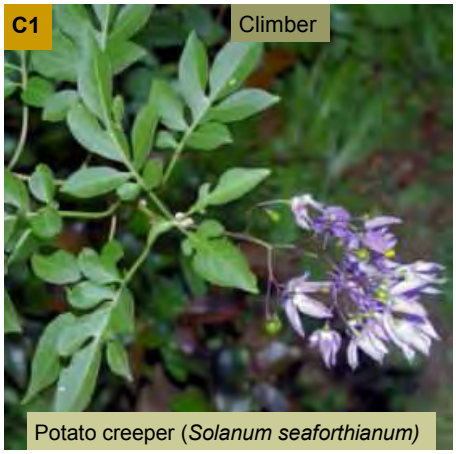

C1
Singapore daisy (*Sphagneticola trilobata)*

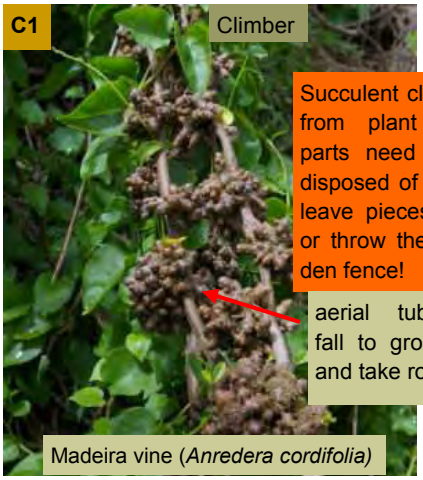
*Several species have been upgraded from category 3 or 2 to Category 1 under the revised CARA which has not yet been promulgated; **mulberry may be upgraded to category 2 under the revised CARA; #sword fern is mostly *N. cordifolia* which has been proposed as category 1 under the revised CARA

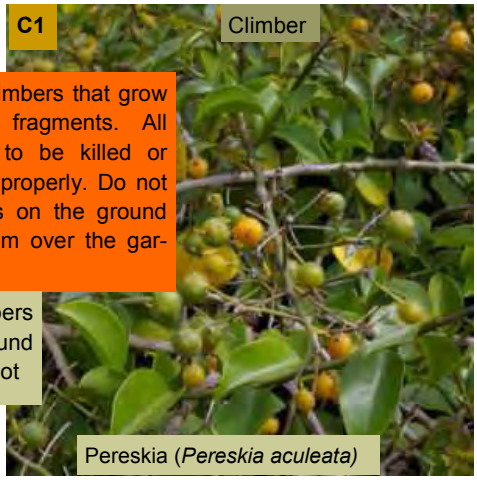
More well established species that are declared under CARA

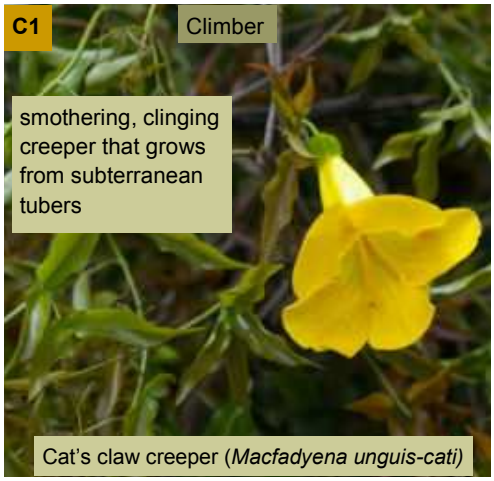












Species proposed under NEMBA

The following species have been proposed as declared invaders under the National Environmental Management: Biodiversity Act, Act 10 of 2004 (NEMBA).

Arrowhead vine or goosefoot (*Syngonium podophyllum*) is a vigorous climber that can make forest trees top heavy and susceptible to wind damage; it also forms a dense ground cover that is impenetrable to other plants. It spreads from plant fragments and from seed.

Arrowhead vine (*Syngonium podophyllum*)

Queensland umbrella tree (*Schefflera actinophylla*)

Schefflera actinophylla, S. arboricola and *S. elegantissima* (false aralia, with toothed leaf margins) can invade forest. Their seeds are dispersed by birds and often germinate in leaf bases of palms or in the forks of trees, growing as epiphytes until their roots reach the ground—much like strangler figs.

Dwarf umbrella tree (*Schefflera arboricola*)

Both variegated and non-variegated forms are present and produce seed

These species pose a huge threat to the conservation of coastal forest. Urgent steps are needed to stop further cultivation and to eradicate these plants.

The indigenous *Schefflera umbellifera* should be cultivated instead of these invasive aliens.

Three-leaf vitex (*Vitex trifolia*)

Australian crimson oak (*Grevillea banksii*)

Shoebutton ardisia (*Ardisia elliptica*) is bird-dispersed and shade tolerant, invading moist forest and watercourses.

a

Spiderwort (*Tradescantia fluminensis*)

b

Wandering Jew (*Tradescantia zebrina*)

c

Creeping inch plant (*Callisia repens*)

a, b & c are dense groundcovers that smother forest undergrowth. All grow from plant fragments which should not be left on the ground or thrown over the garden fence!

More proposed species under NEMBA


Shell ginger (*Alpinia zerumbet*)


Climber

Dutchman's pipe (*Aristolochia elegans*)


Snakeweeds (*Stachytarpheta* spp.)


Canadian elder (*Sambucus canadensis*)


a


b

Tickseed (*Coreopsis lanceolata*) (**a**) and veined verbena (*Verbena rigida*) (**b**) invade grasslands

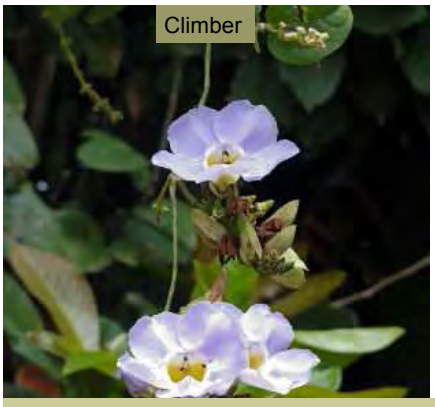
Emerging invasive species


Climber

Silver vine (*Epipremnum aureum*)


Rabbit's foot fern (*Phlebodium aureum*)


Brush-cherry (*Syzygium paniculatum*)


Climber

Blue trumpetvine (*Thunbergia grandiflora*)


Polka dot plant (*Hypoestes phyllostachya*)


Mexican blue-bells (*Ruellia simplex*)

Watch out for these garden escapes: nasturtium (*Tropaeolum majus),* Inca lilies (*Alstroemeria* spp.), scarlet firespike (*Odontonema cuspidatum*), red-cloak (*Megaskepasma erythrochlamys)*. Send records of these species and any others that you are aware of to L.Henderson@sanbi.org.za. Target of early detection: report sightings to alienplants@sanbi.org.za (see SAPIA News no. 23)

What can you do to help conserve biodiversity on the KZN coast?

Eradicate invasive plants on your property. If this is not possible then you should try to stop them from spreading.

WESSA (Wildlife and Environment Society of South Africa) has a handbook called Invasive Alien Plants in KwaZulu-Natal—Management and Control. It deals with 40 of the most common invasive species. It is available from WESSA KZN offices at 031 201 3126

stop the spread | WESSA | A National WESSA Campaign

To raise awareness of the socio-economic and environmental impacts caused by invasive alien species

Contact Lynne Thompson lynne@stopthespread.co.za **Tel:** 031 266 2603 **Fax:** 031 266 2603 **Cell:** 072 183 7530 **URL:** www.wessa.org.za

Replace alien plants in your garden with indigenous plants, preferably those that are locally indigenous.

The two books shown here are recommended as a start for anyone wanting to make a contribution to conserving indigenous plant and animal biodiversity.

Bring Nature Back to Your Garden, by Charles and Julia Botha, 2010, is available from the Flora and Fauna Publications Trust, c/o Natal Herbarium, Botanic Gardens Road, Durban, 4001. www.floratrustkzn.co.za

112 Plants for You and Your Bushbuck, by Geoff Nichols, 2009, available at www.floratrustkzn.co.za

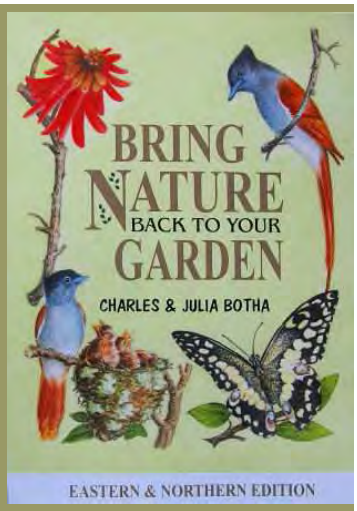
Other recommended literature on indigenous plants:

A Field Guide to Wild Flowers of KwaZulu-Natal and the Eastern Region, Elsa Pooley

Pooley's Trees of Eastern South Africa, Richard Boon

Gardening with Indigenous Shrubs, David & Sally Johnson, Geoff Nichols

"Every foreign plant in the garden is a wasted opportunity to contribute to local biodiversity"



A guide to enhancing habitat value by planting local groundcovers and shrubs that feed and shelter wildlife.

Contact Geoff Nichols Horticultural Services, for advice on indigenous plants, habitat gardening, and eradication of invasive alien plants: P.O. Box 83, Anerley, 4230, phone: 039 681 3052, mobile: 083 627 3945, e-mail: grnicho@iafrica.com

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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