

INVASIVE ALIEN & PROBLEM PLANTS IN KLOOFENDAL NATURE RESERVE & OTHER SIMILAR AREAS IN GAUTENG & NORTHWEST PROVINCE

by Karin Spottiswoode



Introduction

As part of the Friends of Kloofendal, which was founded in August 2003, I have been very involved in the control of Alien Invasive Plants in Kloofendal Nature reserve for many years, with members of the Friends of Kloofendal, with other volunteers, scout groups and EPWP workers employed by Johannesburg City Parks& Zoo. This booklet was started as an aid towards teaching volunteers and workers how to identify the Alien Invasive plants inside the Kloofendal Reserve, and also distinguish them from similar looking indigenous, non-invasive plant species.

With the aid of books on AIP control by local expertise as well as various people working on AIP elsewhere in Johannesburg, I included their suggestions on AIP control in my book.

However, I have always been reluctant in the use of herbicides as they do have an impact on life of plants and animals (insects) close to the AIP to be targeted. Our methodology in removal of AIPs since November 2020 has been mechanical in the form of simply pulling out small plants where possible, using tree poppers for bigger plants. Trees too big for removal by a tree popper have been sawn or cut down, bark stripped down to the roots if single stemmed, multiple stemmed trees simply cut down, with a two monthly follow-up cutting away regrowth – a few of such follow-ups are required for the tree to be starved and die.

Mechanical control is a big task but, judging by the mixed success seen in previous use of herbicides in AIP control, the mechanical method looks more effective and not harmful to the natural environment.

In a four months AIP control project starting in November 2020 ,and subsequent AIP control work in Kloofendal, a daily record is kept keeping of counting and recording the species and number of plants removed of each species, small, medium and large plants, in the different locations in the reserve, in a recording book.

As many species all like to grow in the same disturbed area, it makes sense to work on all of them in an area rather than just focusing on one species.

Removing AIPs does not only involve removing the plants, rootstock and all where possible, but also removing the fruit with the seeds.

My report on work done last November 2020 into 2021 can be accessed at www.kloofendalfriends.org.za.

This booklet includes the South African declared AIPs, as well as non-declared invasive problem plants occurring in the Kloofendal Nature Reserve. I have included some AIPs which do not occur in Kloofendal, but do occur in other Johannesburg reserves such as Klipriviersberg Nature Reserve, and the Magaliesberg.

My aim is to have the Kloofendal Nature Reserve used as a training venue for learning what harm is caused by AIPs to our natural environment and Johannesburg in general, identification of these plants, methodologies used to remove them and accurate record keeping, including recording location where work is done, allowing for a management plan which includes the necessary follow-up, checking up how effective the AIP has been, and continue cutting away new growth and pulling out AIPs where possible.

Functions of this book

- (i) Create awareness for the need of AIP control
- (ii) Identification of AIPs in Kloofendal Nature Reserve and other natural areas in Gauteng and North West Province.
This needs to be done out in the field.
- (iii) Learn about methodologies used in removing the AIPs with minimal damage to the natural environment.
- (iv) Spread to other people, the need for AIP control, knowledge on AIP identification, control and eradication methodology
- (v) With the aid of knowledge and experience gained, create jobs in AIP control work in Gauteng and Northwest province

What is the problem having AIPs growing in the reserve and elsewhere?

- (i) It is against the law (NEMBA AIS Regulations – see below)
- (ii) AIPs replace our indigenous vegetation in a big way!
- (iii) Few indigenous animals and fungi can utilize AIPs.
- (iii) AIPs like growing in or near water, consuming lots of water used at expense of our indigenous plants and animals.
- (iv) AIPs often grow into big trees, thereby consuming extra lots of water, as compared to our indigenous plants which tend not to get as big e.g. Black Woods, mature Black and silver Wattle trees, Eucalyptus trees, Pine trees etc.
- (iv) AIPs are very good at invading natural areas, through a suckering system, multiple seed production, nestling close to indigenous plants while small, which offers the AIPs protection from the elements such as providing shade from the drying out effect of the sun, protection from wind, frost, fire.
- (v) The AIP roots can be intertwined with the indigenous plant roots (Lantanas do that), competing with the indigenous plants for water and minerals in the ground and the useful functions provided by fungi and animals for improving growth conditions e.g. termites' contribution to making compost, and loosening the soil allowing for root growth.
- (vi) AIPs can make the soil and water in which they grow unsuitable for indigenous plants to grow there (exuding poisonous substances from their roots into the ground and water – e.g. Black Wattle and Silver Wattle) a useful technique to allow the AIPs to eliminate competition from indigenous plants.
- (vii) AIPs are often poisonous, unpalatable, dangerous to animals and plants, such as *Cestrum laevigatum*, *Datura stramonium*.
- (viii) AIPs have strong defence mechanisms making eradication pretty difficult e.g. *Lantana* thorns, *Pyracantha* spines, *Cestrum laevigatum* poisonous fumes and sap, allergic reaction caused by hairs on Bugweed, plentiful seeds such as Pompom weed, non-declared invaders such as Amaranthaceae and Boraginaceae family multiple burry seeds which make work on AIPs in disturbed areas very difficult.

NEMBA AIS Regulations

National Environmental Management Biodiversity Act (NEMBA)
South Africa's National listed Alien Invasive Species (AIS)
Regulations, 2004

Invasive Species are divided into four categories:

- * Category 1a: Invasive species which must be combatted and eradicated. Any form of trade or planting is strictly prohibited.
 - * Category 1b: Invasive species which must be controlled and wherever possible, removed and destroyed. Any form of trade or planting is strictly prohibited.
 - * Category 2: Invasive species, or species deemed to be potentially invasive, in that a permit is required to carry out a restricted activity. Category 2 species include commercially imported pine, wattle and gum trees. Plants in riparian areas are a category 1b.
 - * Category 3: Invasive species which may remain in prescribed areas or provinces. Further planting, propagating or trade, is however prohibited. Plants in riparian areas are a Category 1b
- For more information on Invasive Species and how to fill out a Declaration form please follow this link: www.invasivespeciesconsultant.co.za

The NEMBA regulations 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.

How to use this book

The plants are divided into 8 categories

(Bromilow2010, p. 9)

- (i) Grasses
- (ii) Trees
- (iii) Shrubs
- (iv) Herbs (not woody)
- (v) Flat-growing herbs
- (vi) Creepers
- (vii) Succulents
- (viii) Water weeds

Within each category, the plants are arranged in alphabetical order according to the Latin genus name.

Each plant is allocated a whole page.

Each page contains:

- (i) The Latin Genus and species name
- (ii) The common name of each plant, mostly English name, at times also Afrikaans
- (iii) The number allocated to the plant if it is listed on the South Africa's National Listed Invasive Species list, and its declared category
- (iv) If not listed (not declared), then the country where it comes from, and reason why it is viewed as a problem invader plant.
- (v) Colour Photograph of each plant, including, where possible, distinguishing features such flowers, fruit and leaves.
- (vi) How to distinguish the plant from similar looking indigenous, non-invasive plants.
- (vi) Methodology (Treatment) given by various knowledgeable people in the field of AIP control. Please bear in mind, that my preferred methodology, is mechanical or biocontrol, avoiding the use of herbicides.
- (vii) Where found – included in some of the plant species.

Family: Poaceae

Grass

Common names: Giant Spanish Reed:



Arundo donax is a larger plant than the indigenous *Phragmites australis* (Common reed), usually with crooked culms and broad leaf lobes at the base of the leaf blade, and it does not necessarily grow in or near water. (van Oudtshoorn, F. 2012. pg 113)



Where found?

In and near watercourses all around Johannesburg but not in Kloofendal Nature reserve

Characteristics



Lobes at leaf base



Inflorescence flowers pink, seeds, cream colour

Not to be confused with

Phragmites australis

Common reed which grows in or near sources of water in dense stands

Inflorescences similar but *P. australis*' inflorescence is more open and feathery



Family: Poaceae

Grass

Common names: Pampas grass



Margins of leaves are sharp. Some people have allergic reaction (bad rash) to the leaves when trying to take out the grass. The flowers can cause irritation to eyes and nose respiratory tract irritation

Where found?

Introduced into South Africa from South America to stabilize the mine dumps and as an ornamental plant. It grows in the goldmine and power station on eastern side of reserve. On top Eastern part of Rocky Ridge (Yellow) Trail next to path

Characteristics



Likes to grow in wet areas, but can tolerate harsh growing conditions too. It has rhizomatous roots and difficult to destroy by fire.

Treatment

Cut off flowers before seeding, bag them, leave to rot in the closed up bag. Dig out stumps Spray if regrowth (WC) Because of its rhizomatous roots, it is resistant to burning.

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Pennisitum setaceum

1b

Family:

Grass

Common names: Fountain grass



Strong pioneer, replaces indigenous vegetation

Where found?

Near wetland

Introduced as ornamental grass from North America.

Characteristics

Pennisetum clandestinum

Family: Poaceae

Common names: Kikuyu grass

Grass



Dense, mat forming perennial grass with rhizomes (above ground stems, runners) see picture above and below) and stolons (underground stems)



Where found?

Amphitheatre lawn, disturbed areas in the reserve such as Southern, upper part of reserve at sewerage leak site, place where building structures have been.

Characteristics



Van Oudthoorn, F. 2012. Guides to grasses of South Africa, pg. 257

Flowers – very small, hidden partly by leaf sheaths, only white feathery stigmas or anthers are visible (Henderson, L. 2001, pg. 15)



Not to be confused with *Cynodon dactylon*/ Couch grass, an indigenous grass, also with many stolons and rhizomes

Family: Fabaceae

Tree

Common names Bailey's wattle:



Characteristics

Leaves, greyish, silvery blue, arranged spirally around the branchlets, bipinnate, small, a gland occurs at the junction of each pinnae pair



Family: Fabaceae

Tree

Common names: Silver Wattle



A. Dealbata has raised gland at each junction of pinnae pairs.
Pale to bright yellow, globular flowerheads, Flowering July, August

Characteristics:

Evergreen, unarmed (no thorns), bipinnately compound leaves, very bluish in colour, silvery grey to light green whereas *A. mearnsii* is more dark, olive green.

Branchlets shallowly ridged often tinged with grey or purple



Not to be confused with
A. mearnsii (Alien invader)
A. Caffra (indigenous)
Elephantorhiza elephantine (indigenous)
Chamaecrista comosa (indigenous)

Treatment

Cut low down, remove bark all the way down to roots, remove new sprouts every six weeks, until no more sprouting

Family: Fabaceae

Tree

Common names: Pepper wattle tree



Unarmed (no thorns), evergreen tree, 5-10 meters high – less than 15 m (Henderson, 2001, pg 221)



Bipinnately compound leaf (twice divided). Leaflets lance shaped

Characteristics



Fruit – straight pods



Flowers in globose heads, in terminal panicles, cream coloured.

Treatment

As for *A. dealbata*

Family: Fabaceae
Common names: Black Wattle

Tree



Unarmed, bipinnately compound leaves (twice divided), dark olive green, finely hairy, growth tips golden hairy. Branchlets shallowly ridged



Characteristics

Extra floral nectary (raised glands) at, and between junctions of pinnae pairs



Pale yellow or cream globular flower heads, flowers August, September – later than *A. dealbata*

Usually found surrounded by younger plants.

Not to be confused with

A. Caffra – indigenous. Young plants have hooked thorns



Elephantorrhiza elephantina



Chamaecrista comosa

Treatment

As for *A. dealbata*

Family: : Fabaceae

Tree

Common names: Australian Blackwood



Young Blackwood tree, very green, firm leaves, pointing upwards



Creamy pompom flowers with firm leaves sticking out in between

Where found?

All over Kloofendal, older ones usually are surrounded by young ones, growing in the midst of copses of indigenous plants



Leaves – phyllodes -leaf-like petiole (stalk) with no leaf blade, greyish turning dark green, erect straight to slightly curved with 3-7 prominent longitudinal veins. Often on young plants and coppice shoots, the phyllodes are bipinnately compound. Not to be confused with



Searsia (Rhus) lancea which has a trifoliate leaf, with each leaflet having a single longitudinal vein

Treatment

As for *A. dealbata*

Family: Fabaceae

Tree

Common names: Pearl Acacia



Phyllodes - leaf-like petiole (leaf stalk) with no leaf blade, silvery grey to dull green, with a single midrib.

Characteristics

Flowers in June - August



Bright yellow, globular flowers in long sprays (Henderson 2001, pg. 166)

Flowers June – August - winter time

Not to be confused with *Eucalyptus cinerea* (Florist's gum (Penny gum))



Leaves are silvery, coin shaped, and have the typical Eucalyptus smell

Treatment

Cut low and spray stump

Family: Simaroubaceae
Common names: Tree of heaven

Tree



Flowers

Grows into big dense stands, suckers profusely.

This invasive, odiferous tree of heaven is toxic to other plants. Allelopathic components chemically restrict growth of neighboring plants. A thick mat of lateral roots that particularly prevent native plants from gaining ground.



Leaves of the Tree-of-heaven are pinnately compound (once divided), meaning they have a central stem (red) in which leaflets are attached on each side. The leaflets are lance-shaped with smooth or "entire" margins. At the base of each leaflet are one to two protruding bumps called glandular teeth.

Where found?

Next to dam

<https://bygl.osu.edu/node/1058>

Fruits are flat pods

Winged seeds



Not to be confused with
Trema orientalis – indigenous tree which occurs in the Magaliesberg, not in Kloofendal



Simple leaves, alternately arranged, leaf margins are finely serrated, fruit are drupes, turning black when mature

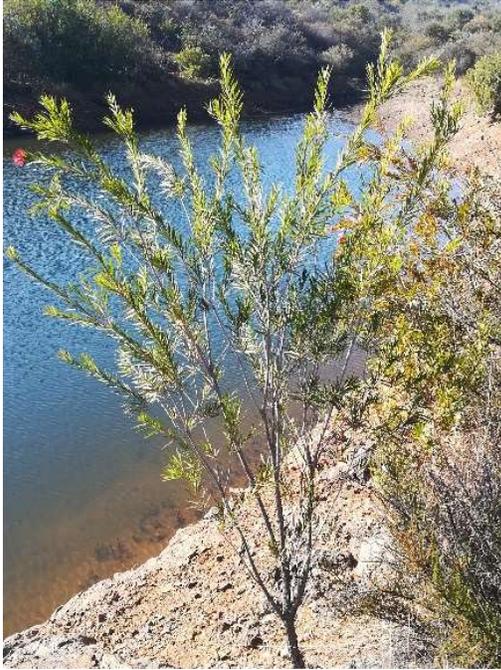
Treatment

Plant should be cut down and physically removed. Follow up to ensure that root suckers are not formed (Bromilow 2010)

Family: Myrtaceae

Tree

Common names: Weeping bottlebrush



flower

Where found?

On embankment of dam

Characteristics



fruit

Treatment

Unwanted plants should be cut down and removed (Bromilow, 2010)

Family: Lauraceae

Tree

Common names: Camphor tree



Leaves bright green, shiny, blue grey beneath, reddish or coppery coloured when young, camphor scented when crushed. Leaves are distinctly three-veined



<https://namesoftrees.blogspot.com/2020/07/cinnamomum-camphora.html>



Flowers yellowish or green-white, very small, in dainty panicles.

Where found?

In wetland

Characteristics

Evergreen tree, 10-26 meters high

<https://pharmacy.nirmauni.ac.in/a-medical-significance-of-camphor-plant-cinnamomum-camphora/>



Fruit green berries, turning black at maturity

Treatment

Basal bark treatment or cut down and chemical treatment of stump (Bromilow, 2010)

Family: Celtidaceae

Tree

Common names: Nettle tree, Netelboom



Leaf of *Celtis australis* has coarse hairs and a tapering tip



Where found?

Kloofendal wetland – hybridised with *C. Africana* & *C. sinensis*

Characteristics



Not to be confused with



Celtis Africana, which has leaves covered with hairs, base asymmetric, margin toothed over upper half or two-thirds. *C. Africana* is indigenous



CARA X3

Celtis sinensis

Family: Celtidaceae

Tree

Common names: Chinese nettle tree, Chinese netelboom



Leaf of *Celtis sinensis*
glossy green and hairless leaves



Where found?

Kloofendal wetland

Not to be confused with



The indigenous *Celtis Africana*,
which has leaf covered with hairs,
base asymmetric, margin toothed
over upper half or two-thirds



79, Cara X3'
Indigenous
C. africana

***Celtis australis*, *Celtis sinensis* & *Celtis africana* hybrids**

3

Family: Celtidaceae

Tree

Common names Nettle tree, European hackberry:



[Celtis australis](http://www.maltawildplants.com/CANB/Celtis_australis.php)

http://www.maltawildplants.com/CANB/Celtis_australis.php

Rough furry hairs, like sandpaper texture, on leaf surface, serrated margins all the way round



Leaf of *Celtis sinensis* – smooth and shiny, quite long compared to *C. africana*

Where found?

Hybrid of all three *Celtisses* found predominantly in Kloofendal wetland and around amphitheatre area.

Characteristics



Celtis hybrid in Kloofendal



Celtis africana leaf more rounded, soft hairs on leaf surface, edges often turn yellow. Serrated margins on distal 2/3rds of leaf

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Cestrum aurantiacum

1b

Family: Solanaceae

Tree

Common names: Orange cestrum



Where found?

Western side of reserve amongst
cut down Eucalyptus trees

Family: Solanaceae

Tree

Common names: Crimson cestrum



Characteristics

Stems and leaves bruise easily, emitting an unpleasant smell.
Whole plant is poisonous

Where found?

In streambed at broken bridge on yellow (Rocky Ridge) route along west side of reserve

Family: Solanaceae

Tree

Common names: Inkberry = bad name as *Phytolacca octandra* is also Inkberry, Chilean cestrum

These plants can form dense stands and coppice vigorously. Whole plant is poisonous, the green fruit and young shoots in particular (Bromilow, 2010 p. 159)

Characteristics:

Very distinctive unpleasant smelly leaves and branches.



Leaves arrangement alternate.

Flowers greenish-yellow, tubular in axillary clusters. Fruit are berries.

Unripe fruit usually green in June & July.

Treatment:

Cut down to ground level & spray cut stump with herbicide (Wendy Carstens)

Chemical control best, or physical total removal of entire plant on account of vigorous regrowth (Bromilow, 2010)

Where found?

All over reserve, common, particularly next to fencing

Family: Rosaceae

Tree

Common names: Silverleaf Cotoneaster



Arching branches



Where found?

All over reserve, but mainly found along stream, prolific on eastern and southern part of stream, and along southern path above dam

Characteristics



Leaves grey green, glabrous and shiny above.

Red fruit, leaves small with clear veins



Not to be confused with *Pyracantha*, which has sharp spines. *Cotoneaster* has no thorns nor spines. *Cotoneaster* fruit is red, *Pyracantha* fruit is orange

Treatment

Bag fruit, cut & poison

Pull out young plants.

No slashing. (Wendy Carsten)

Family: Rosaceae

Tree

Common names: Silverleaf cotoneaster:



Van Wyk, J. 2018, pg 117

Characteristics

Leaves dull green, glabrous (without hairs) above and densely white or yellowish felty underneath.

Bright red berries in autumn

Not to be confused with *Cotoneaster franchetti*, which has smaller leaves, more rounded leaves, which look silvery

Where found?

Mainly found along stream, on eastern and southern part of stream, and along southern path above dam

ND

Eucalyptus cinerea

Family: Myrtaceae

Tree

Common names: Florist's Gum, Penny gum

Native to Australia, naturalised in South Africa



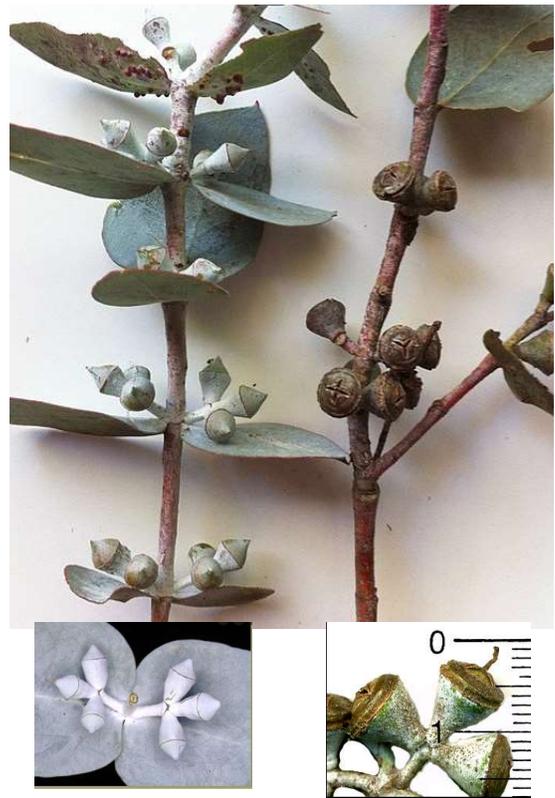
Juvenile leaves opposite each other for many pairs, stem-clasping, stalkless, to 8 cm long, 50 mm wide, glaucous (Glaucous is a colour that is bluish-green or bluish-grey. It refers to a pale bluish waxy or powdery layer on the leaf surface)



Characteristics



White flowers with no petals



Flower Buds in groups of three (left) and conical to bell shaped fruits (right)
Not to be confused with *Acacia podalyriifolia*, which does not smell of Eucalyptus, has sharp tip at end of leaf

ND

Eucalyptus cinerea

Family: Myrtaceae

Common names:

Tree



Characteristics



Juvenile leaves opposite each other for many pairs, stem-clasping, stalkless, to 8 cm long, 50 mm wide, glaucous. **Crown** of mature trees composed of **juvenile**, **intermediate**, and **adult** leaves, in varying proportions. Intermediate leaves opposite each other, 4.8–9 cm long, 20–45 mm wide, stalked. Adult leaves **alternating** up the stems or opposite each other, 3.5-14 cm long, 12-50 mm wide, dull, grey-green to glaucous, stalked.



ND

Eucalyptus camaldulensis

Family: Myrtaceae

Tree

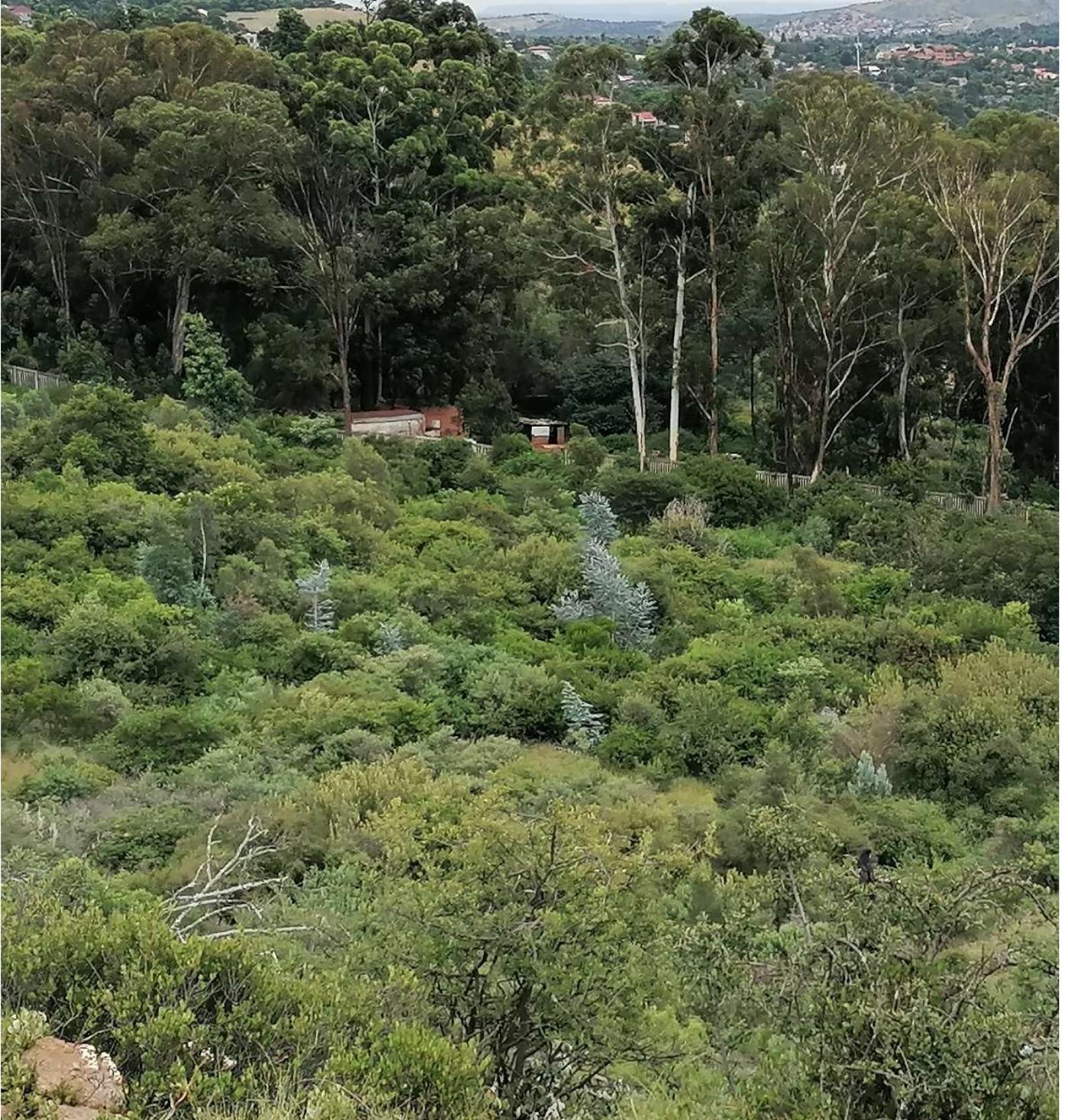
Common names:



Characteristics

Leaves pale, dull green, adult leaves 120-220 mm long, narrow, pendulous





Tall Eucalyptus trees just outside reserve, bordering onto reserve, and many young Eucalyptus trees (grey green leaves) inside reserve

Family: Oleaceae

Tree

Common names: Glossy privet, Nepal privet, White wax tree

Characteristics



Shiny, firm, bright green leaves



Sprays of white flowers,
flowering in summer



Fruit, blue-black berries,
popular food for birds

Where found?

Near or in water

Treatment:

Bag fruit, cut down. Since stumps can easily regrow, regrowth removed every six weeks until dead

Family: Oleaceae

Tree

Common names Californian privet:



Evergreen shrub to 4 meters tall, native to Japan
 Similar to *Ligustrum japonicum*, but leaves are much smaller – length 25 to 80mm. Size of leaves of *L. japonicum* are 40-150mm

Where found?

In stream bed

Characteristics



Panicles of white flowers appear in spring and early summer, have a slightly unpleasant smell



Fruit – black, shiny berries following the flowers, can last well into winter

Not to be confused with

Ligustrum japonicum

Treatment

As for *L. japonicum*

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Melia azedarach

3

Family: Meliaceae

Tree

Common names: Syringa



Where found?

Characteristics



Not to be confused with

Treatment

Debark and spray

Morus alba

Family: Moraceae

Tree

Common names: White mulberry

Characteristics

Not to be confused with
Words

Where found?

Words

Treatment

Words

Pinus patula

Family: Pinnaceae

Tree

Common names: Patula pine

Characteristics

Not to be confused with
Words

Where found?
Words

Treatment
Words

273

Pinus roxburghii/ Pinus longifolia

2

Family: Pinaceae

Tree

Common names: Longifolia pine

Characteristics

Not to be confused with
Words

Where found?

Invades forest margins & grassland

Treatment

Words

282

Pittosporum undulata

1b

Family: Pittosporaceae

Tree

Common names:

Characteristics

Not to be confused with
Words

Where found?

Words

Treatment

Words

288

Populus x canescens

2

Family: Salicaceae

Tree

Common names: Grey poplar, Matchwood poplar

Characteristics

Not to be confused with
Words

Where found?

Not in Kloofendal, but plentiful in
streams in Magaliesberg

Treatment

Words

291

Prunus serotina

1b

Family: Rosaceae

Tree

Common names: Black cherry, Wild cherry



Flowers arranged in catkins



Flowers

fruit

Photographs Jan van Wyk

Where found?

In amongst other trees

Characteristics



Finely serrated leaf, red petiole.
Leaf arrangement is alternate



Not to be confused with
Prunus africana, leaves of which have
a smooth margin.

Treatment

Words

297

Pyracantha angustifolia

1b

Family: Rosaceae

Tree

Common names: Yellow fire thorn, Black cherry



Viscuous spines covered by leaves

<https://www.google.co.za/#q=pyracantha+angustifolia> -



Fruit

Characteristics

Vicious spines, bright orange berries. Leaves dark green above, grey downy below

Not to be confused with *P. Crenulata* has leaves with shallowly toothed margin

Where found?

Next to path to dam and in the wetland

Treatment

Words

Family: Fabaceae

Tree

Common names: Black locust, False Acacia



In young *Robinia pseudoacacia* the leaves are simple. Thorns are already very vicious looking, coming out in pairs



Simple and compound leaves on the same bush. Sharp, strong thorns

Where found?

Infestation found on north eastern border of reserve, bordering on neighbouring gardens.

Characteristics



Typical white Acacia flowers



In older *Robinia pseudoacacias* the leaves are compound, thorns vicious even on stem.

Not to be confused with

Treatment

Bromilow: "Physical removal requires care and persistence."

Salix babilonica

Family:

Tree

Common names: Weeping willow

One of the most prominent invaders of the Grassland biome of South Africa (Henderson 2007). They are a threat to replace the indigenous species

Characteristics

Not to be confused with
Words

Where found?

Not in Kloofendal but along streams in parks in Johannesburg

Treatment

Words

Family: Caprifoleaceae

Tree

Common names: *Sambucus canadensis*

Canadian elder/ American(or sweet) elder/Kanadese vlier



Characteristics



Not to be confused with
Words

Where found?

In wetland

Treatment

Words

339

Solanum mauritianum

1b

Family: Solanaceae

Tree

Common names: Bugweed



Characteristics

Big leaves with fine hairs, distinctive strong, unpleasant smell upon touching leaves and branches



Where found?

In disturbed ground

Not to be confused with *Vanguaria infausta* (Wild Medlar)—young plants look similar, but *Vanguaria* leaves don't have the strong, unpleasant smell of the Bugweed



Treatment

Bag fruit & seed

Cut down to ground level, debark with axe. Cut away new growth

Pull out if plant is young

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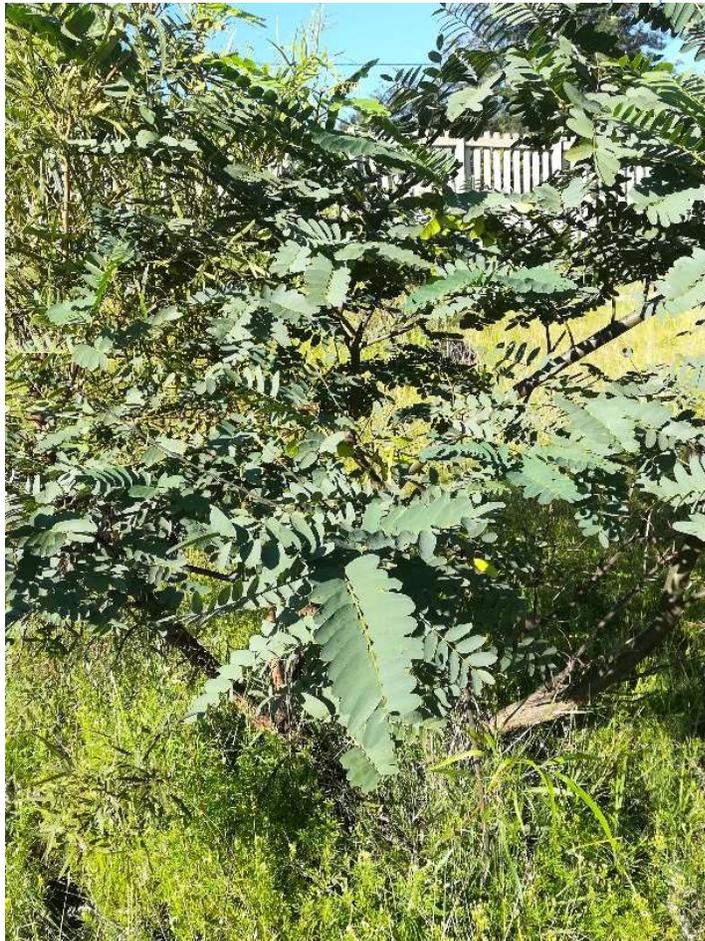
Tipuana tipu

1b

Family: Fabaceae

Tree

Common names: Tipu tree



Characteristics

Words



fruit

Where found?

Upper south eastern part of reserve

Not to be confused with

Words

Treatment

Words

Proposed weed
& invader X3

Ulmus parviflora

Family:

Tree

Common name: Chinese Elm



Characteristics



Serrated leaf margins



Flat seed pods

Not to be confused with
Words

Treatment
Words

Where found?

Eastern part of reserve near house
neighbouring the reserve

104

Crotalaria agatiflora

1b

Family: Fabaceae

Shrub

Common names: Bird flower



Characteristics



Where found?

Streambed above dam, and
sewerage leak area on top of
Rocky Ridge Trail

Treatment

Cut down to 1 meter above ground,
debark & poison (Bromilow)

Family: Verbenaceae
Common names: Lantana

Shrub

Can be toxic to cattle



Characteristics



Leaves serrated margins, fruit look like small green pinecones

Not to be confused with



Prickly branches and leaves



Lippia javanica

Where found?

Spread out throughout reserve amongst rocks

Treatment

Bag flowers & seeds.

Dig out small plants. Big ones cut down and spray. No slashing!

334

Senna septemtrionalis

1b

Family: Fabaceae

Shrub

Common names: Arsenic bush, Smooth senna

Characteristics

Not to be confused with
Words

Where found?
Not in Kloofendal but in
Magaliesber

Treatment
Words

Seriphium plumosum/ Stoebe vulgaris

Family: Asteraceae

Shrub

Common names: Bancrupt bush, Slangbos



Characteristics

It invades arid and semi-arid grasslands as it is unpalatable and reduces the carrying capacity there.

White galls, small flowers are brown in colour

Not to be confused with
Words

Treatment

Salt can also be sprinkled at the base of each stem; it alters the salinity enough to inhibit growth. Thick infestations can be burned, regrowth sprayed and slashed. Follow-up treatments and the adoption of proper land management practices are critical factors for long-term control.

Where found?

Throughout reserve

335

Senna punicea

1b

Family: Fabaceae

Common names: Red Sesbania

Shrub



Where found?

Wetland stream

Characteristics



Not to be confused with
Words

Treatment

No slashing at that induces vigorous growth. Should be sprayed with soil or foliar spray and physically removed at beginning of growing season

358

Tecoma stans

1b

Family: Bignoniaceae
Common names: Yellow bells

Shrub

Characteristics

Not to be confused with
Words

Where found?
Words

Treatment
Words

CARA 1

Achyranthus aspera

weed

Family: Amaranthaceae

Herb

Common names: Burweed, chaff flower, haak-en-steek-bossie



Characteristics

Where found?

Words

Treatment

Easily controlled by cultivation

21

***Ageratina adenophora* (*Eupatorium adenophorum*)**

1b

Family: (Family: Asteraceae)

Herb

Common names: Crofton weed, Mexican devil, Snake root



Characteristics:

Grows in or near water.

Leaves are triangular.

Stems and petioles are red

Broken branch or leaves have a strong, unpleasant smell

Unpalatable to cattle, toxic to horses.



Not to be confused with
Plectranthus

Treatment

Try to eradicate before flowering.

Uproot plant by grabbing hold of base & pulling. If it does not come out easily, cut off roots in soil from above, close to base & use tool to lever out. Roots left behind will not grow again, but stems will. Discard on dry rock away from stream far enough from stream so that plant cannot be swept back into stream.

Where found?

In Kloofendal. Abundant in Wilgespruit stream along Christiaan de Wet Road

43

Argemone ochroleuca

1b

Family: Papaveraceae

Herb

Common names: White flowered Mexican Poppy

Poisonous!



Can cause poisoning, even fatalities in humans and stock

Characteristics



Prickly invader. Grey prickly leaves, typical poppy flower.

Exudes a bright yellow sap and has a distinctive odour when crushed

Where found?

Inlet of dam

Partially controlled (2019)

Treatment

Bag seeds & flowers & pull out plants. No slashing.

Bidens pilosa

weed

Family: Asteraceae

Common names: Blackjacks

Herb



Characteristics

Yellow flowers, prickly seeds which cling onto socks & clothes, animal fur.

Troublesome weed can host a fungus disease which can attack several crop plants

Where found?

Pioneer in any disturbed area

Treatment

Ruderal weed, pioneer. Indigenous plants will take over in natural succession

ND

Galinsoga parviflora

Family: Asteraceae

Herb

Common names: Gallant soldier, Knopkruid

Flowering time: Summer

Characteristics



Not to be confused with
Words

Where found?

Treatment
Words

Family: Asteraceae

Herb

Common names: Pompom Weed



Leaves and branches have rough, furry hairs

Where found?

Amongst grasses, mainly in sunny areas. If finding one, there will be more

Characteristics

Seeds become brown when ripe, fall off the flower very easily

Treatment

Bag seeds & flowers & dig out plants, make sure that the root crown is removed, as the roots without the crown will not grow again.

Leather gloves recommended as leaves and stems have coarse hairs
No slashing.

Biocontrol available (Klein, H. & Nesar, O. 2018)

Family: Cannabaceae
Common names: Indian shot

Herb
Hybrids not listed



Characteristics

Strong rhizomatous root,
difficult to eradicate

Where found?

In flower bed in Kloofendal
amphitheatre area

Treatment

Dig out & remove rhizomes (Bromilow,
2010)

Family:

Herb

Common names: Scotch Thistle, Spear Thistle



flower

Where found?

Wetland and area adjacent to neighbours on N/E side of wetland

Characteristics

Very spiny leaves and seeds



Seeds – lots of them!

Not to be confused with Words**Treatment:** Ruderal weed, pioneer, will be overtaken by indigenous vegetation

Conyza bonariensis

Family: Asteraceae

Herb

Common names: Flax-leaf fleabane, Horseweed fleabane, Armoedskruid



Characteristics

Lots of fluffy seeds

Where found?

Wetland and in grassland near small cottage on lower west side of reserve

Treatment

Pioneer, ruderal weed, will get overtaken by indigenous vegetation

Cyathula cylindrical var cylindrical var. cylindrical
Cyathula cylindrical var. cylindrical

Family: Amaranthaceae

Herb

Common names: Burr weed



Van Wyk, J. Imaged list of Wild Flowers of Kloofendal Nature Reserve. 2015

Where found?

Around Dassie Rock on Dassie Trail (red route). Seeds stick onto dassie fur so seeds are easily spread

Characteristics

The many seeds are burrs which cling to any animal brushing past it. Dassies spread the seeds in that way.
Undulating, round leaves

Treatment

Bag seeds, dig out plants.
Spray
No slashing (Wendy Carsten)

Cyathula uncinulata

Family: Amaranthaceae

Herb

Common names: Ronde klits, Burr weed



Burrs on these plants often obstructs removing Alien Invasive plants, hence the need to remove the burrs and then take the plants out, preferably take the plant out before it seeds.

Where found?

In the wetland, below Dassie Rock, in the forest under trees

Characteristics

An indigenous perennial weed with burrs that contaminate hair & wool of animals with consequent downgrading (Bromilow 1995)

Very invasive bur in Kloofendal
The seeds are burrs which stick to anything brushing past it.

Treatment

Bag seeds, dig out plants.

Spray

No slashing (Wendy Carsten)

ND

Cyanoglossum lanceolatum

Family: Boraginaceae

Common names: Forget-me-not

Herb



Many little blue flowers which become green fruits which dry out to become dry burr seeds which stick onto anything that comes past.



Indigenous, very invasive, the burrs obstruct removal of Alien Invasive Plants as it grows in the same disturbed areas.



Where found?

Wetland, disturbed areas such as along neighbouring fencing, along paths.

Characteristics



Leaves bluish-green with distinct central and lateral veins



Taproot

Not to be confused with
Nidorella hottentotica



Furry, grey leaves

Treatment

Bag seeds & flowers & pull out plants. No slashing. Cut off flowers before seeds/ burs appear

Family: Solanaceae (Tomato family)

Herb

Common names: Malpitte, Common thorn apple



Flowers open up untwisting itself like Convolvulaceae (Morning glory family)



Where found?

Found in sewerage spills together with *Mirabilis japala* (Four o'clock), *Cestrum laevigatum* and *Leonotis intermedia* (Wild dagga)

Characteristics

Stems often reddish



Seed pods spiky, seeds poisonous, hallucinogenic



Leaves dentate

Treatment

Post emergence herbicides (Bromilow)
Bag seeds, pull out and dig out plants (Wendy Carsten).

Galinsoga quadriradiata

Family: Asteraceae

Herb

Common names: Hairy galinsoga/ fringed quickweed

Flowering time: Autumn



Characteristics

Not to be confused with
Words

Where found?

Words

Treatment

Words

Heliotropium amplexicaule

Family: Boraginaceae

Herb

Common names: No common name

Flowering time: Summer



<http://alphitonia.com/EditSpeciesE.cshtml?id=1922>

Characteristics

Not to be confused with
Words

Where found?

Words

Treatment

Words

Family: Nyctaginaceae

Herb

Common names: Four o'clock, Marvel of Peru



Red, pink flowers

Characteristics



Yellow flowers

Not to be confused with
Words

Where found?

Words

Treatment

Dig out.

227

Nephrolepis exaltata

3

Family:

Herb

Common names: Sword fern, Boston sword fern



Characteristics

Not to be confused with
Other ferns

Where found?

Kloofendal amphitheatre area
in flowerbed

Treatment

Hand pulling, making sure all p[arts of
the plant are removed

***Polygonum lapathifolium/ Persicaria
lapathifolium***

Family: Polygonaceae

Herb

Common names: Spotted knotweed



Characteristics

**Not to be confused with
Words**

Where found?

Grows in water

In the dam growing from the
edges inwards & in the wetland

Treatment

To remove manually

Physalis peruviana

Weed

Family: Solanaceae

Common names: Cape Gooseberry

Herb



Characteristics

Fruit, orange when ripe, has characteristic pointed balloon enclosing it



Not to be confused with
Words

Where found?

Words

Treatment

Pull out

Family: Phytolaccaceae
Common names: Inkberry

Herb

Fruit said to be poisonous and causing skin irritations, even though in some areas baboons eat the fruit



Flowers greenish- white, fruit green, see below, turning black when mature



Fruit changes from green to red to black when ripe

Where found?

In disturbed ground

Characteristics



Typical red colouring of leaves and stems when plants mature.

Not to be confused with
Words

Treatment

Dig out

Plantago lanceolata

Family: Plantaginaceae

Herb

Common names: Buckhorn plantain, smalweebbaar

Native to Europe



Characteristics



Not to be confused with
Words

Where found?

Plentiful in Kloofendal lawn

Treatment

Bag flowers, seeds. Dig out.

Pseudognaphalium luteoalbum

Family: Asteraceae

Herb

Common names: Cudweed, Roerkruid

From Europe, common, widespread



Van Wyk, J. 2018 ed. Pg 42

Characteristics

Grows in dense stands

Not to be confused with *Helichrysum rugulosum*, which flowers in spring, *Pseudognaphalium* flowers in summer. *Pseudognaphalium* is much taller than *H. rugulosum*, and grows in dense stands



Helichrysum rugulosum

Van Wyk, J. 2018 ed. Pg 39

Where found?

Words

Treatment

Words

319

Salvia tiliifolia

1b

Family: Lamiaceae

Herb

Common names: Lindenleaf Sage

Very common in disturbed areas.
Low growing forb. Leaf margins finely serrated.



Van Wyk, J. Imaged list of Wild Flowers of Kloofendal Nature Reserve. 2018, p. 88

Where found?

Spreading fast in Northern lower border of reserve and on western lower part of reserve next to paths

Characteristics

Found plentifully.
Flowers in autumn, has hard, sharp seeds in winter.
Leaves

Not to be confused with

Similar to *Plectranthus hereroensis*, which has far more coarsely serrated leaf margins and grows as a higher herb.



Lamiaceae *Plectranthus hereroensis*

Van Wyk, J. Imaged list of Wild Flowers of Kloofendal Nature Reserve. 2018, p. 87

Treatment

To be carefully identified and removed by pulling out before seeding

Family: Solanaceae

Herb

Common names: Silverleaf-bitter apple, satansbos

Troublesome weed, native to North America – Van Wyk & Malan, 1998, p.264



Young fruit and leaves are poisonous

Characteristics

+/- 300mm high, leaves armed with reddish prickles on stem, stalk and midrib of leaves. Leaves stalked and densely covered with whitish or downy felt on lower surface. Berries round and yellow. Flowers in spring



Undulating leaves, purple flowers on short, woolly stalks towards the tips of branches.

Not to be confused with
Words

Treatment
Words

Where found?
Words

Family: Solanaceae

Herb

Common names: Jerusalem Cherry



Where found?

Words

Characteristics



Not to be confused with
Words

Treatment

Pull or dig out plants before they fruit. If fruit present, remove fruit before cultivation.

Family: Solanaceae

Herb

Common names: Wild tomato, Dense-thorned bitter apple



Flowers – white form

Van Wyk & Malan, 1998, p. 89



Flower – blue form

Van Wyk, J. Imaged list of Wild Flowers of Kloofendal Nature Reserve. 2018, p. 91

Where found?

Words

Characteristics

Very prickly weed. Stems densely covered with slender, reddish brown straight spines upto 30 mm long. Leaves deeply, pinnately lobed, covered with star-shaped hairs and the midrib and stalk have straight reddish brown spines. Fruit is a bright red berry with its calyx being enlarged and spiny.

Not to be confused with
Words

Treatment

Pull out, dig out

Tagetes minuta

Family: Asteraceae

Herb

Common names: Tall khaki weed, Langkakiebos



Characteristics

Leaves, flowers and branches have a strong, distinctive smell



Where found?

Any disturbed area, usually together with Black jacks. It has a distinctive, strong smell

Not to be confused with
Words

Treatment

Bag seeds & flowers & pull out plants.
No slashing.

371

Verbena bonariensis

1b

Family: Verbenaceae

Herb

Common names: Wild Verbena, Tall Verbena, Purple top



Van Wyk, J. Imaged list of Wild Flowers of Kloofendal Nature Reserve. 2018, p. 92



Where found?

Words

Characteristics

Stalk is square in cross section and coarsely hairy.

Not to be confused with
Words

Treatment

Pull, dig out. Wear leather gloves as stems are rough like coarse sandpaper

372

Verbena brasiliensis

1b

Family: Verbenaceae

Herb

Common names: Brazilian verbena



Van Wyk, J. Imaged list of Wild Flowers of Kloofendal Nature Reserve. 2018, p. 92



Where found?

Words

Characteristics

Not to be confused with
Words

Treatment

Pull, dig out. Wear leather gloves as stems are rough like coarse sandpaper

379

Xanthium strumarium

1b

Family: Asteraceae

Herb

Common names: Large cocklespur, Kankerroos

Characteristics

Not to be confused with
Words

Where found?

Not in Kloofendal Nature Reserve.
Plentiful in Klipriviersberg along
stream edge

Treatment

Words

Zinnia peruviana

Family: Asteraceae

Herb

Common names: Redstar Zinnia, wildejakobregop



Annual weed of waste places,
roadsides, next to paths

Characteristics

Not to be confused with
Words

Where found?

Disturbed areas

Treatment

Cultivation during the seedling
stage

Duchesnea indica

Family: Rosaceae

Common names: Wild strawberry

Flat-growing herb

Characteristics

Not to be confused with
Words

Where found?
Words

Treatment
Words

Euphorbia hirta

Family: Euphorbiaceae

Flat-growing herb

Common names Red milkweed, Rooimelkkruid:

Characteristics

Where found?

Words

Treatment

Easy to remove by cultivation

Euphorbia inaequilatera

Family: Euphorbiaceae

Flat-growing herb

Common names: Smooth creeping milkweed, gladde kruipmelkkruid

Characteristics

Not to be confused with
Words

Where found?
Words

Treatment
Words

Gomphrena celosioides

Family: Amaranthaceae

Flat-growing herb

Common names: Prostate globe amaranth, Mierbossie

Characteristics

Not to be confused with
Words

Where found?
Amphitheatre lawn

Treatment
Words

Weed

Guilleminea densa

Family: Amaranthaceae

Flat-growing herb

Common names: Carrot weed, Small Mat weed

Characteristics



Where found?

Kloofendal lawn

Treatment

Hand removal, take out roots

268

Persicaria capitata

1b

Family: Polygonaceae
Common names: Pink knotweed

Flat-growing herb



Characteristics



Where found?

Stream crossing on north-east side of reserve.

Treatment

Pull out

Richardia brasiliensis

Family: Rubiaceae

Flat-growing herb

Common names: Tropical Richardia, paper thorn, creeping chaffweed, Khakiweed



Characteristics

Grows very low on the ground, creeping under the grass and replacing it. It grows in very dense clumps.

It can survive the effects of continuous mowing

Not to be confused with

Other ground covers in the Kloofendal lawn

Where found?

Kloofendal lawn has been taken over in large parts by *R. brasiliensis*, also spreading on paths leading away from the amphitheatre

Treatment

Pull out, dig out, use many “diggers”

Dave Kirkby:

- (i) Fertilise lawn to give grass strength to compete against weed
- (ii) Watering when needed
- (iii) Set lawnmower higher to allow grass to grow and seed
- (iv) Broadleaf herbicide

Family: Commelinaceae

Common names: Wandering Jew

Flat-growing herb



Characteristics

Grows in shade, under trees, forming extensive mats, that smother all other vegetation and eventually replace it (Bromilow, c. 2010. p 315)



Where found?

Wetland

Treatment

Foliage is easy to remove, but must be done repeatedly

374

Vinca major

1b

Family: Apocynaceae

Flat-growing herb

Common names: Greater periwinkle



Characteristics

Where found?

In streambed above dam

Treatment

Pull out

Family: Apocynaceae (Asclepiadaceae)
 Common names: Moth Catcher or Motvanger,
 Milkweed, cruel plant, stranglehold plant

Creeper



Where found?

In forest, where it can climb up into the trees. Also near tall fences, such as tennis courts

Characteristics

Big seed pods with numerous fluffy seeds

Milky latex which may be an irritant to some people



Not to be confused with *Pentarrhinum insipidum* which also has a milky latex and similar, but smaller seedpod, leaves are heart shaped



Treatment

Dig and pull out. Remove seed pods before they ripen

Family: Convolvulaceae

Creeper

Common names: Common dodder



Characteristics

Leafless annual herb, looks like entwined yellow string creeping plentifully over other vegetation from which it parasitizes by suckers (hausteria). Tiny white flowers in clusters

Where found?

Along norther border of Kloofendal

Treatment

Cut out and burn infected plants before Dodder can produce seeds (Bromilow, 2010)

Family: Convolvulaceae

Creeper

Common names: Morning Glory, Purpelwinde



Photo by Jan van Wyk

Where found?

In disturbed ground, creeping over or on other vegetation

Characteristics

Slender creeper

Climbs up on trees, not along the ground.

Annual herb with hairy stems, twining to 3 meters and more

Not to be confused with other *Ipomoeas* such as *Ipomoea ommaney*, which has thick, hairy leaves crawling over the ground



Treatment

Bag flowers and pull plant out

#

Jasminum mesnyi

Family: Oleaceae

Creeper

Common names: Primrose Jasmin, Yellow jasmine



Native to Southwestern China



Where found?

Primrose jasmine is found growing profusely between the neighbouring fence bordering houses on Galena Street and the path leading from the wetland east wards

Characteristics

Primrose jasmine is a rambling, open evergreen shrub with long, slender, arching stems that will climb like a sprawling vine if given support. The stems are square in cross section, and green, becoming woody with age. The glossy dark green leaves are opposite and divided into three leaflets. The fragrant, yellow trumpet shaped flowers are borne in early spring and sporadically into summer. They are semi-double with 6-10 petals, and sweetly fragrant. Primrose jasmine is very similar to the closely related winter jasmine ([J. nudiflorum](#)), but is less cold hardy, has larger, fragrant flowers, and blooms a little later in the season.

https://en.wikipedia.org/wiki/Jasminum_mesnyi

ND

Jasminium polyanthum

Family: Oleaceae (olive)
Alien invader from West China
Common names: Jasmin

Creeper

Alien invader from West China



[http://www.weedbusters.org.nz/
weed-information/jasminium-
polyanthum/59/](http://www.weedbusters.org.nz/weed-information/jasminium-polyanthum/59/)



Floral weed

Where found?

Northern border along
neighbouring fence and creeping
over trees and bushes

Characteristics

Not to be confused with
Primrose Jasmin when it is not
flowering

Family: Caprifoleaceae

Creeper

Common names: Japanese or Hall's honeysuckle
Japanse kanferfoelie

Noxious weed (Bromilow, C. 2010. pg 358). Spreads widely, outcompetes native plant species, invades woodland and riverbanks, usually close to urban areas



Photo by Bromilow

Characteristics

Creeper

Flowers smell nice!

Not to be confused with
Other garden plant creepers.
Without flowers it can be easily
confused.

Where found?

On and around boundary fencing in
reserve

Treatment

Pulling and digging out the entire
plant & root system

#

Parthenocissus quinquefolia

Family: Vitaceae

Creeper

Common names: Virginia Creeper, Victoria creeper

Virginia creeper, Victoria creeper, five-leaved ivy, or five-finger
Not a declared invasive weed, yet it is alien ([native](#) to USA).



Leaves in summer – green, five ovate fingers



Leaves in autumn turn red, flowers inconspicuous; berries blue-black

Where found?

Virginia creeper is smothering the big indigenous *Leucosidea sericea*
On north eastern border of reserve, below wetland

Characteristic

Parthenocissus from Greek meaning "virgin ivy" - *inquefolia* means " five-leaved".
P. quinquefolia is a vigorous large deciduous climber, invasive, overrunning indigenous vegetation

Treatment

Pull out, follow up by pulling out new growth

#

Podranea ricasoliana

Creeper

Family: Bignoniaceae

Common names: Port St Johns creeper, pink trumpet vine, Zimbabwe Creeper



A vigorous, woody, rambling, evergreen. It sends up many tall strong stems — 3 to 5 m up to 10+ m high if left unchecked. An invasive, garden-escape in parts of Queensland and New South Wales in Australia and in New Zealand

(<http://pza.sanbi.org/podranea-ricasoliana>), like in Kloofendal, bordering on gardens of neighbouring houses. Difficult to find its real origin.

Where found?

Creeper on northern side of wetland

Characteristics

Podranea ricasoliana has glossy foliage and large bunches of fragrant lilac-pink, trumpet-shaped flowers



Treatment

Pull out, dig out

Rumex saggitatus/ Acetosa saggitata

Family: Polyganaceae

Creeper

Common names: Red sorrel, Climbing sorrel,
Creeping dock, Arrow-head vine



Where found?

Disturbed areas, next to path
western, lower part of reserve near
little cottage.

Characteristics



Climbing dock is a low climbing or scrambling herb which scrambles quickly over most plants to 3+ m high. It has a tuberous woody rootstock with extensive rhizomes..

Not to be confused with



Pentarrhinum insipidum also has heart shaped leaves, it has milky latex, and a seed pod with fluffy seeds

Treatment

Bag seed and dig out tubers

19

Agave Americana* var. *americana* & var. *expansa

Family: Agavaceae

Succulent

Common names: American agave, Garingboom, Spreading century plant



Var. americana, leaves are reflexed



Var. expansa – leaves unreflexed.
Flowers on a tall stem

Where found?

Upper southern border of reserve on rocky ground

Characteristics

Succulent shrub with basal rosette, serrated, succulent leaf.

Poisonous

Honey unpleasant flavour when bees have been feeding



Var. americana

Family: Agavaceae

Succulent

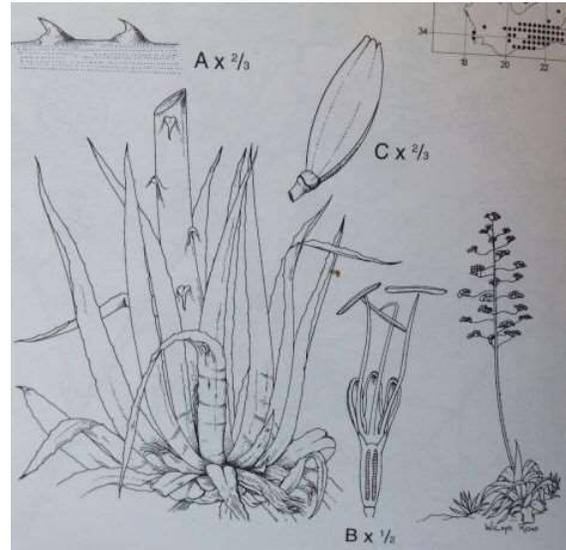
Common names: American agave



Where found?

Rocky hillside on south upper side of Kloofendal, near neighbouring fence

Characteristics



Leaves light grey with toothed margin and terminal spine, leaves reflexed in var. Americana. The variegated forms have grey to dark green leaves with yellow or white margins or central stripe. In Kloofendal, leaves have yellow margins.

Leaves are poisonous when fed to ruminants in quantity. The sap and spines are irritants to the skin. (Henderson, L. 2001. pg. 82).

Not to be confused with
Aloes – see under Agave Sisalana

Treatment

Injection of concentrated MCSA into Sisal borehole. When dead and dried, it can be burned. (Bromilow, C. 2010. pg 372)

Family: Agavaceae

Succulents

Common names: Sisal hemp, Sisal



Characteristics

Succulent leaves in a basal rosette, ending in a black sharp tip. . Leaf edges are smooth or minutely toothed. Young plants growing around its base.

No fruit, flowers are replaced with small plants (bulbils) . Flowers fall to the ground where they take root (Henderson, L. 2001, p. 83.



Flowers on a flowering pole 5-6 meters tall.

Where found?

Rocky section on southern border of reserve near neighbouring fence



Not to be confused with

Aloes – leaf margins have thorns, and leaves do not end in a sharp black tip



Aloe marlothii – photographed in the Kloofendal Reserve

Succulent

Family: Crassulaceae

Common names: Chandelier plant, kandelaarplant, mother of millions, mother of thousands



Characteristics

Words

Where found?

Rocky area near stream

Treatment

Unwanted plants should be uprooted and totally removed (Bromilow)

Family: Cactaceae

Succulent

Common names: Queen of the night



Flower buds – the flowers open at night

Characteristics



New plants grow from each cladode (thorns)

Treatment

Small plants – squash with boot or rock, or uproot (handle by roots) and hang up securely to dry out in fork of tree

Large plants – infest with mealybug, *H. festerianus*. Once infested a large plant may take up to 3 years to die, but will no longer produce viable seed, and will remain a source of the biocontrol agent in the infested the area.

(Klein, H. & Nesar, O. 2014)

Option 2. Chop down, stem at the base. Dig it up and then bury deeply or burn. Or sprayed or injected with MSMA (Bromilow, 2010)

Where found?

Southern border of the reserve, adjacent and in neighbouring garden

Family: Cactaceae

Succulent

Common names: Mission prickly pear, (Sweet) prickly pear



Cladodes when eaten in quantity by stock, are poisonous



Fruit - yellowish turning red, covered with clusters of minute spines, which are highly irritating. (Henderson, 2001, p. 89)

Where found?

Southern top part of reserve

Characteristics



Orange flower
(Bromilow 2010 p. 377)

Treatment

(i) Biocontrol with cochineal is successful in Kloofendal, but needs to be spread over more cacti.



(ii) Small plant – squash with boot or rock
Large plant – cut roots with a knife, kick out with boot, pick up with stick and wedge into tree or crack in rock (it will root if left in the soil) (Klein, H. & Neser, O. 2014, p. 26)

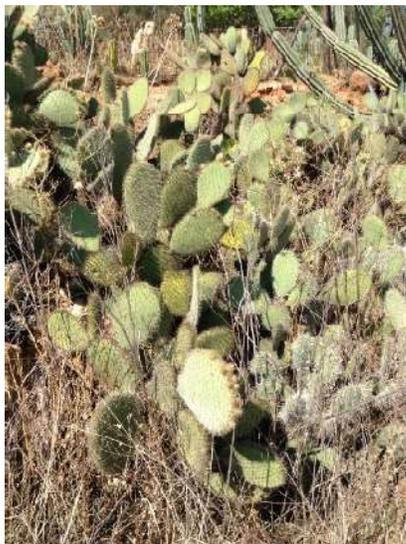
Succulent

Family: Cactaceae

Common names: Saucepan cactus, Large round leaved prickly pear



Cladodes densely covered with spines



Rambling growth

Where found?

Southern upper border of reserve,
adjacent to neighbouring fences

Characteristics

This cactus propagates easily from the leaf pads or cladodes. Even a small piece lying on the ground can grow roots and flourish



New plants sprouting out of each cladode

Flowers

Not to be confused with
Words

Treatment

Words

Family:

Common names:

Tree

Characteristics

Not to be confused with
Words

Where found?

Words

Treatment

Words