

SC GARDENS

B O T S W A N A

Gardening in Botswana

Visit the
National Botanical Gardens
in Gaborone

BirdLife Botswana -
learn how to attract sunbirds to
your garden

Mokolodi indigenous -
grow succulents

Around Africa - Rwanda





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Mabuasehube in May

Hemibstaedtia fleckii flowers



Cover: *Euphorbia cooperi* by S.C;
White bellied sunbird by Ian White; Cactus by Karin Duthie; *Hypericum* flower by S.C

Editorial

This is the first issue of SC Gardens Botswana, a quarterly magazine, that will feature garden, nature and associated articles from around Botswana. I hope this issue sends us all into a whirl of passionate gardening, but it will be your contributions, and your support that will act as the roots for this magazine. So write in, call, email, send articles, and share your experiences.

The conservation and appreciation of plants and of all the creatures that live and thrive from their existence, lies at the heart of what this magazine is about. It's gardening with a strong twist of 'be kind to the space you're living in', and quite often the visiting birds and butterflies bring home the reward for your more organic approach.

Happy gardening this winter, and a big thank you to all contributor's and supporters!
S.C.

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Aloe spicata



What's on

farmer's markets

May 4th- BSPCA
May 25th-Sanitas
June 1st - BSPCA
June 29th- Basilico
July 27th-Sanitas

Stand a chance to win a JoJo Owl box for your garden

1st Prize is a specially designed and professionally built Owl Box made by JoJo
2nd Prize is two sisal nesting logs perfect for Barbets etc
Join BirdLife Botswana and pay your subscriptions by the end of Nov 2019 and you will be entered into the draw. The competition ends on the 30th November and the winner will be announced on the 10th December.
Please visit birdlifebotswana.org.bw or call 3190540 to get more information on how to join this conservation NGO concentrating on Botswana's birds. This competition is open to all members current and new that pay before the closing date.
First prize is sponsored by Pumpeco (Pty) Ltd
Second prize is sponsored Trilogi Investments (Pty) Ltd - See owl box below

abroad

Chelsea flower show 21 may - 25 may
World Environment Day 5 june
House & Garden Show (Durban) 28 Jun-07 Jul

ECO-FRIENDLY RODENT CONTROL



plants to get at Sanitas - *fire & ice*

Recommended plants for THE WINTER GARDEN:

When it comes to winter in Botswana, the vegetation is uncommonly green for most of May and June, but by the time July and August roll into the garden, the browns have appeared, the leaves have been shed, and all the hard angles of stems, branches and trunks are revealed.

For a softer look, add some evergreen trees such as Cape Ash, *Ekebergia capensis*, or the Nyala tree, *Xanthocercis zambesiaca*. With a splash of colour to the dull browns the harsh winter landscape can become as beautiful as any other season in the year. Add some red bromeliads (*Dyckia* spp.) for ground cover, strelitzias for their striking flowers, and euphorbias like *Euphorbia tirucalli* for fiery warmth.



Photos clockwise from top: *Euphorbia tirucalli*, *Agave attenuata*, Aloes; *Dyckia* spp.

And the foil to fire: ice-soft greys, blues, whites and pale greens. For the dry garden *Agave attenuata* (swan's neck aloe) has pale blue-green leaves, and often steals the show with its structural form and exotic flower that resembles a swan's neck as its common name implies. Aloes are all great additions to any dry garden in winter, *Aloe globuligemma* with its grey leaves and unusual inflorescences that branch off at angles, and the leaves of *Aloe striata* that change to a grey-purple in winter time, with the unusual flat topped inflorescences, that are a lovely coral-red.

flaming trees ~ *tamboti* & *white syringa*



BOTH INDIGENOUS: *Spirostachys africana* (tamboti) and *Kirkia acuminata* (white syringa) (left to right) bring colour, are fast growing and waterwise trees to plant in the garden.

pruning & propagating roses

ROSES :The modern Hybrid Tea Roses and Floribundas only produce flowers on new growth, so prune to remove last year's wood. Cut these bushes back 1/3 of the height for heavy pruning, less for Floribundas. Arching shrubs, and climbers should only be lightly pruned.

Take a length of stem containing 2 or 3 nodes, about 10-15cm. The growing tip is going to root faster than hardened wood. Remove all leaves except for the top couple, and thorns; this lessens water loss. Rooting hormones can encourage rooting, and plant in a free-draining medium, in a sheltered spot. After a few months new leaves should appear.



Hybrid Tea 'Bushfire' and Floribunda 'Pink Ayoba'

Julia's veggies ~ *Healthy Growing. Healthy Eating*

Welcome to our regular page on how to grow food in a way that it is not only healthy for you, but for the planet and all its inhabitants. Each season we will focus on a vegetable that is ideal to grow at that time and give you some tips on how to grow it in tune with nature. by Julia Farmer

Vegetable of the Season – Broccoli (member of the brassica family)

Varieties: Calabrese, Romanesco green stem broccoli and purple sprouting broccoli.

Companion plants: grow broccoli with chamomile, chives, dill, onions, sage or thyme.

When to grow: March to August



How to grow: Plant seeds in seed trays when summer is coming to an end. Broccoli takes several months to grow so don't leave it too long or alternatively buy seedlings. Broccoli is quite a heavy feeder thus add plenty of organic compost and fertiliser to the soil.

When you plant out: make sure they are spaced at least 45cm apart otherwise the heads they produce will be smaller. Feed broccoli plants with an organic liquid fertiliser five weeks after transplanting and again after cutting off the central head.

When to harvest: cut off the central head while it is compact even if quite small otherwise the buds will open and flower. Cut it about 10cm below the head. It will continue to produce more, smaller heads or side shoots. You can also pick the leaves and cook them.

Why eat: Contain natural antibiotics, vitamins B, C, E & K, plus many minerals such as calcium, phosphorous, potassium, boron and iodine.

How to eat: break into florets or separate stems and then steam or boil until just tender. Toss in butter and heat or drain in cold water and have in a salad.

(Pics Left to Right: Calabrese broccoli; Romanesco broccoli
Photos from Pixabay)

Organic Gardening Tips

- * Winter is the ideal time to plant tasty vegetables such as brassicas, broad beans, kale and peas, as the pests whowould love to eat them are less active.
- * Spacing veggies well makes it easier to spot pests early and reduces the spread of disease.
- * Organic liquid fertilisers available in Botswana include Seagro, KelpPak and Guanflo.
- * Water consistently to get tender broccoli heads and stems.
- * If you spot aphids wash them off with a jet off water or spray with a natural pesticide.

Winter Workshops & events

Email: jellyfishfarmer@yahoo.com

11th May – Preservation workshop

18th May - Autumn Open Farm

and Pottery Event at Notwane, 10am to 4pm.

herb guru ~ every day unravels a new delight

In my garden, I have incorporated a medley of 'herbs', some 3m tall such as the ginger bush below, to give the garden structure, and some aromatic so that you get a lovely smell as you wander through it. I like to encourage insects in the garden as not all of them are pests, and some help with pollination or by preying on the other insects that we consider pests. I use herbs that flower at different times of the year, to provide the much needed nectar for the birds, butterflies and bugs.

When taking herbs, one should always consult one's health practitioner for the safe and appropriate use of that herb.

Flowers are also very important as they brighten the spirits and can even be a nice addition to a salad, or special dish. And with the menace of colds and flu over winter time, I rely on my herb garden as a ready source of medicine. While incorporating many exotic species in our herb gardens, there should always be a space for the indigenous plants, as these help feed species that are dependent upon them.



Indigenous, aromatic, medicinal - In winter *Tetradenia riparia*, the ginger bush (above), is a standout, being one of the few to flower at this time, with the soft lilac-purple spires bringing vibrant colour into the garden. It is also a much needed source of nectar for many insect and bird species in winter. The natural distribution ranges from Mpumalanga in South Africa all the way north to Ethiopia. The leaves of this shrub are aromatic and can be picked in the growing season to make herbal infusions, it is used in the relief of chest complaints, stomach ache, headaches and malaria.



Aromatic, flavouring, medicinal - *Aloysia citrodora*, lemon verbena (left), is a perennial shrub, native to Chile and Argentina, and has distinctive "lemony" foliage. Lemon verbena leaves are used to add a lemon flavour to dishes and beverages. The strong lemon-scented essential oil has calming and digestive qualities, with bactericidal and insecticidal properties, however it may cause skin sensitization. The herb is useful as a stimulant for treating lethargy or depression whilst also used for reducing feverish colds.



Companion, phytoremediation - *Calendula officinalis*, (left) pot marigold's uses are too numerous to list here, it needs a page all to itself for that. However one use in particular, is as an excellent companion plant in the organic garden; it deters asparagus beetles, lures aphids away from susceptible plants, and repels certain pests like white fly from visiting neighbouring plants. Occasional insects visit the flowers helping with pollination, and it is believed to be very useful for cleaning soils, used in the phytoremediation of soils high in chromium, copper and cadmium. Plants that benefit by being planted near to Calendula are beans, chard, radish, carrots, tomatoes, asparagus, potato, thyme and parsley. And though it is considered to be a summer annual in other parts of the world, our summers are too hot, but their resilience to the cold make them an ideal option for winter colour. I have sown seed around February and March for winter flowering.



Seasoning, medicinal - *Sanguisorba minor*, salad burnet (left) is, as its name suggests, good in salads, with a taste reminiscent of fresh cucumber. The young leaves can also be used in winter dishes as a substitute for parsley when it is out of season. Medicinally, chewing young salad burnet leaves aids digestion. It is an evergreen plant that survives harsh winter conditions. This makes salad burnet a useful herb to grow in the kitchen garden.

mokolodi indigenous ~ Succulents



Above: *Kalanchoe sexangularis*,
Below: *Cotyledon tomentosa*, Bottom left to
right: *Crassula sarmentosa*, *Orbea tapscottii*



Africa is growing desert like never before in recorded history, and there seems little hope that this trend will be stemmed anytime in the near future. Traditional gardening with leafy water gluttons is a thing of the past with succulents winning increased popularity around the world. Succulents are a group of plants that have developed intriguing water storage systems to enable them to survive adverse conditions, many of them originating from the western half of the country where summers are hot and dry and drought is almost a way of life.

Although the majority of these succulents originate from our country, Southern Africa lags far behind in adapting to dry gardening, now commonly known abroad as 'xeriscaping'. The reason for this is that succulents were relegated to 'rockeries', consisting of a random heap of soil and rocks, often placed awkwardly on a lawn or in a remote corner of the garden, planted haphazardly with neglected spiky plants. The fall-out of this is that many people dismissed succulents through aversion or ignorance. But twenty or thirty years have since passed and succulents are fast becoming the first choice for gardeners as they watch their beloved lush green gardens turn brown and stark.

Where choice was previously limited to a handful of common varieties, the growing fascination by overseas growers has promoted and made available a huge selection of fascinating growth forms, ranging from elegant and imposing to bizarre and even fairly grotesque, and not previously accessible to the general public. Added to this extensive list of indigenous choices, are succulents from Madagascar, Mexico and Central America. This provides a palette of options in colour, form, texture, foliage, size and functionality, from which to create a captivating garden display. In addition to their intriguing leaves, forms and colour, many succulents provide an added bonus in the form of striking flowers.

Text & Photos: by Karin Duthie and Mark Henningsen



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forager's tips ~ wild edibles

We have a plethora of edible and medicinal plants within Botswana. Some considered weeds are rich in nutrients, and can be picked fresh every morning.

Look out for these this winter:



Leaf/Seed: *Amaranthus thunbergii*, Thepe, Amaranth

Amaranth species are usually in full leaf in autumn and can continue growing well into our winter season. The edible leaves and seeds are a popular vegetable in Botswana. The seeds have exceptional protein quality, and the leaves are packed with vitamins A and C and tend to accumulate dietary minerals, notably iron and calcium.



Fruit: *Azanza garckeana*, Morojwa, African chewing gum/snot apple

The snot apple is a tree with edible fruits that are sweet and mucilaginous, ready from February to September. Fruits are commonly chewed like chewing gum, producing a sweet glutinous slime, and have a very high energy content. Boiled, it is widely used as a relish or made into porridge.

Leaves, roots, fruits, seeds: *Adansonia digitata*, Mowana, Baobab

The roots of the baobab can be tapped for water; when the wood is chewed, it provides vital moisture to relieve thirst; the leaves are said to be rich in Vitamin C, sugars, potassium tartrate, and calcium. Leaves are cooked fresh as a vegetable or dried and crushed for later use. Baobab fruit is found to have six to seven times more antioxidants than other fruits. It is also extremely rich in fibre and has high levels of Vitamin C and Potassium as well. The seeds are edible and can also be roasted for use as a coffee substitute.



Drink, medicinal: *Lippia javanica*, Musukudu, fever tea

The leaves of this woody shrub give off a strong lemon-like smell when crushed. Fever tea (so known, because it is said to be effective against fever, especially in cases of malaria, influenza, measles, and as a prophylactic against lung infections), is known to possess antioxidative properties, and is brewed locally as a tea. Fresh as well as dried leaves are alternatively boiled in water in the preparation of the medicinal tea.



It is important to know what part of the plant to use and how it can be used for culinary concoctions. Some are edible only in certain seasons or after certain preparations. One should harvest plants responsibly and have done thorough research on their identification and safety prior to use.



Mimi's secret garden



Mimi's secret garden patch - *where faeries come alive*

You do not have to be an experienced gardener to achieve a special space, one which is the result of your imagination and passion to accomplish your unique little area.

Although the plants you buy often recommend a full sun position, many succulents/cacti species thrive on a dappled situation. I try experiment and position the plants ..and then watch for a couple of weeks. Soon I can see which will survive under our hot African sun or those which need to be moved to a cooler spot.

A Bonsai fig, many years old, is a good example and looked positively sad in this excessive heat we've been having, but once I'd move it into a new shady position, it perked up and looks happier than ever. I call it secret because I have on purpose planted and positioned my pots to look as natural and as full as possible – like a mini manmade jungle. Succulents grow amazingly fast when they are content, and on our patio table the Buddha figure smiles benignly on the plant growth around him. Without any religious connotations, I feel he radiates love and happiness.

Stones of different shapes that take your fancy can be tucked in besides the plants to give a natural feel. I also love to make imaginary mini water lanes with tiny stones – try gluing 2 or 3 stones or flattish rocks to make balancing props for the plants to hang over or crawl up. Different coloured containers also play a part and add interest and context. With certain species one can make a mini forest....likin it to the blending of colour and shading on a paint canvas. The echeverias are one of my favourites, many showing a delicate grey contrast to the green of the other cacti. By adding a pot of mint or thyme, originum or parsley in between your pots, it will be on hand while you sit in your patio and they will also benefit from the care and regular attention you give to your plants.

To take good care of your plants, always check on a daily basis – remove dead leaves or where bugs have had a good feed and trim the growth if it is getting out of hand.

A small patch of your garden that is devoted to succulents and such like, can be so rewarding and furthermore, can form an extension of your home. I visit my garden every morning before the sun gets too hot. Love and nurture your plants and they will reward you with vigour and growth. The feel of the vegetation with its little daily changes of growth makes one feel contented and at peace with oneself - it assuredly does that to me and it's good to remember that you can never be too old to believe in faeries!



birds ~ how to attract sunbirds to your garden

Easy-peasy! Sunbirds eat local nectar rather than exotic foods.

And where do they find this local nectar? **They just love the nectar provided by acacias and aloes, both of which grow in profusion in Botswana.**

Nature, through these trees and plants, provides food for sunbirds around the year. In Gaborone, there are acacias that blossom year round, *Senegalia mellifera* comes into flower with a vengeance in early spring, followed closely by *Vachellia tortilis*, *S. erubescens*, *S. galpinii* and *V. karroo*. Many different species follow in summer, *V. nilotica* in autumn, then *V. bebedlada*, *V. erioloba* and *S. nigrescens* from winter to spring. These flowers are complemented by *Rhigozum brevispinosum*, *Peltophorum africanum*, and many others. In winter the aloe species take turns to flower. *A. marlothii* and *A. cryptopoda* are the two main species but there are several others which help to provide nutrition. With a healthy selection of aloes your garden will be guaranteed to host White-bellied and Marico Sunbirds and the occasional Amethyst Sunbird and Black-headed Oriole. We live in a tough climate but Nature has provided our birds, bees and us with our own distinctive floral kingdom.

So, by judiciously planting a selection of acacias and other indigenous species, you can ensure that you will not only attract sunbirds to your garden, but a host of other species.

BirdLife Botswana

BirdLife Botswana is a not-for-profit NGO established with

the aim of creating an interest in birds and their conservation. To do this we liaise with schools, undertake projects related to conservation and birds and organize social activities such as bird walks and camps.

One of our major projects is Common Bird Monitoring in which competent birders do counts along transects twice a year. From these counts we determine changes in trends in bird populations. We are always needing citizen scientists to assist us in these counts. If you wish to assist us, please phone our office at 3190540 and offer your services. Please have a look at our website at www.birdlifebotswana.org.bw for additional information regarding membership and other items of interest.

Written by Harold Hester and photographs by Ian White



Marico sunbird



Amethyst sunbird



Collared sunbird

Landscaping & lawn care



1. TREE ALOE, *Aloe barbaçae* 2. HIBISCUS, *Hibiscos rosa-sinensis* hybrid 3. STRELITZIA, *Strelizia reginae* 4. GOLDEN SHOWER *Pyrostegia venusta* 5. RIVER COMBRETUM, *Combretum erythrophyllum*

Orange
in winter

Grass needs to be regularly maintained to look neat and attractive by cutting, fertilizing and watering it. Winter can cause lawns to look a little worn and neglected. A final feeding before winter months will strengthen roots and increase nitrogen stores for an early spring green up. Use a fertilizer high in phosphate (a 2:3:2 fertilizer), which will encourage root development. Remember to water your lawn thoroughly after fertilizing. A well-fed lawn is a lovely-looking lawn and has a better root system to combat heat, cold, drought and other stresses.

pets 'n' vets



they need a home!

The vast majority of people who adopted their animal from them confirm that their new pet is "the best". Out of 100+ dogs, chances that you will find one (or more) that you connect well with are pretty high, especially since you get to take them for a walk on a leash, you can bring your own dogs from home for a meet-and-greet in a neutral enclosure, you can bring your whole family to see how your potential new dog interact with the kids, so they give you the best tools to choose your new dog without regret.

**SUPPORT BSPCA
DONATE OR ADOPT**

Matshwane vet clinic

Adoption - BSPCA

We are lucky that in Botswana we have a fantastic animal shelter, the BSPCA (Botswana Society for the Protection against Cruelty to Animals) which cares for over 100 dogs and 50 cats, from all ages, temperaments, colours and shapes. Some had a rough start in life, some were born there, but ...

..they all have one thing in common :



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Trees in the National

'Nature has invaded the city' is the feeling one gets when you walk up the pathway into a forested land of indigenous trees, termite mounds, scampering hyraxes, and monkeys that eye the interloper with distrust.

Located in The Village, Gaborone, the National Botanical Gardens contains an outstanding number of indigenous trees from around the country, growing in a beautiful setting with rocks, historic buildings, and pathways that meander around it, dotted with picnic spots and benches.

The gardens opened on 2 November 2007, and it features collections of living plants with easily visible plaques displaying the details concerning the plant. It is also where the Old Gaborone Hotel (changed to Gaborone in 1969) is situated, constructed in the late 1880s under the auspices of British imperialist Cecil John Rhodes, to be a resting place for British pioneers. It was here apparently where Rhodes planned the 1899 Jameson Raid.

A number of unusual plants can be seen like the caudiciform, *Adenia glauca*, named after the city of Aden, in Yemen, and the resurrection plant, *Selaginella lepidophylla*, renowned for its ability

to survive almost complete desiccation. During dry weather in its native habitat, its stems curl into a tight ball and uncurl only when exposed to moisture. A notable medicinal plant that can be seen is *Harpagophytum procumbens*, the national flower of Botswana, known as sengaparile or Kalahari devil's claw.

However the real stand-out I feel when wandering along the pathways, are the numerous different indigenous trees from around Botswana.

You can see at least ten different acacias; a few 'peeling bark' commiphoras; combretums such as the leadwood and rock figs (*Ficus abutilifolia*), their white roots encircling large granite boulders. Many of the common southern trees can be found here, such as buffalo thorn (*Zizyphus mucronata*) tamboti (*Spirostachys africana*), morula (*Sclerocarya birrea*), shepherd & stink bush trees (*Boscia albitrunca*, *B. foetida*), lavender tree (*Croton gratissimus*) and weeping wattle (*Peltoporum africanum*), and despite the occasional bad frosts - northern trees such as the baobab, fever berry and mopane, survive well in the garden.



Botanical Gardens



Old Gaberones Hotel

With a little exploration a few less common trees can be seen, such as the sesame bush, with its large swollen base, and striking sweet scented cream flowers. In winter trees such as the white syringa can be seen, with its leaves a rich burgundy hue. One can also see a few indigenous succulents, such as *Euphorbia cooperi*, and fruit trees such as *Vangueria infausta* commonly called mmilo.

There is even Botswana's own aphrodisiac tree,

the monepenepe or sjambok pod (*Cassia abbreviata*), an infusion is made from the root and drunk as an aphrodisiac.



Ficus abutilifolia, Rock fig

Panorama of the gardens

Left: Rock monoliths by the entrance to the gardens



Creatures in the Garden - *catfish*

I was walking the dogs one day, when I saw the unmistakable wriggle of a creature just below the surface of a muddy trough.

This trough was one of those deep depressions in black mud that a vehicle commonly makes when it gets stuck. The road was only about 50m away from the Notwane river, and unlike this year, we'd had some great rains, and the river had flooded twice. I didn't really think, as I probably should have, but ran my hand through the water and within a few seconds I came up with a couple of baby catfish.

I soon had my partner helping me out, and we quickly rescued twenty from this one trough, all about the size of a thumb. We already had a couple of fish ponds for Comets and Koi, so making another one for catfish wasn't so hard. We dug a nice big hole, with a few different levels, raked it clear of anything sharp, added our pond liner that we'd joined to the right size, by using a heat gun, secured the edges, and

added in some clay. Then we placed in some *Pontederia cordata*, *Alisma plantago*, *Ludwigia abyssinica* and a couple of water lilies, a few floating logs secured in place, and filled the pond with water. After letting it all settle for a day, we added in the catfish from the bucket that they were still in, and they loved it! They are much less particular than most fish to water and temperature conditions, and can survive in smaller volumes, without needing any pump circulation to increase the oxygen content. We put in a few water snails to supplement their daily feed, but catfish are incredibly unfussy when it comes to diet, they are omnivorous and eat everything from the innards of dead animals, bread, to aquatic weeds, insects etc. Every day we feed them at about 5pm in the evening, and the water comes alive, like a bubbling geyser.

Left to Right: Catfish; *Ludwigia abyssinica*; Pond, with Irises & Water Lilies; *Pontederia cordata*



looking after your garden creatures

Choose a range of plants: annuals, herbs, shrubs, and trees, that provide a food source over a long period. Include nectar and pollen-rich plants to provide food for bees, butterflies, and other flower-visiting insects. Night-flowering or scented species will benefit moths, and fruiting trees and shrubs give a range of berries for mammals and birds, like *Grewia flavescens*. Where possible, include climbers to provide a nesting habitat for birds. Try to add a few indigenous plants to your selection, like *Combretum mossambicensis*. Water in a garden is important. Not only is it essential for birds, but in the winter months when there is no rain it helps sustain those species that don't migrate. It will also provide a place for amphibians to spawn; they will return the favour by eating your slugs and snails. You need not create a large water feature, a bowl in the ground does well too.



..... bugs, bees & goats

bees in winter



In winter the queen lays fewer eggs and the brood nest shrinks. For the colony to survive the winter they will need about 20kg of honey. So make sure your last harvest is in the summer months, so that they can build up the reserves they will need. Clean around the hive, and make sure no vegetation is resting against the box, as this allows pests like ants to raid the colony. **Give the bees a winter feed of sugar syrup to help build up their honey stores,** don't use brown sugar, which is impure, slowly heat white sugar with water. Do not let the mixture boil. Avoid using honey, unless its their own, to eliminate spreading pathogens. Supply the syrup on a commercial feeder, or a shallow 1cm dish with rough pebbles inside so as to prevent them drowning.

Towards the end of winter, food is growing scarce for many animals and so often goats will jump fences or find small gaps to squeeze through to come and demolish some of your treasured plants.



Most popular plants in my garden that they love: Mulberry trees! And then pretty much everything else in winter. A few tips to keep your garden safe:

- **Fence it well:** electric or rustic, don't cut corners, make sure the gaps aren't big enough for a goat to get through, and the standards strong enough to hold up under pressure. If it's a thorn fence, make sure they haven't blown over and left a gap free for a goat to exploit.
- My goats are very scared of things that make a loud noise i.e. zinc sheets laid in front of vulnerable areas, or pan lids banging together
- They don't like being splashed with water, so if you live on a farm with an unfenced garden, you could get motion activated sprinklers, or if you or someone else is always around, spray them from a hose (without wasting too much water though), they will soon get the idea and not come back.
- **Make your own home-made animal repellent** from a list of ingredients like dried blood, putrid egg, garlic, and other nasty smelling stuff, with a little sprinkle of cayenne pepper. Spray it on the plants most at risk, and they should be safe from harm.
- **Test your recipe:** First, check your plant isn't going to suffer as a result (so spray a small area initially) then, try to entice a goat to come and check out your lovely rose bush with a sprinkle of smell all over it, and see if your rose gets nibbled.

Mantids are deadly predators that capture and eat a wide variety of insects

beneficial bugs



Mantids are beneficial to have in the garden, as they love to eat other pests; however, they do not discriminate and eat other beneficial insects as well. They have a "neck" that allows the head to rotate 180 degrees while waiting for a meal to wander by. **When hunting, mantids assume a "praying" position, folding the legs under their head.**

Some insecticides can drastically reduce the numbers of mantids in the garden. If you want to encourage mantids, you should limit pesticide use and allow some vegetation to grow to provide cover for the mantids. These *Grewia flavescens* shrubs are invaluable in the garden and attract a variety of insect species with their flowers, and mousebirds in particular love their fruit.



maun's blue butterfly botanics

Born from the love of gardening, this small yet ambitious plant nursery was started as a home industry by founding member and co-owner Petra Strydom.

Petra and her partner David, both geologists who worked on contract in various foreign countries, were both looking for a home base and settled in Botswana in 2008. They acquired a large but neglected property in Maun and began creating their dream home, starting with the garden. They opened their new nursery shop in 2016 and named it Blue Butterfly, after the Southern Sapphire (*Lolans silas*) featured on a Botswana stamp.

The dream grew slowly at first until Petra finally decided to trade in her mining boots for gardening gloves in 2011. Petra studied both geology and botany in her undergraduate degree and used her background in botany to learn to grow plants from seeds, cuttings and divisions. In 2016 the nursery relocated to 'The Village' in Sanyedi Ward in Maun and changed focus from stocking general garden plants to starting to specialize in growing succulents and indigenous trees.

"We have invested in building polytunnels to facilitate our collection of house plants, tree seedlings, herbs, succulents, and have set aside a large outside area to house our collection of local and exotic non-invasive groundcovers and or-



namamentals, as well as our larger trees and succulents. Our staff number has grown to 11 people, all of who assist in some way to keep our business running smoothly. We have also built an extensive collection of rockeries and test beds to trial run plants in local conditions, as well as a place to grow mother plants to generate seeds and cutting stock, and are continuously adding to our

plant collection, testing them under local conditions before propagating them. Not only are we still continuously educating ourselves, but also our community and our customers regarding responsible gardening with regard to plant choice and care.

"We have a responsibility towards our environment and each other, and we want to help current and future generations to appreciate and treasure the vegetation of Southern Africa and the magic of gardening for the future."

Petra says that they have also added a florist section to their shop in 2018, and have started renting plants to local businesses. Their shop stocks pots, garden accessories and botanical products for gardeners, all made by local artisans. "We take great pride in providing products made locally in and around Maun, as well as supporting other local businesses in the area."

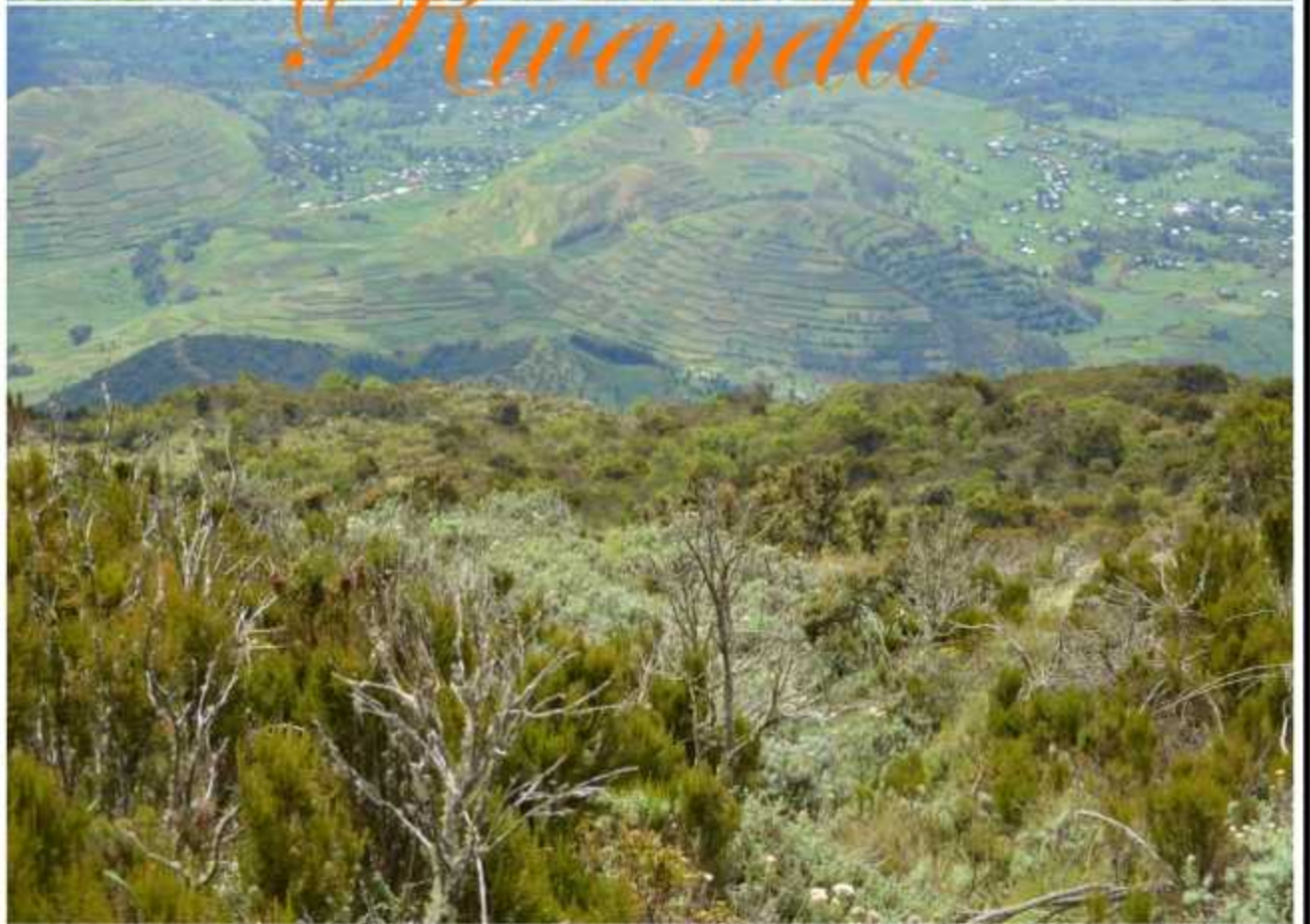
Petra Strydom



Above: The Nursery and Staff Top pic: Left to right: Otshegeditse Sarefo, Patricia Malesela, Relebogile Sebabi Bottom pic Back left to right Moitsanape Mobe, Gabatshole Lathang, France Makgowa, Thapelo Mosupukwa, Moma B. Keemisitswe Front left to right: Mohabano Mohabano, Ntusetsang Bogosi, Stella Wellio



Rwanda



around Africa ~ *Rwanda*

Climbing Mt Muhabura in Rwanda's Volcanoes National Park

A wonderland filled with rich plant diversity and endangered gorillas

I had ridiculously overestimated my fitness level, and never having been high enough to get altitude sickness this was one of those gambles that when you make it back alive, you feel a wide-eyed sense of relief and dizzying hilarity at your own stupidity.

Mt Muhabura or Muhavura lies in Rwanda's Volcanoes National Park, in the northwest of the country, bordering Uganda and the DRC. It has become synonymous with mountain gorilla tracking safaris and a chance to see endangered mountain gorillas is one of the main reasons many visitors come here. It also has a historic connection with gorilla conservation as it was the base of famed primatologist Dian Fossey's work, where one can visit her tomb, and learn about the extraordinary efforts she made to conserve these endangered animals. As well as its famous mountain gorillas, the Park harbours a spectacular array of rare and endangered animals and plants. There is a variety of other primates, including the endemic golden monkeys, plus forest elephants, buffalo, giant forest hogs (Africa's largest swine), bushpigs, bushbucks, black-fronted duikers, spotted hyenas, and around 200 species of birds.

Mt Muhabura is Rwanda's second highest peak at 4127m, and is a dormant volcano that has an incredibly steep and rocky ascent. It's commonly about a five to eight hour trek up to the peak and down again.

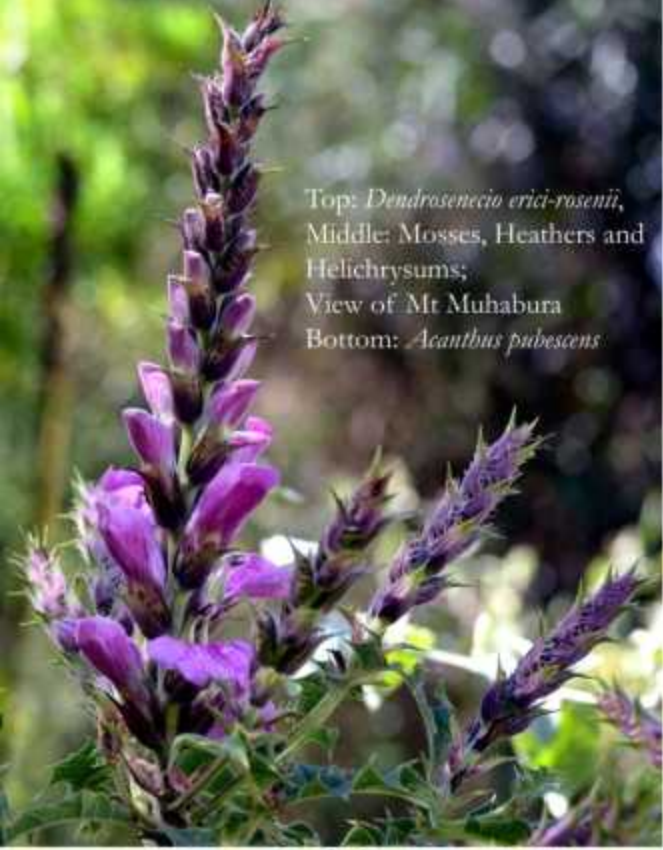
I had decided to do this trek to see the pristine farmlands around the park, the various vegetation zones as you ascend the mountain through bamboo forests and some of the last remaining afro-montane forest habitat on the planet (a habitat crucial to the survival of the endemic and threatened species dependant on it), to subalpine meadows of heather, and at an altitude over 3600m, the alpine mosses and lichens.

I started the day meeting my guide at the Kinigi headquarters at 6.30am, and unless you come with your own 4x4 transport you have to organise transport to the trek starting point, about 40 minutes away on a reasonable road that gets a bit rough for the last few kilometres depending on rains and road maintenance. I'd brought a packed lunch, chocolate, fruit, and 2 litres of water, all of which I needed, some ibuprofen pills which apparently sometimes work to ward off altitude sickness, a compass in case things really went wrong, and purifying water pills for emergencies. Six security guards were assigned to accompany the guide and myself up the mountain.



Top: *Helichrysum* spp.
Middle: *Urtica* spp. (beard lichen)
Bottom: *Hypericum boguarta*
Previous page: *Karphofia* spp.
View over Rwanda





Top: *Dendrosenecio erici-rosenii*,
 Middle: Mosses, Heathers and
 Helichrysums;
 View of Mt Muhabura
 Bottom: *Acanthus pubescens*

This is mandatory, however, usually the group consists of more than just a single visitor. But, it being the low season due to the rains, there were no other hikers that day, and I felt a little overwhelmed with these rangers all kitted out with wellies, camouflage uniforms, and AK 47's. They set off at a smart pace up through a small village with adjacent plots filled with maize, potatoes, peas, wheat, millet and a plethora of other vegetables all packed into small spaces bordered by mounds of volcanic rock, with Eucalyptus trees, *Dracaena afromontana* hedges, bananas, and *Neoboutonia macrocalyx* trees dotted in between. The trek starts at around 2300-2400m altitude.

Climbing quickly up through the village and into the park, I used up all my early morning enthusiasm and surveyed the jungle path with growing horror. It just kept going directly upwards, and after only several hundred metres, the altitude sickness kicked in.

The vegetation was extraordinary, the mountainside was a riot of colour with the orange red flowers of kniphofia, to the profusion of yellow hypericum flowers, to icy pink helichrysums, but my see-sawing muddled brain's sense of wonder was eclipsed by a piercing headache and I had to stop. I took an ibuprofen to fend off the death-like discomfort and wondered if I could move another five metres let alone another kilometre upwards. After about two hours the altitude sickness wore off and I was stunned to realise that we had made it out of the montane forests and into beautiful subalpine meadows. I almost skipped along, I felt giddily happy to be alive again, and saw rubus bushes, pelargoniums, lichen forests and helichrysums and the mists shrouding the mountain lifted so we could look over Rwanda's Lakes Burera and Ruhondo to Uganda's Lake Bunyonyi. As we climbed above 3600m so the vegetation changed once more to heathers in full flower, mosses and the unique giant senecios, *Dendrosenecio*, and I was definitely rewarded with sublime views. I had altitude sickness on the way down, but to a much lesser extent than before, and I think this was where the steep descent took revenge on my toe nails (of which I lost three), as I could barely walk when we reached the bottom! It was an unforgettable experience, and the plants were definitely the highlight. S.C

Dian Fossey's last entry in her diary read:
 "When you realize the value of all life, you dwell less on what is past and concentrate more on the preservation of the future."

Agrichemist's solutions - *sand & clay*



As most of our soils are sandy, they always benefit from organic matter added to them. This helps to retain moisture and provides nutrients that are usually leached away by our free draining poor sandy soils. Winter is the best time to cultivate the soil, as there are no rains to leach nutrients out of the soil, and organic matter can be incorporated at the same time. If you have clay soils, late winter is also a good time to cultivate the soil, as clay should only be worked when it is dry. If you dig or walk on wet clay it loses its structure and can become compacted.

Clay soils are hard to dig, but retain moisture better than sandy soil, and are rich in the nutrients plants need to grow, holding calcium, potassium, and magnesium. Adding organic matter to clay soils is also beneficial, as it helps improve their drainage, creating air spaces in the soil that will allow roots to penetrate it better.

Black plastic sheeting to cover new beds is an easy way to keep it clear of weeds; it excludes light to prevent their growth, locks in moisture and also warms up the soil so you can start spring vegetables a little earlier. It is also used in many areas like mulch, so if you have started your seedlings in a warmer spot, you only need to make a slit in the plastic, and plant your seedling in the opening. You will need to have drip irrigation running underneath, which also reduces water consumption, and this will stop weeds competing with your plants and give you an early start to the growing season.

If you have a small yard, or only a patio, it may be difficult to generate enough to make your own compost, so make sure that any compost you buy is approved by an organic body like Ecocert. Organic Fertilizer Manufacturers Botswana, OFMB for short, manufactures organic fertilizer and other products in Mmamashia, just outside of Gaborone, have a look at their website for more information: <https://www.organicfmb.com>.



pest / problem

The green milkweed locust, *Phymateus viridipes*, is pictured below in its juvenile form, and later mature stage. These locusts can be a real pest, eating aloe and various succulents in the garden, and if picked up they release a noxious foam, and can be toxic if ingested. I try to relocate the ones I find in my garden, and as they're very slow in the mature stage, that is fairly easy to do. They are very beautiful though!



Comfrey leaves



Composting

Recycle the plant material in your garden; leaf litter, in particular, which is prolific in winter as the deciduous trees drop their leaves, and in late winter when winds whip off the last leaves.

The litter makes superb compost. Organic waste added to the soil in winter, offers a slow, steady release of nutrients before spring's planting. Recycled organic waste forms the basis of all organic soil improvers, however, before disturbing it, check your compost heap for wildlife. Compost waste and heaps can provide a valuable wildlife habitat for many small creatures including birds, and invertebrates.

Natural compost accelerators such as chamomile, yarrow, and comfrey, can be added to the compost heap to speed up the decomposition process. Comfrey leaves rot down very quickly and are high in minerals, the heat they release accelerates decay and kills weed seed.



ECO HUB *recycling is in. so don't throw it out*

If you're conscientious and have struggled with finding out how to recycle your waste, then you might not have heard of **Dumatau Trading (Pty) Ltd.** It was established in 2003 to collect waste paper and plastic for recycling from the Gaborone district, and this then expanded to Francistown. Waste from all over the country is transported to either Francistown or Gaborone, where the material is sorted and baled and transported to recycling mills in Botswana, Southern Africa and abroad, making it a big contributor to the cleanliness of the country.

Paper and cardboard are sorted into different grades, and if you have a plastic item with a recycling logo on it that has numbers 1; 2; or 4, then it can be recycled. 1 stands for PET, Polyethylene Terephthalate; 2 for HDPE, High Density Polyethylene; and 4 for LDPE, Low Density Polyethylene. Check out their website for more information: <https://dumatauwastepaper.wordpress.com>

Dumatau Trading collects for free from businesses in the Gaborone area, and you can drop your recyclables at their premises either at the warehouse in G West Industrial (next door to Old Nokia warehouse), or in Francistown, by the rail goods yard (see website on home page for maps).



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dry lovers ~ *cacti*



Bulbs & bed fillers



I love gardening as every day brings something new and a garden can be interesting and welcoming all year round if one plans carefully

Winter and Spring in Botswana are the easiest seasons –provided you don't get much frost- as the weather, although cool, has bright sunny days that winter annuals and spring flowers love. Planting seeds for your winter beds needs to be done in Autumn or you can buy seedlings of my favourite hardy winter annuals: Petunias, Pansies, Alyssum, Snapdragons and Primulas, together with some forced Daffodils and Tulips. The nurseries usually have a wonderful display of winter annuals at the end of April. Plant them and have a dazzling Winter to enliven every day.

The Spring garden to me always says "Bulbs!" There are so many bulbs which grow really well in Botswana, and some even have a delightful perfume. As most bulbs like rich, well drained soil and a cool but sunny

spot, I have found it easier to grow them in pots rather than in a garden bed. That way after planting my bulbs, I can put the pots in a cool spot in dappled shade until the plants are nearly ready to flower. Then I move the pots to a sunnier spot in the garden or patio for flowering. When the flowers are over I move the pots back to their cool spot, label them, and let the leaves naturally die down, while continuing to water and care for them. When all the leaves are dead, I remove them and turn the pots onto their sides so they will remain dry. They can stay in this spot until the following year when the cycle begins again. Any seed heads formed from the flowers, I push under the top 1cm of soil in a new pot, to make new bulbs. I find that the bulbs will continue giving lovely flowers for 3-4 years.

Above: Asian Tulips
Left to Right: Daffodils and
Pansies



NANCY'S NOOK



~In the hot and humid rainforests of the
Amazonian basin, grows a small evergreen tree...

..shaded by taller trees and thriving only in the ideal stable conditions of high humidity, a slightly acidic soil and regular rainfall. One of its distinctive features is that its fruit, or pod, and the drink made out of its beans, has been worshipped for thousands of years and was used as a powerful and healing food, including use in ancient ritual and ceremony.

In 1753, the famous Swedish botanist Carolus Linnaeus gave the tree its scientific name: *Theobroma cacao*, or "food-of-the-gods cacao", and the world is still worshipping and being enchanted by the dark and mysterious food derived from these beans: chocolate. 95 percent of the chocolate produced around the world is made from beans that are mainly grown for maximum yield rather than flavour. It is made on an industrial scale in very large factories, and unfortunately often overlooks the health and wellbeing of the farmers who take care of the trees and the health of the land that grows the trees. In addition, the majority of chocolate has ingredients added that reduce the health benefits of the cacao bean (now cocoa bean because of the roasting process) and are high in refined sugars, saturated fats, artificial flavours and fillers. This commercial chocolate is a sorry reproduction of the far more beautiful, mysterious and delightful face of the true cacao chocolate.

In order to fully participate in the experience of true chocolate, these are some of the things to look for: Chocolate made from cacao not cocoa. (The processing heat that turns raw fermented cacao beans into cocoa products affects the beans on a molecular level, changing their structure and degrading nutrient content and lessening antioxidant effects). Cacao percentages should be high. Aim for 70% cacao mass and above. The fewer ingredients, the better. No dairy, as dairy limits the body's ability to absorb phytonutrients. Choose organic and fair trade whenever possible. *by Nancy Horenburg*

Winter brings about cold fingers and toes, so here is a little Qigong practice to stay warm.

Gently connect the tip of your index finger with the tip of your thumb, making a circle. Keep as long as you want and repeat as needed, whenever you need to. Holding this position helps keep your life-force inside your body for longer, which can help your hands and your feet stay warm.

Finding the best chocolate bar is easy for you!
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A Roaring fire, a good book and a mug of hot chocolate... what more could you want?

Indulge in this recipe from Sacred Science, and if you are present and fully aware in the adventure of drinking you might also experience some spiritual benefits of cacao, which acts as a heart chakra opener, allowing for deeper, authentic love-based connections and emotional release. It also creates a stronger connection with your higher self, facilitates deeper meditation, providing clarity and allowing you to receive inspiration and experience conscious creativity, and improves yoga practice along with increasing flow of energy through Qigong, Reiki, and Kundalini. (www.thesacredscience.com/food-of-the-gods-sacred-chocolate/)

Sacred Hot Chocolate (makes 1 serving)

Ingredients:

280ml hot water (almond milk can be substituted)

2 Tbsp. raw cacao powder

1 Tbsp. honey

1 Tbsp. organic coconut oil

1 tsp. maca powder

1/4 tsp organic vanilla extract

pinch of cayenne

pinch of cinnamon

Directions:

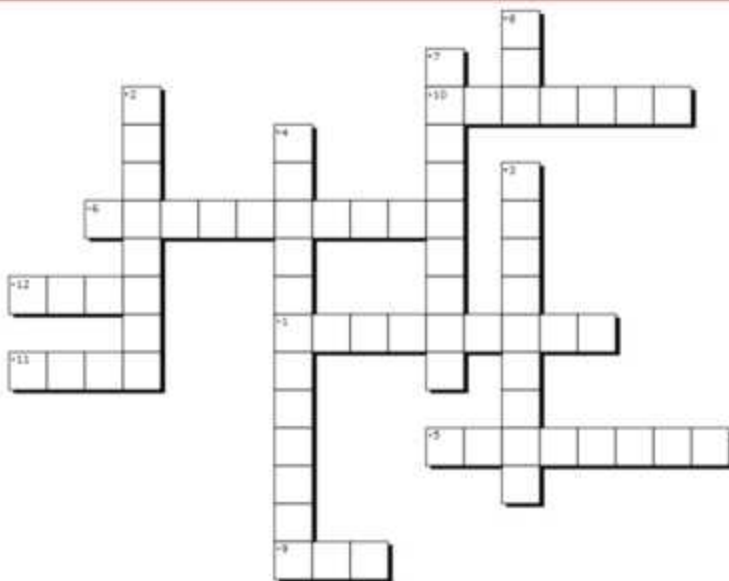
1. Put all ingredients, except for cinnamon, into a medium sized sauce pan over medium heat.

2. Whisk all ingredients together thoroughly.

3. Once the contents are simmering, remove from heat and pour into a cup.

4. Sprinkle cinnamon over top of the brew and **enjoy!**

puzzles ~ write in with your stories or queries



1. Friend in the garden
2. Tree in Setswana
3. Fertilize by bees
4. Of Bill Mollison fame
5. Flower in Setswana
6. Botanical suburb in Mahalapye
7. The Village has one of these gardens
8. Epa in English
9. Short for green
10. Vital instrument without pesticides
11. _____ vera
12. Olive by another name

Created with XWords - the free online crossword puzzle generator
<https://www.xwords-generator.de/en>

WORDSEARCH NO.1

O V E B E M T R O W E L A W I
 W K M T D J P K F W A S T N L
 Z H B U G X F Y F L T B H U T
 Z V E N E D R A G N E W Z Q N
 Q N X D L V F F E G K F O T M
 T M L I G L F M Y G O L O C E
 O E X N O E N H F B J W I N S
 P T R W Z O H B V P O I H D V
 I C E E R Q U O S R L G C Y Q
 A R R I D L Q U G U G R D J W
 R X V E B D T P X N Q N Z A U
 Y N B I D C A U S E L E P X E
 E C N U A I B L C P O Z V Y F
 I E Z C I U P T T H O U T V G
 V J C I E X E S E R U N A M J

ANT
 BUG
 BULBINE
 CACTUS
 ECOLOGY
 ENVIRONMENT
 FLOWER
 GARDEN

HEDGEHOG
 LADDER
 MANURE
 PRUNE
 SPIDER
 TOPIARY
 TROWEL

Puzzle 1 (Medium, difficulty rating 6.0)

			7			3		8
4		7			8	1		
9				6		5	7	
		6					4	1
		4				8		
3	7					9		
	2	8		3				5
		5	2			7		3
7	9			6				

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write ins -

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