

## Welcome to a Fledgling Forest

We are in the process of creating a forest. Dozens of trees and shrubs have been planted, mainly from the warmer subtropical parts of South Africa. To create shade and shelter for these tender species, we have used fast-growing pioneer trees.

The forest is still a bit patchy. You'll be able feel the contrast between open, sunny spaces and the cool shade found under a closed forest canopy. These different habitats provide food and shelter for a variety of animals and makes it a good place for bird watching.

As you walk through this young forest, try to imagine what it will look like in ten years time. Come back and see how it is growing from time to time.

### Please help us name this forest

We need a name for this area! On the Plant Records map it is simply marked as Section Q. If you can think of a descriptive name, please give us a call at tel 762 1166 and ask for Maryke.



How do you create a forest?  
Enter this area to find out!



Part of the mission of the National Botanical Institute is to grow and display plants. This garden section forms part of our collection of subtropical trees.

This sign was placed at the entrance to 'Section Q' at Kirstenbosch NBG - an area which was being developed as a forest but didn't yet have a name. The sign invites visitors to suggest a name for the area. The response was small and mainly from children, but the suggestions were good. The area has now been officially named the 'Enchanted Forest'.

A3 temporary sign. Single colour (black).

This sign invites visitors to look out for wildlife in and around a pond in the Pretoria NBG. Notice the absence of scientific jargon and how simple words have been used to explain the ecology of ponds.

A3 temporary sign.  
Single colour (black).

**Ponds attract wildlife!**

What living creatures can you see? How many birds' nests can you identify? A successful pond should abound with wildlife: fish, birds, tadpoles, frogs, insects ... and of course, plants. For it to flourish the balance of plants and animals must be just right.

**Why do ponds need plants?**

Plants provide oxygen, shade and shelter for fish and other animals. Waterlilies should cover at least one-third to half the pond surface to cut out the amount of sunlight penetrating the water. This helps reduce the oxygen-hungry green algae.

**Fish eats fish ... and other things!**

Look for the tadpoles. They provide food for many creatures, and are also preyed on by children! Some fish feed on mosquito larvae; others eat algae or other fish. Certain birds eat fish, so remember to provide rocks or plants for the fish to hide under!

# Coffee!



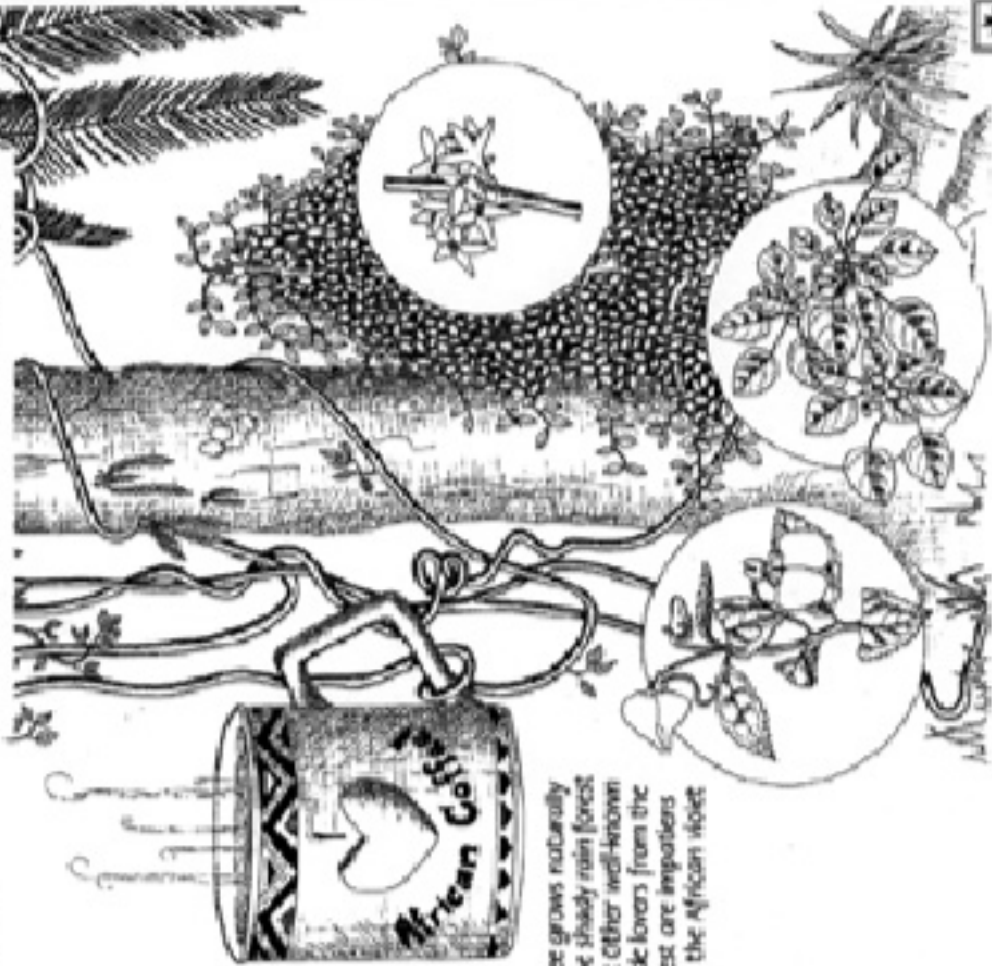
## Tasty Treasure

Africa is the home of coffee, though more now grows in Brazil. The bushes in front of you are *Coffea arabica*, the most common commercial species. Its attractive white flowers and colourful (caffeine-rich) seeds make this a true treasure bush.



There are twenty species of coffee. Commercial plantations use only two of these.

# African Coffee!



Coffee grows naturally on the shady rain forest floor. Other well-known shade lovers from the forest are impatiens and the African violet.

Notice the illustration which has been placed centrally on this sign. Most people can relate to a big mug of steaming coffee, so this makes the subject very accessible. The main text is short and concise (42 words), and extra bits of information are given in the captions.

A3 temporary sign. Single colour (black).

## Helmeted Guinea Fowl—pest-controllers not on the payroll!

Helmeted Guinea fowl keep this Garden pest-free by eating termites and other insects—don't feed them, or they will get lazy and won't do their job.

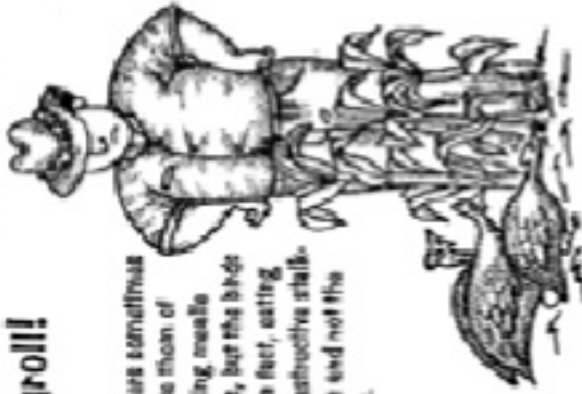
They breed only in good rainfall years when the males become extremely aggressive and chase and annoy one another.

Six to eight well-concealed eggs are laid in a grass-lined hollow in the ground. The parent bird will remain stubbornly sitting on its eggs, no matter what! Look out for chicks in summer.

Kgala e dina gore tshengwana ye e dula e se na ditlomi ka go ja masekale le dibumbuwano tse dingwe — o eka wa di fa dilo, di ka thoma go tshela gomme tsa se dina molomo wa tsona.

Di aama fela ka sehla seo di pula di nago kudu go ditona di tshelanya kudu di tshelanya le go ramolana.

Wae a tshela goba a senwani a beshwa ka molomo woo o ditloghwago ka tjang. Nonyana ye e lego molomedi e tsa eva godimo go mas a yona ka tjang — le go go ka direga emf!



Fatnus tshelthusa aozoa thoma of breaking maseka plants, but the birds are, in fact, eating the destructive stalk-borers and not the seeds.

Gewone Terentiale hoo Hentlie Tuin vry van plaa, want hulle vreet termiete en ander insekte—moet hulle aasblief nie voor nie, anders word hulle te lui om self kos te soek.

Hulle boei net in goeie reinjare. Die mannetjies raak dan baie aggressief en jaag en treiter mekaar gedurig.

Die goed weggesteekte boeke in die grond waarin ses tot agt eiers geleë word, word met gras uitgevoet. Die ouer sal op die nes by sit en versig om jod te ges, wat ook al gebracar! Wees op die waarsyk vir kuiseas in die somer.

Humour has been used in the title to catch people's attention. The theme of the sign (Guinea-fowl help to control pests) helps visitors to understand the request not to feed these birds. The text (font size) is rather small.

A3 temporary sign. Single colour (black).

**Adapted for Survival**

If you look up to the mountain, you can see fynbos growing wild on the steep upper slopes. Fynbos plants are tough; they survive long dry summers, strong winds and grow in sandy infertile soil. Look out for some of the ways in which fynbos plants are adapted to survive these harsh conditions.

**Aangepas vir Oorlewing**

Kyk na die berg. sien jy hoe groei die fynbos wild teen die steil hange? Fynbos is taai: hulle oorleef die lang, droë somers en stormwinde, en groei in arm sandgrond. Kyk of jy kan uitvind hoe fynbosplante aangepas is om in hierdie stranne toestande te oorleef.

**Iyakwazi ukumelana neemeko ezinzima**

Ukuba ngaba unolujonga phaya phezu lu entabeni uya kukumisa ukuba kukho izityalo zifynbos ezithula emioetlukeni yamathambeka. Izityalo zefynbos zomelele kukhule ziyakwazi ukumelana nokoma kwasehlotyeni neminyaka emihulu kwaye zithula kwimihlaba ebuntlaba ebengqibanga. Qwalasela ezinye zemilela ezikulangqelelwe ngazo ezi ziyalo ukumelana nez i meko zinzima.

**Water users**  
Many shrubs have tiny leaves. This minimises the leaf surface area from which water is lost by transpiration.

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Many shrubs have tiny leaves. This minimises the leaf surface area from which water is lost by transpiration.

**Proteas have leathery leaves**  
which are covered by a thick cuticle (skin). This helps to reduce water loss.

**Internal support**  
Many fynbos plants such as restios have special strengthening cells which prevent the plant from wilting.

**Hiding underground**  
Many bulbous plants escape the dry season by going dormant (surviving in a resting state) during summer.

**thick, waxy epidermis**  
**ring of strengthening cells**

The title of this sign says it all: it summarises the theme. Plants are adapted for survival. Notice how the first line establishes a link between plants in the garden and those growing wild on the mountain. The horticulturist was asked to plant examples of the four types of adaptations within a few metres of the sign.

300 x 600 mm aluminium sign. Single colour (black).

**No fire = No fynbos**

Fire keeps fynbos alive. It returns valuable nutrients to the soil and clears old vegetation to make space for new growth. However, if fynbos burns too often, plants do not have a chance to produce seed. Less to fifteen years between fires usually gives fynbos plants enough time to build up a seed reserve.

**Geen Veldbrande = Geen Fynbos**

Nous verstaan fynbos as voorsienbaar. Dit wil sê, onsekerheid is voorsienbaar. Dit is die grond as gewoonlik, ons hoegenaamde plant te maak vir nuwe groei. Maar te veel veldbrande verhoed plant om seed te vorm. In tydperk van vyftien tot vyftien jaar tussen veldbrande gee fynbosplanten genoeg tyd om seedreserwies op te bou.

**Ukungabikho komlilo = Ukungabikho kwefynbos**

Umlilo ulencela ukusabela kwefynbos. Ukuqiniseka emahlaba kumisa-sonde, zamhamba ezphambili, wenza ukuba izinyalo ezidla zivule umoya emahlalayo. Kumbi ke si fynbos isoba cho loo nto-canza izinyalo zingabi nakukwazi ukunika imibono, izithaba zamnyaka elithum elinebuleni okanye elinebuleni phantsi kokuba kuqhindele kuthi siba ngokunika izinyalo zefynbos kuziba elandelayo kokuphelela kwifynbos ngokwazi kwifynbos.

Plants that are killed by fire must regrow from seed. Many seeds only germinate when stimulated by smoke or the heat of a fire.

Some plants can regrow after fire from an underground bulb or rootstock.

**NBI. Scientists make a major discovery!**

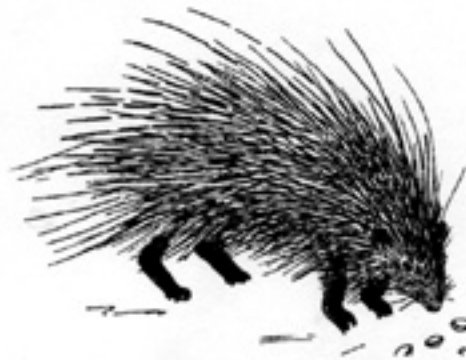
In 1990 researchers at the National Botanical Institute discovered that many fynbos seeds need smoke to germinate. A special smoke extract has now been developed to enable gardeners and nurseries to propagate fynbos plants from seed.

Bulbs such as the Fire Lily flower immediately after a fire.

The theme of this sign is that fynbos vegetation needs occasional fires. The main text is short and concise (58 words), and additional information is given in the illustrations and captions. Notice the reference to an exciting discovery made by scientists from the organisation. It is good to inform visitors about the importance and relevance of your organisation's achievements.

300 x 600 mm aluminium sign. Single colour (black).

# A Porcupine was Here!



Porcupines come  
at night and dig  
for juicy bulbs,  
roots and tubers.

'n Ystervark was hier!



Porcupines are regular visitors at Kirstenbosch NBG. They come at night and dig for juicy bulbs and roots, leaving untidy holes where they have been. A simple plant label has been used to explain the presence of these holes and dug-up bulbs.

*100 x 150 mm aluminium label on a galvanised steel peg. Single colour (black).*



**Focus rings** can be attached to interpretive labels to draw attention to something small or difficult to see. In the Desert Botanic Garden (Phoenix, USA) they have used a focus ring to draw attention to a small cactus growing in the shade and shelter of a bigger bush. Notice that both the label and the subject are close to the path, where it's easy to read and see.



**Telescopes** help visitors to focus on far-away subjects. In the Desert Botanic Garden (Phoenix, USA) they have used a simple metal tube to frame the subject of the sign – viz. a bird nest in a barrel cactus. It was not necessary to have a glass eyepiece in the tube because you can easily see the nest with the naked eye. Telescopes are provided at two heights – one for adults and one for children.

## USEFUL RESOURCES

### Books

Filmer, Rob and Julie (1998). *Giving people with disabilities the opportunity to enjoy our natural heritage*. Eco-Access publication. (address below)

Ham, Sam (1992) – *Environmental Interpretation – a practical guide for people with big ideas and small budgets*, North American Press, USA.

Leadlay, Etelka and Greene, Jane (Eds.) (1998) – *The Darwin Technical Manual for Botanic Gardens*. Botanic Gardens Conservation International (BGCI), London. This manual contains an excellent chapter on interpretation in botanical gardens.

Roff, John (1995) – *Making Meaning - trail tips for environmental educators*, Share-Net. (contact details below)

Ryan, Tom (1995) – *Connecting with Visitors*, Douglas/Ryan Communication, 2153 48th Avenue, San Francisco, CA 94116, USA.

Van Wyk, Ben-Erik and Gericke, Nigel (2000) – *People's Plants - a guide to useful plants of southern Africa*, Briza Publications, PO Box 56569, Arcadia, 0007, Pretoria, South Africa.

Van Wyk, Ben-Erik, Van Oudtshoorn, Bosch and Gericke, Nigel (1997) – *Medicinal Plants of South Africa*, Briza Publications, PO Box 56569, Arcadia, 0007, Pretoria, South Africa.

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### Organisations

**Eco-Access** – Rob and Julie Filmer, PO Box 1377, Roosevelt Park, 2129, South Africa. Tel: +27 (0)11 477 3676, fax: +27 (0)11 447 3675, website: <http://www.linx.co.za/eco-acc>, email: [eco-acc@cis.co.za](mailto:eco-acc@cis.co.za). Eco-Access is an organisation which aims to create sustainable links between people with disabilities and the natural environment.

**Environmental Education Association of Southern Africa (EEASA)** – PO Box 394, Howick 3290 South Africa. Tel +27 (0)33 330 3931, Fax +27 (0)33 330 4576, email: [eeasa@futurenet.co.za](mailto:eeasa@futurenet.co.za), website: [www.info-net.net/eeasa](http://www.info-net.net/eeasa)

**National Association for Interpretation (NAI)** – website <http://www.interpnet.org>, email: [naiexec@aol.com](mailto:naiexec@aol.com).

**Rhodes Environmental Education Unit** – Rhodes Department of Education, PO Box 94, Grahamstown, 6140, South Africa. Tel: +27 (0)46 603 8389, fax: +27 (0)46 636 1495.

**Share-Net** – Wildlife and Environment Society of South Africa, PO Box 394, Howick, 3290, South Africa. Tel: +27 (0)33 330 3931, email: [sharenet@futurenet.co.za](mailto:sharenet@futurenet.co.za). A wide range of inexpensive environmental education resources are available through Share-Net. These materials are available copyright-free to support the local adaptation and development of educational materials.

**SADC Regional Environmental Education Programme** – Tel: +(0)33 330 3931, email: [sadc-reec@futurenet.co.za](mailto:sadc-reec@futurenet.co.za). Supports training, educational resources and networking processes in the SADC (Southern African Development Community) region.