

EASY

SCIENCE



Masked Weaver
Photo: Barry Wilkins

BIRDS ON YOUR DOORSTEP

Birdwatching is one of the most popular hobbies today. The wonderful world of birds waits for discovery right at your doorstep...

South Africa with its sunny weather and where the soil hardly ever freezes in winter is a bird's paradise. No matter where you are, you can see birds. At the seaside, on the top of a mountain, in a mealie field, in your garden, or in the city centre, there are birds to see.

Birds are pretty to look at, it is fascinating to watch them go about their business and their songs are lovely to hear.

There are more than 950 different bird species in Southern Africa. Some of these birds (about 60 species) spend our winters in tropical Africa, while other birds (about 120 species) visit us in summer from other parts of Africa, Europe and Asia. We call these migratory birds. European Swallows and White Storks are well-known migratory birds.

The importance of birds

We eat their meat and eggs, and wear their feathers as decorations. We keep them as pets and feed them in our gardens, but most of all we admire them because they can fly.

Birds spread plant seeds to other areas through their droppings. They also carry sticky seeds of some water plants on their feet. Sunbirds carry pollen from one flower to the next.

Owls control the numbers of rodents such as rats that spread certain diseases. Eagles help control the numbers of small mammal prey that can overpopulate an area.

Birds help to monitor the environment. Scientists analyse their tissue to measure the extent of environmental pollution and poisons.

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EasyScience is produced by the South African Agency for Science and Technology Advancement (SAASTA), an operational unit of the National Research Foundation. SAASTA's mission is to promote the public understanding, appreciation and engagement with science and technology among all South Africans.

Visit the website: www.saasta.ac.za for more information.



Birdwatching

It can be a real challenge to identify different types of birds. Sometimes you need to be very patient to see a particular bird well enough to identify it. Start by learning the names of ones you often see in the area where you live, and get to know them well. You will be surprised how soon you will get to know the names of many types of birds.

You will need:

- ◆ A book on Southern African birds (called a Field Guide)
- ◆ A notebook and pen
- ◆ A pair of binoculars
- ◆ An adult to accompany you – especially if you go out to a lonely spot or into the veld

The best time for bird watching is early morning when the birds are active. As the day wears on, you will see fewer and fewer birds.

A good place to start watching birds is at a dam or pond. Look for a spot where you can sit still and let the birds come to you. You will have to be very quiet, even if you get excited about the birds you see. Also remember not to wear bright coloured clothes, especially white, as this might frighten off birds.

When you see a bird, watch it carefully and make notes in your notebook of any special features. Firstly, you should note its habitat (in the water, in a tree, or on the ground), what it eats, how it moves (whether it hops, runs or walks). Then look for other features such as its size, its bill and tail. You should also listen very carefully for any sound it makes. There are various tapes and CDs available on the bird calls and sounds. These are very helpful when you try to identify a bird.

Size

Size is an important factor when you try to identify a bird. Look carefully and make a note of its size in your notebook, comparing it to that of birds you know well, like a chicken, a dove or house sparrow.

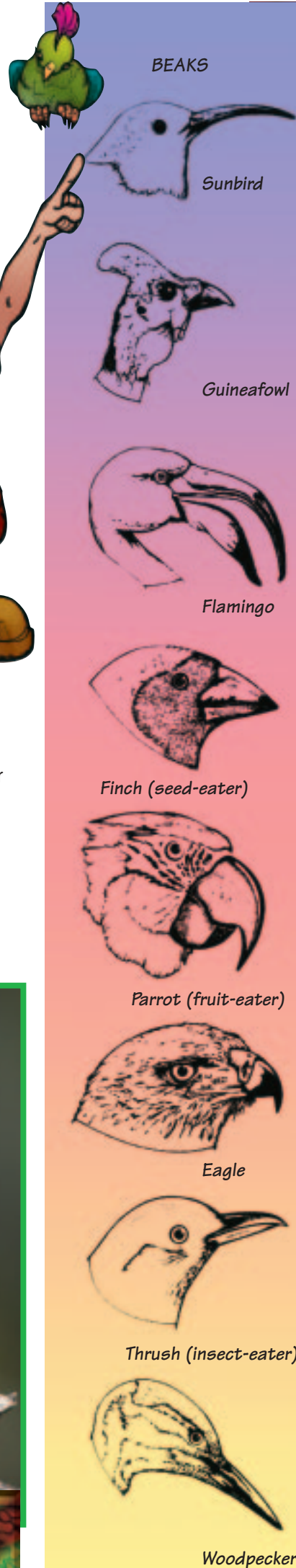
Beaks

The shape of a bird's beak can help a lot to identify it. Birds' beaks are adapted in all sorts of ways to suit their feeding habits:

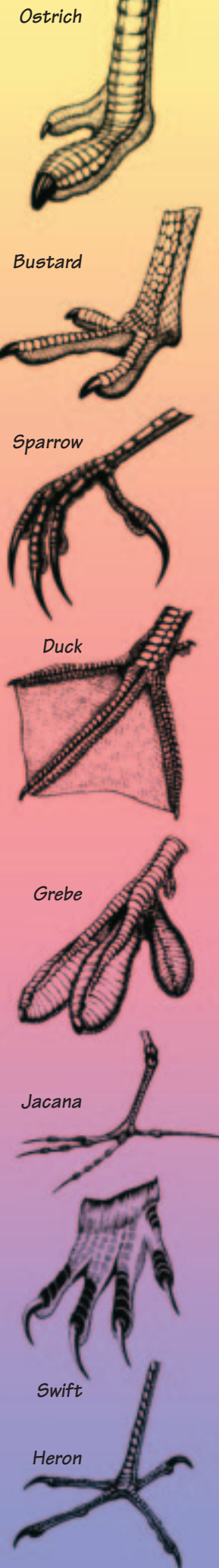
- ◆ Seed-eaters such as sparrows and canaries have short, conical beaks;
- ◆ Sunbirds and sugarbirds have slim, down-curved beaks for drinking nectar from the base of flowers;
- ◆ Insect-eaters have a slightly down-curved upper part at the tip to hold on to insects;
- ◆ Parrots and other fruit-eaters have strong, hooked beaks for cracking hard fruit and nuts;
- ◆ Birds of prey like eagles have strong, hooked beaks for tearing their prey apart;
- ◆ Herons and other fish-eaters have long, sharp, pointed beaks for spearing water animals;
- ◆ Ducks have flat beaks for filtering fine pieces of food out of mud and water.



Blue Waxbill
Photo:
Ulrich
Oberprieler



FEET



Tails

The length and shape of a bird's tail can help you identify it. Different tail shapes that you will see are:

- ◆ Rounded
- ◆ Wedge-shaped
- ◆ Notched
- ◆ Square
- ◆ Forked
- ◆ Graduated

feet and Toes

- ◆ Most birds have feet with three toes pointing forward and one backwards. This allows them to perch on branches;
- ◆ Birds of prey have powerful toes with sharp talons (claws) to catch and kill their prey;
- ◆ Swifts cannot perch on a twig. All four toes point forward, enabling a swift to cling to vertical surfaces such as walls or cliffs;
- ◆ Waders such as herons have long legs and toes to enable them to walk in shallow water;
- ◆ Swimming birds like ducks have webbed toes – toes connected by sheets of skin;
- ◆ Many ground-living birds have only three toes that are well adapted for running.

Did you know?

Only a few bird species cannot sing. Storks, certain pelicans and some vultures are apparently mute.

The biggest living bird is only found naturally in Africa and Arabia: the well-know ostrich. It cannot fly, but can run at a speed of up to 70 km/h.

Help the scientists

Join your local bird club if you want to get to know the birds of your area really well. They often go on organised outings where you can learn a lot about birds from the experts. Apart from being great fun, these clubs can help you put your bird-watching and identification to good use. Scientists are always trying to improve on the maps of the distribution of birds in Southern Africa and your observations can help them do this.

Find the telephone number of your nearest bird club in your local newspaper or telephone directory. Bird clubs are coordinated by BirdLife South Africa, the local branch of BirdLife International.

Zoos in South Africa, like the National Zoological Garden in Pretoria, present courses on birds for learners. These holidays, on 10 and 11 April they are presenting bird courses for grade 1 – 3 learners. Contact them at (012) 328-3265 if you are interested. Booking is essential and the cost is R70 per learner.

Bird baths

You don't have to go far from home to study birds. You can attract many birds by installing a birdbath in a quiet corner of your garden or school. A birdbath needs a rim that the birds can stand on. It should be made of something that is not metal. Metal gets too cold in winter and too hot in summer.

A lid of a plastic trash can and the underdish of a plastic or ceramic plant pot make good bird baths. Make sure to put in fresh, clean water every few days.

TAILS



Food

Birds eat 80% of their own weight every day. If you weigh about 40 kg, you will have to eat 32 kg of food every day to keep up with the birds! So, of course, birds are almost always hungry.

By putting out a handful of seeds in the mornings, you will attract many seed-eaters. Cut open some fruit or take peels of fruit and fasten them onto a branch. Woodpeckers, bulbuls and thrushes will soon discover this source of food.

When you buy bird food, look for the kinds that birds love best:

- ◆ Berries, raisins and other dried fruit
- ◆ Seeds like millet, manna or canary seed
- ◆ Peanuts (unsalted, shelled)
- ◆ Sunflower seeds (shelled)
- ◆ Suet. This is beef fat. Ask your mother to keep some when you have beef for dinner. Spread the suet over a large pine cone. Then stick a few seeds into the suet. Now tie the pine cone in a tree.

CAUTION! Don't feed birds on the ground if there are cats around. Birds can be easy prey while they are feeding. Rather build a bird feeder.



Bird Feeder

This bird feeder is easy to make and will last all year round.

You will need:

- ◆ A large plastic bottle with a handle and a screw cap
- ◆ Scissors
- ◆ A piece of rope

Wash out the bottle and rinse it. Ask an adult to help you use the scissors to cut an opening in the side of the bottle opposite to the handle. Start the cut about 3 cm from the bottom of the bottle. The opening should measure about 13 cm x 10 cm.

Tie a piece of rope around the handle of the bottle. Hang the bottle from the branch of a tree and fill it with seeds. Birds will love their bottle feeder if you keep it filled with seeds.

Sources: National Zoological Gardens; Southern African Wildlife, Readers Digest; Roberts Birds of South Africa, Mclachlan & Liversidge; Voëls van Suider-Afrika, O.P.M. Prozesky.



MARK NATIONAL SCIENCE WEEK IN YOUR DIARY!

The Department of Science & Technology is calling on you to mark 13 to 20 May 2006 as the time when the annual National Science Week will take place. With only two months to go, preparations are in full swing to ensure that this week is celebrated across South Africa.

The key objectives of National Science Week are:

- ◆ To create awareness of the important role that science play in people's daily lives;
- ◆ To encourage young people to consider studying and improving their performance in mathematics and science; and
- ◆ To attract more young people into science, engineering and technology careers.

This year's theme is: Tomorrow's science and technology are in our youth's hands.

For more information on NSW events and activities, contact the South African Agency for Science and Technology Advancement (SAASTA) on (012) 392 9300 or visit the website (<http://www.saasta.ac.za>).

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