

If you enjoy the outdoors, you'll inevitably encounter the odd snake. It's worthwhile learning about them so you can be fully prepared in the unlikely event of a snake bite.

Reports of snake bites vary from region to region. Zululand has the most cases – usually more than 400 per year, many of them serious. But snake bites often aren't reported and it's safe to say that many more people are bitten annually than the data suggests. Of the thousands of bites, there could be as many as 50 deaths per year.

That said, nine times out of 10 the snake you encounter will be harmless, or it will have very mild venom. Even when bitten by a venomous snake, the vast majority of victims survive if they receive the correct treatment.

This is a guide to the most dangerous snakes you're likely to encounter and what to do in an emergency.



JOHAN MARAIS
On my bedside table? Enough: Breaking free from the world of more by John Naish
iPod playlist? Changes in Latitudes, Changes in Attitudes by Jimmy Buffett

Johan presents snake awareness and snake handling courses throughout Africa. He is the author of several reptile books, including *A Complete Guide to the Snakes of Southern Africa* and *Snakes & Snake Bite in Southern Africa*.

Snakes alive!

Snakes are more scared of you than you are of them, and they will only bite when cornered or startled. The best weapon in your arsenal is education: Learn which snakes are dangerous and which aren't, and stay calm in an emergency. Here's what you need to know.

WORDS & PICTURES JOHAN MARAIS

! WHICH SNAKES ARE DANGEROUS?

Of the 135 species of snakes in southern Africa, only about 12 are potentially deadly. Two of those – the Gaboon adder and black spitting cobra – are very rare and not worth worrying about. Here are the top 10 most dangerous snakes to watch out for.

BLACK MAMBA

This is by far the most dangerous snake you'll encounter. If cornered, it bites readily and often more than once. Because of its size, it carries a lot of potent neurotoxic venom that will have you gasping for breath. A serious bite will cause death within four to 18 hours if not treated immediately. In exceptional cases victims have died in less than an hour.

- **Identifying characteristics:** It measures about 50cm when it hatches and grows very quickly in the first year, so it's unusual to encounter small individuals. Most adults measure 2,5–3,2m in length. They are usually grey in colour but may be olive grey with old individuals going very dark. The head is coffin-shaped.
- **Distribution:** Found from near Coffee Bay in the Eastern Cape, north into KZN, eastern Swaziland, Mozambique, Mpumalanga and Limpopo to North West, with some isolated records from the Northern Cape, Botswana and Namibia.



GREEN MAMBA

This snake lives mostly in trees and seldom features in snake-bite accidents. The neurotoxic venom is similar to that of the black mamba, but not as potent.

- **Identifying characteristics:** Bright green on top and below, sometimes with yellow speckles. The head is coffin-shaped and an adult is thicker than a broomstick. This snake is often confused with the harmless green bush snake, which is thinner than your index finger.
- **Distribution:** From Mbotyi in the Eastern Cape, north along the KZN coast and inland towards the Mozambique border. It does not occur in the Kruger Park, Swaziland or Mpumalanga.



MOZAMBIQUE SPITTING COBRA

This snake accounts for the greatest number of serious bites because it's an active nocturnal hunter, often ending up in people's houses where victims are bitten while asleep on the floor. The venom is cytotoxic, causing pain, swelling and often severe and extensive necrosis, which could require skin grafts.

- **Identifying characteristics:** Brown with a brown to salmon-pink belly and some black throat markings – visible when the snake spreads a hood.
- **Distribution:** From southern KZN north into Mozambique, Swaziland, Mpumalanga, Gauteng, Limpopo and North West.

www.gomag.co.za



PUFF ADDER

Historically, it was thought that the puff adder accounted for the most number of serious snake bites in South Africa, but that dubious honour goes to the Mozambique spitting cobra. The puff adder is sluggish and bites are usually delivered in self-defence. The venom is potently cytotoxic, causing severe pain, swelling, blistering and sometimes tissue death (necrosis). The venom is relatively slow in action; most victims who are hospitalised survive their bite.

- **Identifying characteristics:** Short and fat with a triangular head and chevron markings down the body.
- **Distribution:** Most of southern Africa and elsewhere further north.



CAPE COBRA

This snake has the most potent venom of any African cobra. The neurotoxic venom causes muscle weakness and affects breathing. Victims should be hospitalised as soon as possible.

- **Identifying characteristics:** Colouration varies dramatically: yellow and orange are most common, but you also get dark brown, light brown and speckled individuals. Juveniles (pictured) have dark banding on the throat. The snake usually has a shiny appearance.
- **Distribution:** Found in the Cape, the Free State, Botswana and Namibia.

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FOREST COBRA

This shy snake inhabits dense vegetation and seldom features in snake-bite accidents. It was previously thought that the venom was predominantly neurotoxic, but recent bites have shown cytotoxic symptoms.

- **Identifying characteristics:** Speckled and shiny below, brown on the front half, darkening to black towards the tail.
- **Distribution:** From Ballito north to Mozambique, with two recent records from Limpopo – Pafuri and the eastern Soutpansberg.

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SNOUTED COBRA

This snake is also very dangerous, with similar venom to the Cape cobra, but it grows much bigger – sometimes up to 3 m in length.

- **Identifying characteristics:** Usually light to dark brown or grey brown with darker throat markings. Some individuals have broad light and dark bands along the body.
- **Distribution:** From north of Durban into northern KZN, Mozambique, Swaziland, Mpumalanga, Limpopo, Gauteng and North West.

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VINE SNAKE (OR TWIG SNAKE)

This snake has a similar haemotoxic venom to the boomslang, but not as potent. It's well camouflaged and seldom bites, and will puff up when threatened (pictured).

- **Identifying characteristics:** This slender snake resembles a branch and is incredibly well camouflaged. It usually remains very still in a bush or shrub.
- **Distribution:** From Mbotyi in the Eastern Cape, north throughout coastal KZN into Mozambique, Swaziland, Mpumalanga, Limpopo, Gauteng, North West and elsewhere further north.

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BOOMSLANG

Drop for drop, the venom of the boomslang is the most potent in Africa, but the yield is puny. It's an arboreal snake and will only bite if you catch it or try to kill it. The haemotoxic venom affects the blood-clotting mechanism and causes internal bleeding. There is a specific antivenin for a boomslang bite.

- **Identifying characteristics:** Juveniles are light grey with huge emerald eyes; adult males (pictured) can be green, green with black interstitial scales or black with yellow or orange sides; females are brown.
- **Distribution:** Most of the wooded parts of the country. You won't find it in the western parts of the Northern Cape, the Highveld and eastern Free State.

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RINKHALS

The venom of the rinkhals is neurotoxic with some cytotoxic effects, causing pain, swelling and occasionally necrosis. That said, deaths are virtually unheard of. It is well known for its ability to play dead – it will turn upside down with its mouth agape and will bite quickly if approached.

- **Identifying characteristics:** Specimens from the Highveld are dark grey to black with white bars on the throat (pictured). In KZN and the Cape they are dark grey with light yellow to orange bands.
- **Distribution:** On the Highveld and throughout the KZN grasslands, into the Eastern and Western Cape.

KNOW YOUR VENOM

All snake venoms are complex. A snake with predominantly neurotoxic venom may also have active cytotoxins and/or haemotoxins in its venom. This is how the venom works.

NEUROTOXIC VENOM affects the nervous system. There is usually pain at the site of the bite, but minimal swelling. Symptoms include drowsiness, vomiting, increased sweating, blurred vision, drooping eyelids, slurred speech and difficulty in swallowing and breathing. The respiratory muscles are gradually paralysed, which may lead to respiratory failure.

CYTOTOXIC VENOM affects the cells. Symptoms include immediate burning pain at the site of the bite followed by local swelling that could continue for several days. In severe cases the entire limb may swell. Local tissue necrosis is quite common and may result in the loss of a limb.

HAEMOTOXIC VENOM affects the blood. There is usually little or no swelling. The bite is followed by oozing of blood from the site, headaches, mental confusion, nausea, vomiting and increased sweating. After this there is bleeding from small cuts, the mucous membrane and eventually severe internal bleeding.

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INSPIRED BY LIFE

South Africa's 10 most dangerous snakes: *Where you'll find them*

<p>1 BLACK MAMBA</p>	<p>2 GREEN MAMBA</p>	<p>3 PUFF ADDER</p>
<p>4 MOZAMBIQUE SPITTING COBRA</p>	<p>5 CAPE COBRA</p>	<p>6 FOREST COBRA</p>
<p>7 SNOUTED COBRA</p>	<p>8 BOOMSLANG</p>	<p>HABITAT</p> <p> GROUND SHRUBS</p> <p> TREES ROCKS</p> <p>ACTIVITY</p> <p> DAY ACTIVITY NOCTURNAL</p>
<p>9 RINKHALS</p>	<p>10 VINE SNAKE</p>	<p>TIP: Keep your property clear of building rubble, heaps of rocks, sheets of corrugated iron and fish ponds – these provide a suitable hiding place for snakes and for the rodents and frogs that they eat.</p>

+ What to do in an emergency

If you're bitten by a snake, even a deadly one, chances are you'll survive if you act quickly and seek treatment. It may be useful to identify the snake responsible for the bite, as long as there is no risk of a second bite or someone else getting bitten. A medical doctor will treat a bite symptomatically. Most cannot identify venomous snakes and will consult a poison centre for advice. You should treat all snake bites the same way. Most people can't tell what snake was responsible and therefore general first-aid rules apply.



SURVIVOR. Mark Robertson from the St Lucia Crocodile Centre was bitten by a green mamba while trying to remove it from the restaurant roof. He recovered fully.

FIRST, HERE'S WHAT NOT TO DO:

- X Don't cut or suck.** Never cut or suck anywhere near the fang punctures. In my opinion, all cutting and sucking devices are useless and do not extract significant amounts of venom. They may do more damage than good. Likewise, don't use electric-shock devices or any other hocus-pocus products.
- X Don't apply a tourniquet.** Many people are bitten by harmless snakes or venomous snakes that don't inject venom. Tourniquets are useless in most bites, as venom is transported largely through the lymphatic system and not through veins and arteries. Many snake-bite victims have had serious damage done to limbs because of improper tourniquets – in some cases limbs had to be amputated!
- X Leave the bite alone.** Do not apply ice to the bite area and don't, under any circumstances, give the patient alcohol.
- X Don't panic.** Avoid excessive movement like running. This will speed up the heart rate and possibly spread the venom faster.
- X Don't get gung-ho with antivenin.** Antivenin is not a first-aid treatment. Do not inject antivenin, as most victims do not require it. If necessary, antivenin must be injected by a medical doctor in a hospital environment. Initial dosages of 80–100 ml are administered intravenously. Adrenaline may also be required, as some victims are allergic to antivenin and may go into anaphylaxis.

HOW TO TREAT A SNAKE BITE:

- ✓ Get the victim to hospital – quick!** This is by far the most important first-aid measure. Keep the numbers of the closest hospital and ambulance service on your cellphone. If you spend a lot of time in the bush, check with your medical-aid company whether they provide helicopter evacuation and, if so, save the appropriate telephone numbers. Call the Tygerberg Poison Centre (☎ 021 931 6129) in an emergency for further advice.
- ✓ Keep the victim calm.** Many snake-bite victims go into shock, experience a rapid drop in blood pressure and may even become nauseous and faint. Remember that more than 98% of snake-bite victims who are hospitalised recover fully.
- ✓ Remove any rings.** If bitten on the hand, remove any rings as soon as possible.
- ✓ Apply a crêpe bandage.** By applying pressure on the lymphatic system, you could slow down the spread of the venom. Only do this if the victim hasn't developed swelling. The bandage must be applied as tight as you would for a sprained ankle, wound from the site of the bite towards the heart. Don't apply it so tightly that you can't feel a pulse.
- ✓ Do mouth-to-mouth.** If the victim stops breathing, begin mouth-to-mouth resuscitation. The biggest danger from a serious mamba or cobra bite is that the victim stops breathing before hospitalisation. Assisted respiration could be lifesaving and should consist of 10–15 breaths per minute.

MOZAMBIQUE SPITTING COBRA



+ WHAT ABOUT SPITTING SNAKES?

There are three spitting snakes in South Africa – the rinkhals, Mozambique spitting cobra and the black spitting cobra. These snakes can spit their venom up to three metres and do so in self-defence, to temporarily blind an attacker so they can make a quick escape.

Ouch! Snake venom in the eyes is very painful – it feels a bit like mixing beach sand and petrol and then rubbing it into your eyes.

Flush it out with running water. Get the victim's eyes under a running tap for 10–15 minutes and flush out as much of the venom as possible. Then visit a doctor, who will prescribe antibiotic eye drops.

No water around? You can use milk, beer or even urine – but water works best. There is no advantage to using antivenin – it doesn't work better than water and is very expensive.

Act fast. If treated quickly, the chance of permanent damage to the eyes is extremely remote.

SIX POPULAR MYTHS, BUSTED!

- 1 A snake will not purposefully attack you. They lack true aggression and will only attack in self-defence.
- 2 There are no snakes that chase after people and snakes don't move in pairs.
- 3 Puff adders do not strike backwards and their young do not eat their way out of the mother's stomach.
- 4 That story about the black mamba standing up in the road, striking at the windows of passing cars – it's not true.
- 5 Neither is the one about the snake that is so long its head and tail vanish in the bush on both sides of the road...
- 6 Some companies sell "snake-repellent" spray or solar-powered electronic probes that you stick into the ground to keep snakes out of your property. I've done tests on these products and they do not work. There are also no plants that keep snakes away.

GOOD GEAR

1 TURTLESKIN SNAKE GAITERS

Protect your ankles

These durable gaiters are made from super-strong fibres. They are windproof, waterproof and flexible. They're pricey, but they have been tested successfully against the bite of a puff adder – the snake you're most likely to encounter when you're out fishing or hiking.

Price: R1 400

Contact: Frontier Fly Fishing

☎ 011 463 9048/9;

📍 www.frontierflyfishing.co.za

2 SNAKE TONGS & HOOKS

For the wannabe snake charmer

If you regularly encounter snakes at your home, holiday house or at your favourite campsite, these devices will help you remove them without harming you or the snake. The tongs come with basic

instructions, but it's worth doing a snake awareness and handling course (see below) before you start wrangling mambas.

Price: Cobra tong (1 m) R950; mamba tong (1,3 m) R1 100; boomslang tong (1,7 m) R1 200; standard snake hook R350

Contact: Reptile Ventures

☎ 082 494 2039;

📍 www.reptileventures.com

3 SNAKE TUBE

Got him!

You should use a snake tube in conjunction with tongs and a hook-stick – the open end is shown to a snake and the vast majority of them immediately slither into the tube and are then easily trapped.

Price: R300 for a 50 cm tube.

Contact: Reptile Ventures

☎ 082 494 2039;

📍 www.reptileventures.com



DO A SNAKE COURSE

If you want to know how to subdue a boomslang, Johan conducts regular one-day snake awareness and handling courses in Gauteng and KZN, and in various neighbouring countries. You'll learn the basics of snake biology and behaviour, how to identify snakes and first-aid treatment of snake bites and how to safely handle a venomous snake.

How much? R980 per person.

More info? 📍 www.reptileventures.com