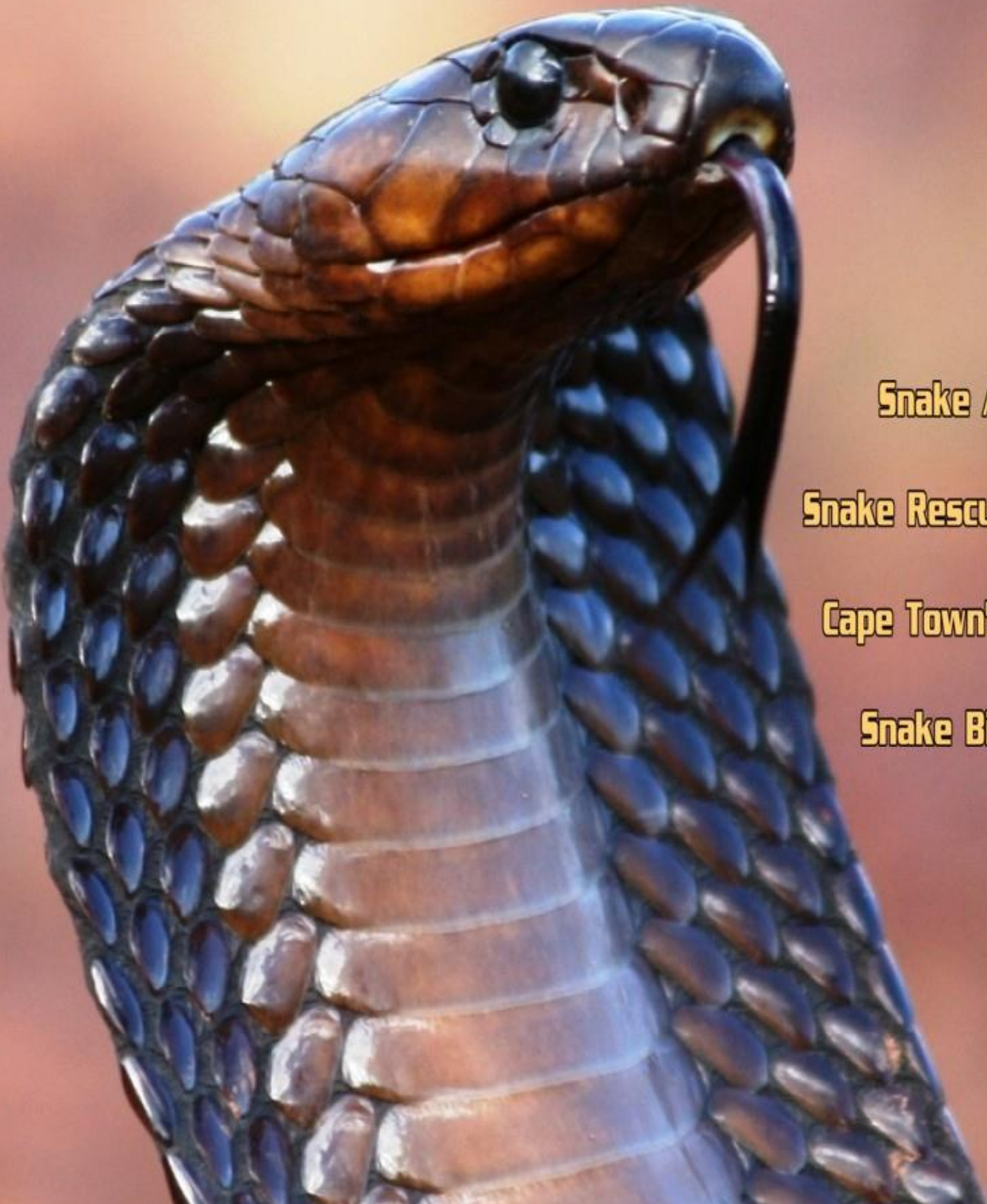


# SNAKES



**Snake Awareness**

**Snake Rescue - Who to call**

**Cape Town's Venomous 5**

**Snake Bite First Aid**

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## 1. Introduction

Snakes are an integral part of virtually any environment and even more so in rural areas. Like birds of prey, leopards, otters, honey badgers or any other predator, snakes have evolved tools for hunting and for survival. Some snakes have powerful muscles for constricting prey while others use advanced venom (modified saliva) apparatus to subdue and digest their food.

**Important:** Snakes **DO NOT** like to bite people. A snake will only ever bite a person out of self defense. If in doubt it may be useful to ask oneself why a snake would bite something that it has no intention of eating. Venom is a precious commodity and its production requires energy and resources – snakes will not waste this unless they wish to eat or **feel that their life is in danger**.

If you find a snake in your home or on your property under NO circumstances should you interfere or attempt to move the snake on your own. Statistics show that the majority of snake bites occur while people are either trying to move or kill a snake. Rather contact a snake-handler legally permitted by CapeNature.

## 2. What to Do if You Find a Snake on your Property

- If the snake is **outdoors**, ensure that pets are held indoors if possible and that people stay well away from the area
- Ideally someone should watch the snake from a safe distance of at least 5 m or more
- Make sure that someone knows where the snake is **at all times** to ensure its removal
- If the snake is **indoors** close all windows and doors entering the room where the snake is, if possible and safe to do so.
- For smaller snakes a towel can be placed at the base of the door to prevent the snake escaping
- Once pets and people are out of harms way - call Grant on **084 328 1001** for assistance



### 3. Why Rescue Snakes?

If you are one of the people that still follow the old adage of the ***only good snake is a dead snake***, you're not alone. Many people feel this way.

What if I told you that **snakes are critical to your survival?**

That without them systems which provide us with clean air, water and food would collapse. If we could demonstrate that without snakes the human race would suffer would you think differently? Would you think twice about advocating the killing of every snake you see?

#### 3.1 The Ecosystem

We're certain that we don't have to define the word ecosystem too much. These days the majority of us have at least a basic understanding of what an ecosystem is – that each and every organism which interacts within a given habitat (including people) forms part of a functioning system.



These systems mind-blowingly support the most intricate webs of life, which we easily take for granted but that we could not do without.

Ecosystems are like the engines of life on earth, remove the wrong components and you begin to lose power, remove too many and they may just shut down completely.

#### 3.2 Ecosystem Services

In short, humans directly benefit from the resources and processes supplied by natural ecosystems. These ecosystem services infiltrate every part of our lives and include services such as: nutrient cycling, food, water, medicine, energy, pollination, pest and disease control to name but a few.

**As with any system, if one component is lost or removed the entire system is affected.**

If the species lost is a **predator**, then its prey species will potentially explode in number due to the subsequent lack of population control – potentially decimating the available food source.

If the species lost is a **prey** animal, then its predators will have to turn to alternate food sources, if available, which could cause further declines in population numbers due to the increased competition and pressure for food resources.

**Snakes are important components of any natural ecosystem** that they are found in. In fact in most systems, snakes fill the important role of being both predator and prey and are an integral part of nature's balance.





Depending on their size and species, **snakes will eat just about anything** – slugs, snails, worms, insects, fish, frogs, birds and their eggs, mammals and even other snakes. Some species, like the Cape cobra, are even known to scavenge road kill.

Snakes and their eggs are also an important food source to other creatures. They're eaten by fish, frogs, other snakes, birds and mammals.

### 3.3 Snakes & You

In the Western Cape, snakes like the slug eater and the mole snake are excellent for the garden as they eat exactly what their names suggest. The mole snake doesn't only eat moles, though. Along with other feared snakes like the Cape cobra and the puff adder, these reptiles consume great numbers of rodents.

**Yes, that's right – they control your mice and rat populations for free!!**

Most people try to control these pests with chemicals which end up polluting our environment but snakes provide an easy, environmentally friendly, free and natural pest control service.



**Let's put this into perspective:** Let's say that we were to remove the Cape cobra completely, or even just reduce the numbers dramatically, from an agricultural system where grapes are farmed for wine production.

**First:** the population numbers of their usual food – probably mice in an altered environment – will increase; not good for wine production.

**Second:** their usual predators, let's say pied crows for example, may have to resort to eating more lizards like skinks and chameleons. The insects which these lizards eat subsequently increase potentially wreaking havoc on the local crop.

### 3.4 Medicine

Researchers have recently discovered that snake venom has harmless toxins which may hold the key to treating a range of life-threatening conditions like cancer, diabetes and high blood pressure.

Research has also discovered that black-mamba venom contains painkilling proteins more powerful than morphine and without the side-effects; although there is still quite some development needed before they are ready for the mainstream.

None of us expect people to suddenly starting loving snakes like we do. But we do hope that people make smart decisions based on facts and stop killing them.

**We need snakes, and they might even save your life your life one day.**



## 4. Myths



Snake myths and fallacies are common. Our deep level of misunderstanding portrays snakes as evil creatures often with some type of other worldly power. Some stories are clearly born out of fear while others are simply an exaggeration; good around a campfire but not necessarily the truth.

Here are some of the more common myths you might encounter:

➤ **Snakes can sting you with their tongues**

Not true. Snakes have an advanced sense of smell. Their tongues are split so that they can pick up on chemical queues from different directions.

➤ **Snakes only die after sunset**

No, they die when they are killed; although there might be some residual nerve action which occurs after the snake has died

➤ **Snakes are aggressive**

This is another widespread fallacy. Snakes are not aggressive creatures by nature; they will not come looking for conflict as this would be against their survival instinct.

➤ **Snakes feel wet and slimy**

The only time a snake feels wet is after it has been in the water. Otherwise they have a rough or smooth feel, depending on the type of scales they possess.

➤ **Snakes are cold blooded**

This is only partly true. Snakes are ectotherms i.e. they rely on their immediate environment for body temperature regulation. That means that when it's cold their blood cools down but when it's warm their blood and body temperature warms up. In other words, **snakes are solar powered!**

These are only a few of the many snake myths and common misconceptions out there today. Try not to believe everything that every "snake-expert" tries to tell you. If your neighbour claims they are the next Steve Irwin then ask him if snakes move in pairs and whether or not they build nests. If he says yes to either then it is your turn to expertly respond that: *snakes do not move in pairs* and that the *only* snake (recorded) which builds a crude nest is the King Cobra of Asia.



## 5. Cape Town's Venomous Five

### 5.1 The Berg Adder

**DANGEROUS**



The berg adder, *Bitis atropos*, is often mistaken for its larger cousin the puff adder. But it is much smaller and it lacks V-shape markings. The berg adder is a full-blooded and slightly nervous snake. When encountered it hisses loudly and strikes quickly if cornered; but like all snakes it prefers to retreat into the safety of nearby plant cover if given the chance.

A bite from a berg adder is serious and one should treat it as such by getting to a hospital for the appropriate symptomatic treatment.

Bites don't often happen and when they do they are seldom fatal. If you do get bitten you can expect localised pain, increased heart rate and loss of balance. Follow the snake-bite first aid guide and get to a hospital as soon as possible.

#### What they eat:

- Rodents, lizards, birds, frogs and other snakes

#### When they breed:

- Viviparous giving birth to 4 to 15 young in autumn

#### Key ID points:



- Relatively small. Average of 40 cm; maximum 60 cm
- Triangular head, distinct from body
- Arrow-shaped mark on the top of the head
- Hisses loudly, strikes readily
- Silvery-white continuous or broken parallel lines running from head to tail
- Geometric pattern formed by series of imperfect semi-circular markings along the silvery-white parallel lines
- Lacks chevron markings seen in puff adders

## 5.2 Boomslang



The boomslang, *Dispholidus typus*, is a common but shy and rarely seen snake. As the name suggests, they are expert climbers and spend most of their time in trees and shrubs utilizing their excellent camouflage to escape detection. Occasionally it will leave the security of the treetops to hunt or bask in the sun's warming rays but may also be found in the safety of crags and rock crevices.

Drop for drop the boomslang has the most potent venom of any South African snake. It seldom bites however, and when it has occurred, usually the victim has either been tampering with it or handling it in some way.

### What they eat:

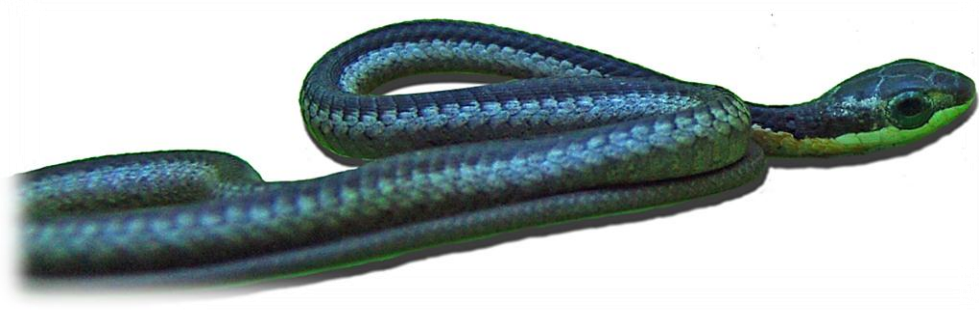
Tree dwelling lizards (chameleons), birds, eggs and frogs

### When they breed:

Oviparous laying up to 27 eggs; late spring to midsummer

### Key ID points:

- Medium sized snake under 2 metres
- Very large eyes in comparison with the head
- Shy snake, spending most of its time in the cover of trees or bushes
- Colour variable: females dull brown to olive; males green to black above and yellow below





### 5.3 Cape Cobra



The Cape cobra, *Naja nivea*, is most easily distinguished by its ability to spread a hood. It is highly venomous and possesses the most toxic venom – drop for drop – of all the cobras on the African continent. The venom is potently neurotoxic, if bitten medical help should be sought immediately; assisted respiration (mouth-to-mouth) may be required.

The Cape cobra is active during the day where it will hunt in burrows, trees or anywhere else that it can find a suitable meal. If cornered and/or startled, it will face the enemy (especially if cornered) and spread a broad hood in typical and iconic cobra fashion and may also let out a loud hiss. If these warnings are not heeded you are asking for serious trouble. Like any other snake the Cape cobra will only bite if it feels that it has no other option and that its own life is in danger. **A little respect goes a long way.**

**Important!!** The Cape cobra will not always spread a hood. Many people mistake them for mole snakes; a potentially deadly mistake for both man and the snake. There is no reason to attempt to handle a snake you come across and if you aren't sure rather leave all snakes well alone. Cape cobras show high variation in colour, **never rely on colour alone!**

#### What they eat:

Birds, lizards, other snakes, rodents and frogs.

#### When they breed:

Oviparous laying up to 20 eggs in midsummer

#### Key ID points:

- Medium sized snake up to 2 metres
- Smooth scales
- Broad head, indistinct from body
- Spreads a broad hood in defence when confronted
- Colour extremely variable ranging from yellow to black
- Juveniles may appear banded and have one or two broad black throat bands

## 5.4 Puff Adder



The puff adder, *Bitis arietans*, is the snake responsible for the most bites in the Western Cape, but only a small percentage are fatal. The venom is a predominantly cytotoxic which may cause swelling pain and if untreated, necrosis.

The common misconception is that it is a 'lazy' snake. Indeed, the puff adder relies mainly on camouflage to avoid confrontation and will freeze as a person approaches. If disturbed, it will usually let out a deep, unmistakeable hiss. This is your last warning.

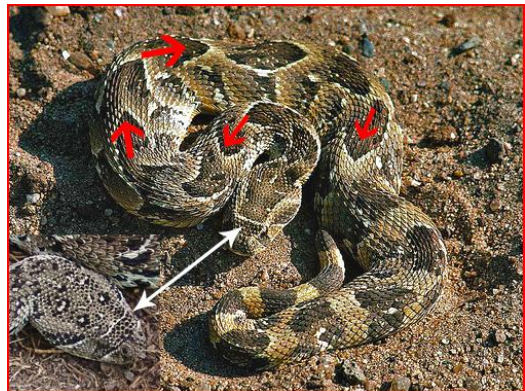
The best advice would be to listen – this snake does not **want** to bite you. In its eyes a close encounter would mean its own death. When you're a puff adder and it reaches this point there is no other choice but to strike in defence.

### What they eat:

Mainly rodents. Birds and other snakes may also be taken.

### When they breed:

Viviparous giving birth to 20-40 young in late summer



**Distinctive markings in the puff adder:**  
*Chevrons running down the body starting behind the head (red arrows); Stripe between/ behind the eyes.*

### Key ID points:

- Relatively short, thick-set snake up to 1.4 metres
- Keeled scales
- Large triangular head distinct from the body
- Hisses and puffs loudly when confronted or disturbed
- Colouration highly variable
- Distinct chevron markings from behind the head, changing into bands towards the tail

## 5.4 Rinkhals



The rinkhals, *Hemachatus haemachatus*, is a close relative but not a true cobra. Like the adders it has keeled scales and gives birth to live young. Like the cobras it has fixed front fangs and is able to stand and spread a hood. Its venom is also somewhat of a neurotoxic and cytotoxic mix and more dilute than the true cobras which aids in spitting. Bites should be considered serious although fatalities are rare. Wash eyes with any bland liquid if venom enters the eyes and seek medical help.

The rinkhals is a shy snake and utilizes an array of defensive behaviour; it will hiss, spread a hood, spit and even play dead realistically with theatrical poise.

**Caution:** Never pick up a snake even if it looks dead! It may be a rinkhals which could bite suddenly if touched or picked up. Remember, none of this is aggressive it is purely defensive behaviour. Once the snake feels safe, it will not pursue you.

### What they eat:

Almost anything from small mammals, eggs, to other snakes although toads seems to make up a large part of their diet.

### When they breed:

Viviparous giving birth to 20-30 young in late summer

### Key ID points:

- Shorter and stockier than the Cape cobra
- Maximum size 1.4 metres
- Keeled scales
- Underside usually black with up to 4 white/yellow-cream bars on the throat
- This is a spitting snake
- Colouration varies but Cape specimens are generally banded



## 6. Snake Bite!

It is extremely rare for a snake to bite unprovoked. Want to know how to avoid being bitten by a snake?

- Leave snakes alone!
- When outdoors, watch where you put your hands and feet.
- Always wear boots and long, loose-fitting pants. They won't stop a bite but reduce the risk of a fang penetrating in the unlikely event of a snake trying to bite you.

**Remember:** You have more chance of dying from lightning than from a snake bite. Seriously.

If you do get bitten though, here is what you should do.

1. Getting to a hospital quickly is first prize!
2. If there is **NO SWELLING** use the pressure-immobilization technique

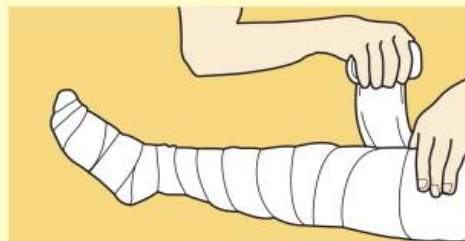
### Snake bite first aid: pressure-immobilization method



**a** Apply a broad pressure bandage from below upwards and over the bite site as soon as possible. Do not remove trousers, as the movement of doing so will assist venom to enter the blood stream. Keep the bitten leg still.



**b** The bandage should be as tight as you would apply to a sprained ankle. The patient should avoid any unnecessary movements.

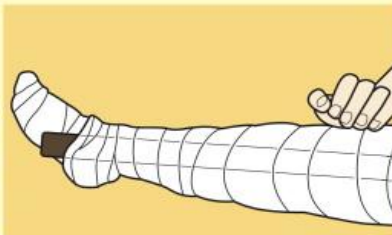


**c** Extend the bandages as high as possible (ideally up to the groin).

Source: Science Direct



**d** Apply a splint to the leg, immobilizing joints either side of the bite.



**e** Bind it firmly to as much of the leg as possible. Walking should be restricted.



**f** Bites on the hand and forearm: bind to the axilla, use a splint to the elbow, and use a sling.

- **DO NOT:** Bite, cut or suck the wound.
- Do not apply a tourniquet (can cause serious damage and lead to amputations!)



- Do not consume alcohol
- Never try to administer antivenin yourself – often it is not needed.
- **Don't fiddle. Get to a hospital as quickly as possible.**
- Don't Panic! Very few people die from snake bite if treated quickly and properly. Venom may be spread faster if there is excessive movement. **Don't run.** Remaining calm could save your life. **Remember this.**

## Emergency Numbers

<b>Tygerberg Poison Centre:</b>	<b>021 931 6329</b>
<b>Red Cross Hospital:</b>	<b>021 689 5227</b>
<b>Emergency Services:</b>	<b>021 480 7700</b>

**If you are bitten by a Cape cobra, assisted respiration (mouth-to-mouth) may be needed.**

### 6.1 Venom

Snake venom is a complex concoction of various bioactive proteins and polypeptides fine-tuned by evolution to create amazingly efficient substances used to subdue and digest prey. This modified saliva is often a cocktail of various complexes; for example neurotoxic venom may have cytotoxic properties and vice versa. Here is how it works:

- **Neurotoxic Venom** affects the central nervous system. Respiratory muscles are paralysed over time which may result in respiratory failure.
  - **Symptoms:** Pain at the bite site; progressive weakness; pins and needles; drowsiness; drooping eyelids; nausea and vomiting; difficulty swallowing and breathing.
- **Cytotoxic Venom** affects tissues and blood cells. In severe cases there may be excessive swelling, necrosis and may result in the loss of a limb.
  - **Symptoms:** Intense local pain and swelling. Shock may lead to symptoms of panic.
- **Haemotoxic Venom** affects the blood and its coagulant properties and may cause severe internal bleeding as well as bleeding from membranes and small cuts.
  - **Symptoms:** No immediate pain; headaches, nausea and vomiting, sweating, mental confusion; very few noticeable physical symptoms.



## 7. Get Involved & Ask Questions

Snakes have received unwarranted bad press. They are loathed and feared by most people and it is not my aim to turn the world into snake lovers.

However, living with fear is unpleasant and killing them is unnecessary. Snakes are a crucial component in almost all food webs and have a direct, although often unseen, benefit to people as described in section three.

Snake populations are declining worldwide because of people and we have a responsibility stop this trend.

If you are afraid of snakes, demystify them by learning as much about them as you can. In time you may just recognise their beauty and realise their role and in nature.

**“Thanks for taking the time to read this!**

**I really hope that the information here was useful to you in some way.**

**I love snakes and I love writing about them.**

**Maybe you could help me out?**

- Tell people about my blog
- Give feedback as comments on the blog
- Post snake pictures on [facebook](#)

There are some links that earn me a commission (at no extra cost to you), the funds of which go towards website upkeep, snake rescue and study costs. So if you decide to buy a book or video consider doing it through the blog. Thanks if you do! 😊

And please, if you have questions then email me, I will respond to every one.”



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