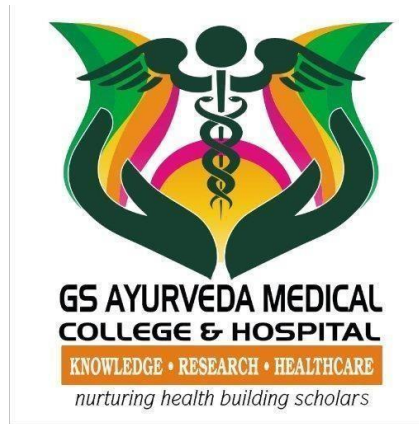


G.S AYURVEDA MEDICAL COLLEGE & HOSPITAL



TOPIC- DIFFERENT TYPES OF SNAKES

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INTRODUCTION

Snakes are elongated, [limbless, carnivorous reptiles](#) of the [suborder](#) Serpentes. Like all other [squamates](#), snakes are [ectothermic, amniote vertebrates](#) covered in overlapping [scales](#). Many species of snakes have [skulls](#) with several more joints than their [lizard](#) ancestors, enabling them to swallow prey much larger than their heads ([cranial kinesis](#)). To accommodate their narrow bodies, snakes' paired organs (such as kidneys) appear one in front of the other instead of side by side, and most have only one functional [lung](#). Some species retain a [pelvic girdle](#) with a pair of [vestigial](#) claws on either side of the [cloaca](#). Lizards have evolved elongate bodies without limbs or with greatly reduced limbs about twenty-five times independently via [convergent evolution](#), leading to many lineages of [legless lizards](#). These resemble snakes, but several common groups of legless lizards have eyelids and external ears, which snakes lack, although this rule is not universal (see [Amphisbaenia](#), [Dibamidae](#), and [Pygopodid](#)).

Living snakes are found on every continent except Antarctica, and on most smaller land masses; exceptions include some large islands, such as Ireland, Iceland, Greenland, the [Hawaiian archipelago](#), and the islands of New Zealand, as well as many small islands of the Atlantic and central Pacific oceans. Additionally, [sea snakes](#) are widespread throughout the Indian and Pacific oceans. Around thirty [families](#) are currently recognized, comprising about 520 [genera](#) and about 3,900 [species](#). They range in size from the tiny, 10.4 cm-long (4.1 in) [Barbados threadsnake](#) to the [reticulated python](#) of 6.95 meters (22.8 ft) in length. The fossil species [Titanoboa cerrejonensis](#) was 12.8 meters (42 ft) long.^[8] Snakes are thought to have evolved from either burrowing or aquatic lizards, perhaps during the [Jurassic](#) period, with the earliest known fossils dating to between 143 and 167 [Ma](#) ago. The diversity of modern snakes appeared during the [Paleocene](#) epoch (c. 66 to 56 [Ma](#) ago, after the [Cretaceous–Paleogene extinction event](#)). The oldest preserved descriptions of snakes can be found in the [Brooklyn Papyrus](#).

Most species of snake are nonvenomous and [those that have venom](#) use it primarily to kill and subdue prey rather than for self-defense. Some possess venom that is potent enough to cause painful injury or death to humans. Nonvenomous snakes either swallow prey alive or kill by [constriction](#).

There are generally two groups of snakes which further contain different types of snakes

1. Poisonous snakes / Venomous snakes
2. Non poisonous snakes / Non venomous snakes

Venomous		Non-Venomous
Head Shape	Triangular with pits	Rounded and without pits
Rattle?	Sometimes	Never
Pupils	Elliptical or vertical slits	Rounded pupils

Tail Shape	Can end in a rattle or a different color	Tail tapers to a thin end; no rattle
Coloring	Brightly colored or very patterned	Often less colorful and one solid color
Method of Killing	Venom	Constriction

Comparing Venomous vs Non-Venomous Snakes

POISONOUS SNAKES / VENOMOUS SNAKES

Venomous snakes are widely distributed from sea level to altitudes of 4000 m (*Gloydius himalayanus*). European adders (*Vipera berus*) are found inside the Arctic Circle but no other venomous species occurs in cold regions such as the Arctic, Antarctic and north of about latitude 51°N in North America (Newfoundland, Nova Scotia). There are no venomous snakes in the islands of Crete, Ireland and Iceland, in the western Mediterranean, Atlantic and Caribbean (except for Martinique, Santa Lucia, Margarita, Trinidad and Aruba), New Caledonia, New Zealand, Hawaii and elsewhere in the Pacific. Madagascar and Chile have only mildly venomous colubrid snakes. Sea snakes, sometimes in vast numbers, occur in the Indian and Pacific Oceans between latitudes 30°N and 30°S, as far north as Siberia (*Pelamis platura*) and as far south as Easter Island and the North Island of New Zealand and in estuaries, rivers and some freshwater lakes (e.g. *Hydrophis semperi* in Lake Taal, Philippines; *Enhydrina schistosa* in Tonle Sap, Cambodia).

Some common poisonous snakes are:

- Cobras
- kraits
- Vipers
- Sea-snakes

COBRAS

Cobras are some of the most recognizable snakes in the world. They have muscles around the head and neck that can flatten out into a hood shape, making them appear larger to potential predators.

Cobras can be found across Africa and Asia, but the most famous species are native to southern Asia. The king cobra, in particular, is a famous resident of South Asian tropical forests. King cobras are by far the longest venomous snakes, growing up to 18 feet.

KRAITS

krait, (genus *Bungarus*), any of 12 [species](#) of highly venomous snakes belonging to the cobra family ([Elapidae](#)). Kraits live in Asian forests and farmland from [Pakistan](#) to southern [China](#) and southward into [Indonesia](#). They are [terrestrial](#), feeding mainly on other snakes but also on

frogs, lizards, and small mammals. Kraits are nocturnal hunters and are dangerous to humans only when stepped on or otherwise strongly provoked.

VIPERS

Viper, (family Viperidae), any of more than 200 species of venomous snakes belonging to two groups: [pit vipers](#) (subfamily Crotalinae) and Old World vipers (subfamily Viperinae), which are considered separate families by some authorities. They eat small animals and hunt by striking and envenomating their prey. Vipers are [characterized](#) by a pair of long, hollow, venom-injecting fangs attached to movable bones of the upper jaw (the maxillaries) that are folded back in the mouth when not in use. Their eyes have vertical pupils, and their scales are keeled.

NON-POISONOUS SNAKES

There are no universal distinguishing features that separate [venomous](#) from non-venomous snakes. People must learn to identify the dangerous species of snakes in their areas or the areas they plan on visiting.

Non-venomous snakes have teeth, just like the venomous variety. So even in the case of a bite from a non-venomous snake you should still take special care and watch for infections, as with any small injury. Bites from large non-venomous snakes can also be devastating - some large python and boas are able to cause massive lacerations that require urgent medical care.

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COMMON NON-POISONOUS SNAKES

- Rat snake
- Vine snake
- Bronze back tree snake
- Banded kukri
- Sand boa

RAT SNAKE

Rat snakes are members – along with [kingsnakes](#), [milk snakes](#), [vine snakes](#) and [indigo snakes](#) – of the subfamily [Colubrinae](#) of the family [Colubridae](#). They are medium to large [constrictors](#) and are found throughout much of the [Northern Hemisphere](#). They feed primarily on [rodents](#)

VINE SNAKE

Common vine snakes are **diurnal**, **arboreal**, and mildly **venomous**. They normally feed on **frogs** and **lizards** using their **binocular vision** to hunt. They are slow moving, relying on camouflaging themselves as vines in foliage. They expand their bodies when disturbed to show a black and white scale marking. Also, they may open their mouths in a threat display and point their heads in the direction of the perceived threat.

BRONZE BACK TREE SNAKE

Non-Venomous, Bronze back snakes are found throughout India and SE Asia. Have **excellent vision and a gyroscopic head** to catch frogs & birds.

BANDED KRAIT

The nasal scale is divided; the portion of rostral seen from above is as long as its distance from the frontal or a little shorter; the suture between the internasal is usually nearly as long as that between the prefrontal's. The frontal is as long as its distance from the end of the snout or a little shorter, and a little shorter than the parietals. The loreal, if distinct, is longer than it is deep, and frequently united with the prefrontal. It has one preocular and two postoculars; the temporals are 1+2; of its seven upper labials, the third and fourth enter the eye; its four lower labials are in contact with the anterior chin shields; the posterior chin shields are one-half to two-thirds the length of the anterior.

SAND BOA

Eryx johnii is a **species** of nonvenomous snake in the **subfamily Erycinae** of the **family Boidae**. The species is **endemic** to **Iran**, **Pakistan**, and **India**. There are no **subspecies** which are recognized as valid.

Common names include: Indian sand boa, John's sand boa, *erutaley nagam*, *mannoli pambu*, red sand boa, brown sand boa.

ACCORDING TO AYURVEDA:

Division of snakes according to Acharya

Sushruta:

1. Divya (divine) sarpa- According to Acharya sushruta Vasuki sarpa is the best among all the snakes and also told it as a king of all the snakes which hold the wholeearth. It shines like the sun and it can destroy whole world by their sight and breath. They are countless and there is no treatment for their wrath means they are totallyfatal.

2. Bhouma (terrestrial) sarpa- According to Acharya sushruta terrestrial snakes are total eighty in counting and classified into five types:

1. Darvikara (hooded) sarpa,
2. Mandali (hoodless and painted with circular patches) sarpa,
3. Rajimanta (hoodless and striped) sarpa,
4. Nirvisa (non-poisonous) sarpa,
5. Vaikaranja (hybrid species) sarpa.

Darvikara sarpa are twenty-six (26), mandali sarpa are twenty-two (22), rajimanta are ten (10), nirvisa sarpa are twelve (12) and vaikaranja sarpa are three (3) in numbers.

1. Darvikara (Hooded) sarpa: Snakes which have marks like wheel, plough, umbrella, swastika and ankusha and which make a phana (hood) are darvikara snakes. They move very fast. Krsnasarpa, mahakrsna, krsnodara, svetakapota, mahakapota, balahaka, mahasarpa, sankhakupala, lohita, gavedhuka, parisarpa, khandaphana, kakuda, padma, mahapadma, darbhapuspa, dadhimukha, pundarika, bhrukutimukha, viskara, puspahikira, girisarpa, rujusarpa, svetodara, mahasira, alagarda and aashivisa all are darvikara snakes.

1. Mandali (Hoodless and painted with circular patches) sarpa: Snakes which have different patches on their whole body, big in size and move slowly are mandali snakes. They resemble with fire and sun. Adarsamandala, svetamandala, raktamandala, citramandala, prsata, rodhrapuspa, milindaka, gonasa, vriddhagonasa, panas, mahapanasa, venupatraka, sisuka, madana, palindira, pingala, tantuka, puspapandu, sadnga, agnikababhru, kasaya, kalusa, paravata, hastabharana, citraka and enipada are mandali snakes.

2. Rajimanta (hoodless and striped) sarpa: Snakes which are unctuous, with different colors, having stripes above and sides of their body are rajimanta snakes. Pundrika, rajicitra, angularaji, binduraji, kardamaka, trnasosaka, sarsapaka, svetahanu, darbhapuspa, cakraka, godhmaka and kikkisada are rajimanta snakes.

3. Nirvisa (non-poisonous) sarpa: These snakes are non-poisonous. Galgoli, sukapatra, ajagara, divyaka, varshika, puspasakali, jyotiratha, ksirikapuspaka, ahipataka, andhahika, gaurahika and vrksesaya are nirvisa snakes.

4. Vaikaranja (hybrid species) sarpa: These are hybrid snakes and born by the mating of darvikara and other three kinds of snakes. These are makuli, potagala and snigdharaji. Makuli is the combination of darvikara and mandali, potagala is the combination of rajimanta and mandali, snigdharaji is the rajimanta and darvikara.

The three vaikaranja are of seven kinds such as – divyelaka, rodhrapuspaka, rajichitraka, potagala, puspabhikirna, darbhapuspa and vellitaka. The first three are like as rajimanta snake and the remaining are like as mandali snakes.

Classification of snakes on the basis of their gender

1. **Male snakes:** The snake which have large eyes, tongue, face and head are malesnakes.

2. **Female snakes:** The snake which have small eyes, tongue, face and head are female snakes.

3. **Mixed (Napunsaka) snakes:** The snake which have mixed characters, mild poison and non-angry are eunuchs snakes.