

BITIS ARIETANS, THE PUFF ADDER

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THE PUFF ADDER IN ITS NATURAL HABITAT

The African Puff Adder is (together with the European Viper) one of the most wide spread snake species. They occur from south of the equator up to the Arabic peninsula. Puff Adders are found in most of Africa's habitats, except for the rain forests and the more sterile, bold deserts. They are found up to 1600 meters above sea level and are often found near human settlements.

The short fat build of this snake is, for most people, the prototype of a venomous snake. The head is flat and has a triangular shape. The scales are strongly keeled.

Although the colour and pattern (or the lack of this) vary widely throughout the enormous area of occurrence, the most common is the classic pattern of brown and black to sand-coloured with yellow stripes. The most beautiful snakes (from south east Africa) are 'warm' brown background coloured with citrus-yellow and dark black patterns. These are usually males.

There are deviating patterns and colours, in the wild as in captivity. Melanistic (black), striped, green and patternless animals have all been found. Where their distribution overlaps with the Gaboon Viper (*Bitis gabonica*) hybrids occur. This could be nature's solution to preserve the genes of the Gaboon Viper, which is

threatened by extinction due to destruction of the rainforests.

KEEPING THEM IN CAPTIVITY

It is not very hard, for experienced venomous snake keepers, to keep *Bitis arietans* in captivity. For a long time, it was the most kept and bred venomous snake. The basics are: a terrarium of about 150cm by 60 cm, a dry substrate of sand, newspapers or small stones etc. Furthermore, unlike *Bitis gabonica* and *Bitis nasicornis*, a good sunspot which is about 10 degrees Celsius higher in temperature than the surroundings, should be provided. A floor heating device is not necessary. Plus of course a hiding place (box etc.). If this hiding place is not provided, animals captured in the wild, will become very stressed, puff all the time and bite in the direction of everything that moves. This results in wounds to the head and mouth and broken teeth. Try treating mouth-diseases like *Stomatites ulcerosa* twice a day....

Water must be provided at all times in a small shallow bowl to prevent air humidity from rising too high. Animals from dry areas and especially juveniles, seem to have trouble with drinking from a bowl (like other *Bitis* species) but drink better when water is sprayed on stones or their body.

FOOD AND DIGESTION

Puff Adders are enormous eaters, and will only stop when farting and burping does not help anymore. In their natural habitat, juveniles eat mostly lizards, frogs and other snakes. Branch describes a case in which a juvenile Puff Adder had swallowed a turtle. Adults appear to



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have a preference for warm-blooded prey, mammals and birds alike, in captivity they accept mice, rats, rabbits and chicks.

Prey presented alive will be bitten and held until it dies, unless it is too big or violently fights back. In that case it will be released and later found.

The large fangs are used to transport the prey to the throat, where the usual swallowing starts. Just like other *Bitis* species the time between feeding and defecation can be quite long (up to 3 months). Therefore it is important not to overfeed the animals, 1 rat every 2 to 3 weeks is sufficient to keep it healthy.

BREEDING

Puff Adders are, as mentioned before, bred regularly (and are therefore often sold at exchanges, we will come to this later). Males often fight among themselves a lot during the mating season, the winner will mate with the available female. The Puff Adder is probably the most prolific snake species and probably the most prolific of all reptiles. Litters containing 50 young are normal and very large females from East Africa have been known to have 100 babies in one litter.

Skinner writes about a case in 1971, with 134 young at the Nairobi Snake Park and Branch and Obst report a litter of 156. This probably will be the largest number of young in 1 birth, with the possible exception of the sea turtle.

The young are aggressive miniatures of their parents and are about 15 to 20 cm long. In their natural habitat they usually don't eat for

the first 3 months and miraculously grow 25%. In captivity they will usually eat even before the first moult. Juveniles will grow fast and reach a length of 65 cm in the first year, a record broken easily in captivity.


Juveniles are known for their cannibalism and during feeding one should pay close attention if they are kept together. When older this urge seems to subside.

Juveniles are very aggressive and care is the word when handling them. When not experienced with the genus *Bitis*, one can underestimate the bite-radius from a young Puff Adder easily. Even the bite from a young animal has drastic consequences, permanent invalidity and amputations happen. The poison is very cytotoxic (tissue and cell destroying) and will cause tissue death around the place where the bite occurred. Violent pains and swelling will be experienced by the patient. Shock and loss of blood pressure will eventually lead to death.

BITE-INCIDENTS

In Africa Puff Adders are responsible for most of the bite-incidents among the population. The most probable cause of this, is that the cryptic colours provide very good camouflage and they are hard to spot in their natural environment. Nature has provided the Puff Adder with such a temper that you will not forget an encounter with this snake, even when all has gone well. The local population mostly walks around barefoot, and if they step on a Puff Adder.....*need I say more.*

It is hard to give an accurate figure for the number of bites, as in South Africa and Kenya, less



than 5% of the bite-incidents are treated at a medical facility. The number of people seeking a cure at a local medicine man is unknown.

ENEMIES

The Puff Adder has many enemies, swine, mongoose, other snakes, big lizards and snake-eating birds. Many animals die in forest/grass fires. Also humans take their toll, with cars and guns. Local medicine men have the most odd reason to kill, they think that the fat and gall-bladder provide wonder-medicine against all kinds of illnesses.

SOME LAST REMARKS

As we mentioned previously, juveniles are frequently sold. Years ago at a fair in Utrecht (the Netherlands) young animals were sold for 10 Dutch Guilders. We will not name the person. We have seen these snakes being sold to children as young as about 15 years old. At the same fair young corn-snakes (*Elaphe guttata*) were sold for 35 Dutch Guilders. You can imagine what happened to most animals. Sometime after a few months, or as little as a day, the new owners got scared and the animals had to go. It even happened that they would wind up in the freezer, the same day as

they were bought, still in the container in which they were transported .

We do not recommend anybody to buy Puff Adders or any other venomous snake whatsoever. This is not meant that we can and you can't keep them. Keeping venomous snakes is not as easy as it seems. Yes, at an exhibition or in a terrarium they lay quietly behind the glass, but that glass will need to be opened some day. Even venomous snakes need clean water, food and sometimes even medical attention.

Be prepared if you are still willing to start keeping venomous snakes! Make sure the terrarium is there. That is has been occupied by non-venomous snakes for at least a month to ensure that it is snake-proof. Make sure you have all the equipment you need and read, read, read..... Go and see experienced keepers. Ask as much as possible and start taking care of a non-venomous snake like it was a venomous snake. One of the things to remember is never enter the terrarium with bare hands. Use your hooks, forceps etc. I did not make a mistake for over a year?? Good Luck.....

Translated by *Harmen Jan Platvoet*
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