

BITIS GABONICA, THE GABOON VIPER

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The Gaboon viper is represented by two subspecies. The East-African Gaboon viper (*Bitis gabonica gabonica*) and the bigger and heavier West-African Gaboon viper (*Bitis gabonica rhinoceros*). They are clearly distinguished by the markings on the head (double subocular stripes on the head of the East-African viper, and a much bigger nose-horn on the West-African viper). The rest of the markings and colours are mostly identical, but the rhinoceros has softer colours. The markings, a complex of geometric figures, varies in

colour from brown to primrose, from light grey to even blue. The centreline that runs from the nose to the neck makes up for a dead leaf in the forest this viper lives in.

This spectacular snake lives in the tropical forests that stretch around the equator of the continent Africa. Although the area in which the snake occurs is smaller than that of the Puffadder (*Bitis arietans*), the amount of snakes per square mile can be a lot higher. In Cameroon the gaboonviper is the most occurring venomous snake. In Tanzania, C.J.P. Ionidus says to have caught 2000 individuals without noticing a backdrop in the population.

The West-African gaboonviper is a lot bigger than the East-African form. The East-African



Bitis gabonica rhinoceros



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gaboonviper seldomly reaches over 1,5 meters long, while the West-African viper regularly reaches 2 meters and weighs over 11 kg. Snakes this big are spectacular animals and are often the main-attraction in a reptielcollection. The features are remarkable: biggest and widest head (15 cm), biggest teeth (4 to even 5 cm), heaviest venomous snake, etc.

The caretaking in captivity is not so easy as with for example *Bitis arietans*. Often the mistake is made to keep the viper at a constant temperature which is too high. This is not correct, because the snake lives in a forest aria where the sun hardly penetrates. Temperatures between 24 and 27 degrees Celsius are excellent, while temperatures above 30 degrees Celsius over a longer period will cause the snake to dehydrate, stop eating and vomiting. Although gaboonviper will use a sunspot, it will not be necessary to have it. It is a lot more important to have a shady terrarium. Ground heating is preferred to bright heating by lamp.

Gaboonviper are opportunist when it comes to feeding and spent most of there life waiting for prey to come within their biting range. In their natural habitat this is accomplished by their camouflage-colours which will make them nearly invisible between dead leaves and branches. When they have taken position, preferably along a path used by pray, gaboonviper will spent a lot of time here, waiting for the right animal to come along. In captivity the snake will use the same way of feeding. Normally this complete apathetic laying and total lack of movement would be a clou to serious heath problems of stress, not so with the gaboon viper. Activity, especially at daytime, are the normal beha-

viours when thirsty, hungry and in case of males, mating behaviour.

It is often said that to keep a *Bitis gabonica*, the terrarium should be 1 to 1,5 times the length off the animal in square. For example a 1 meter long snake would need a groundspace of 1,5 square meter. We also need to keep in mind minimum hights for heating and lighting (about 50 cm). I think that the measures stated above are a little oversized. Due to the lack of movement I think that the length of the terrarium should be as long as the snake, and the depth should be have the size of the snake. Momentarily our terrarium is planned as 150 cm by 80 cm. On the bottom we lay 3-5 cm loos material (sphagnum, orchid-bark of wood chipping's). This enables the animals to lay in hiding. Stressed of wild-captured animals are helped by a layer of dead leafs which can be sterilised in the micro-wave oven.

Captive bred animals will not be stressed easily, but stressed animals will show unusual behaviour like blowing and rapid movements of the head. This is a sign that the animal lacks a sense of security. The terrarium than should be provided with a hide-away as soon as possible. A wooden box or similar will be sufficient. When they have gotten used to their envoirement, gaboonvipers will be good eaters. Always stay outside the biting range by using long forsepts!!!

A hungry Gaboonviper will attack fierlsy and with great power. Living prey is mostly held on to while the snake keeps its head off the ground, while applying a lot of power with the jaws and teeth. A bigger prey will mostly be injected by an extra doss of venom, the

enormous teeth are used to guide the prey to the beginning of the neck when the usual swallowing begins.

Adult Gaboonvipers are capable of eating relatively large prey like rabbits, pigeons and the like. Some authors report that even monkeys and antelope are on the menu. Feeding the biggest prey accepted will sometimes result in vomiting and in loss of moisture, so it is better to keep to moderate sized prey. Water should always be available on a large flat bowl, this will also increase the humidity

Wildcaptured animals often carry a large variety of parasites, and should be kept in quarantine until treated and faeces show that they are free from these parasites and worms.

Breeding with Gaboonvipers is possible, one should keep the light/temperature/humidity manipulation in check. Gaboon vipers occur around the equator, there for the seasons are more variation in rain and drought, than variations in temperature. Decreasing the light for 1 or 2 months and keeping the temperature around 20-22 degrees Celsius and spraying a lot is mostly enough to get adults (1 meter and longer) to mate.

Males will conduct breathtaking mating combats that will test the construction of the terrarium to the edge. The mating rituals and the actual mating will take 24-30 hours time, and the females can store the sperm for 3 to 4 years. Litters will contain 10-55 juveniles from 21 to 30 cm long. These juveniles will mostly accept small mice after moulting the first time and grow very rapidly in the first 12 to 18 month. Juvenile gaboonvipers are known to mislocate the water-bowl. The theory is that birth in nature takes

place in the rainingseason, and that the jung snakes therefor do not need to go finding water-holes. They can drink from branches, leaves stones and their own body. In captivity it is suggested to transport the juveniles to the water bowl the first few weeks by means of a hook and to spray frequently. Otherwise the small snakes will quickly dehydrate and die.

A lot has been written about the character of these animals in the wild. There have even been writings about handling gaboonvipers barehanded without biting or blowing. Even accidentally tramping without reaction has been reported, but due to the size off the animals and teeth and the amount of venom produced the advice is: do not try this at home.

The entrance to the terrarium is best placed on the front side, and when handling the animals it is better to use 2 hooks (or spoons) for our own safety and that of the animal (weight!). Hungry gaboonvipers will bite at anything that moves within biting rage (which is remarkable big, sometimes up to half of the bodylength). Difference in character can lead to 2 meters of disaster, so always tread Gaboon vipers with the respect they deserve....

The teeth from a Gaboon viper are part of the image. Teeth are changed frequently during biting (even defrosted prey will be attacked fiercely). Sometimes the teeth fall on the floor or can be found in the droppings. In time a keeper of gaboonvipers can find himself a impressive collection of teeth. In the past certain persons frequently asked for teeth, but when I later found out what storeys were told about how they obtained the teeth is was very happy just to have found them.





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The venom produced by the gaboonviper, although not the most powerful in the world, is rather complex. It is mostly cytotoxic (tissue-destroying). This in combination with the amount produced per bite (450 to 1000 MG) can cause very violent poisoning reactions. In earlier days the neurotoxic parts in the mostly heamotoxic venom was held responsible for this reaction. Although this is no longer believed, the venom from gaboonvipers is still very deadly for humans. Deaths because of bites from gaboonvipers are widely known, some in a very short time after being bitten. Even when the bite is not fatal, the consequences are enormous. Due to necrosis and swelling it is often necessary to cut open the wound and the surrounding tissue. In worse cases amputation can be the trick to save a life (very tricky when being bitten in the belly).

The strength of the venom and the dense population make this animal one of the most dangerous venomous snakes in the world,

although still most bite-accidents are recorded for the *Bitis arietans* (puffadder).

Fully grown Gaboonvipers have little natural enemies. Juveniles are often eaten by snake eating predators. The best known snake killer is the mangiest, but it is probably on the menu of the gaboonviper. Humans are the biggest threat to adults. Tribes in the area where these snakes occur have them on their menu's, also catching by potchers can have a bad influence on the population. Therefore populations in Zimbabwe and northern Zululand are being protected. The biggest threat still is the destruction of their natural habitat. Sadly enough, gaboonvipers stay put on their hunting ground even when farmers have readied it for agricultural means. Without the forestfloor camouflage the gaboonviper stick out like a Picasso on a white background, and without the odd prey they are doomed to die.

Translated by *Harmen Jan Platvoet*
Corrections by *Chris Mattison*

