

CERASTES VIPERA,

The Sahara Sand viper (Linnaeus, 1758)



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■ THE SPECIES

The Sahara Sand viper or Avicenna viper (*Cerastes vipera*) is native to North-Africa, where it lives in the Sahara desert as well as in parts of the Middle-East. The Sahara Sand viper is an ovoviparous snake that is small and thick-set with an average length of 25-35 cm. The animals usually weigh between 50-75 grams. The broad head is triangular in shape and strongly distinguished from the body. The eyes lie on top of the head. This has the advantage that when the animals have buried themselves in the sand they can still observe their surroundings. In the terrarium one often only sees, after an intensive search, one or two small eyes that stick out of the sand or gravel. The colour varies from shades of grey, ochre to orange/beige, with darker spots. The dorsal spots are a bit larger than the other ones. Sometimes they are very vague. The ventral side is mostly cream- to white-coloured.

The Sahara Sand viper has a very short tail. With my animals its length varies from 1,5 cms for my female to 3 cms for the male. The end of the tail of the female is predominantly dark coloured. This makes recognition of the sexes quite easy.

The scales are strongly keeled. On my animals I count:

ventral scales:	± 118 on the male and 122 on the female
subcaudal scales:	20-22 on the female and ± 25 on the male 25; these are divided.
supralabial scales:	12
infralabial scales:	11
ocular scales:	positioned directly around the eye and unequal in size: 13 Between eye and supralabials: 4-5
rostral area:	see figure 1
anal scale:	single

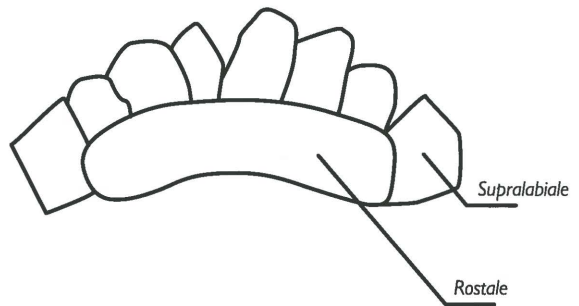


Figure 1

The pair of Sahara Sand vipers that are in my care consist of a grey coloured male with dark spots and a soft-orange/beige coloured female with some lighter spots. Both are wild-caught and are now about 6 - 8 years old. I have taken care of them now for the last two years.

The animals are about 30 cm long. The female is a rather calm animal that is not easily disturbed. The male, on the other hand, is very aggressive.

I keep my animals in a terrarium that is entirely made of glass (40 x 40 x 35 cm). The substratum consists of a layer of coral-sand of about 5 cm thick. Fine sand is also excellent to use. It is not necessary to furnish the terrarium with any kind of objects; the animals don't use them to hide anyway (see the section about behaviour). Personally I have put only one small plastic plant in the terrarium, because the eye wants more than only a "sand-pit". Generally I prefer to keep the surface the snakes can use as big as possible. It doesn't hurt to put a water bowl in the terrarium, although I don't do this any more since my animals didn't use it anyway. Sometimes they drink when I spray them with water; they suck drops of water from their body or from the wet glass.

The terrarium is lit and heated by a lowhanging spotlight of 25 Watts. This creates an extra warm "basking spot" where during summer the temperature can rise to over 40°C. For most snakes such a temperature would be too much, but these snakes have no problems with this. In the evening the illumination/heating is switched off.

■ FOOD AND BEHAVIOUR

Cerastes vipera is especially fond of lizards, but with patience and sometimes a bit of luck they will accept a diet of mice. Except for the mating, pregnancy and winter rest periods my female eats one "jumper" or

one halfgrown mouse every two weeks. Especially males that are caught in the wild can be difficult feeders when you want to feed them with mice. Unfortunately, my male belongs to this category. I have to forcefeed him with a "jumper" once a month, fortunately something that is easily done with this animal. Of course extreme care has to be taken while doing this, because they are venomous animals. As far as I know, little is known about the toxicity of their venom, but I assume that it is very likely to be comparable to the venom of the Horned Desert viper (*Cerastes cerastes*). And that is a rather venomous animal.

Both for their housing as well as for their radius of action in case they strike, I find it an advantage that they are small animals. They are very unpredictable and explosive in their behaviour; therefore it is wise not to

Cerastes vipera.



Photo: Rolf van der Goot

be tempted to get too close to them. When disturbed the snakes can produce a clear scouring sound. They do so by pushing their sharp and pointy lateral scales on two windings against each other. While doing this they stay in the same spot.

Cerastes vipera often move sideways, especially when they are in a hurry. This movement is also called "side-winding". This way of moving is also seen in *Cerastes cerastes*, *Crotalus cerastes*, *Eristicophis macmahonii*, *Bitis peringueyi* and *Echis* species.

Usually the animals are completely dug in during the day. Partly this can be to avoid the heat and partly not to attract attention. This digging in is done by making rotating, waving movements on the same spot, by which they shove the sand away that is beneath them and push it aside. In this way they literally sink in the sand. Finally they pull their head, while shaking it, under the sand, whereby sometimes only the eyes stay visible or they even disappear completely.

■ CAUDAL LURING

It is rather likely that *Cerastes vipera* sometimes uses caudal luring, in which they make wriggling movements with the end of the tail, to lure, for example, a lizard and then grab this prey with an explosive dash from underneath the sand. They hold their prey until the venom has acted. Up to now I have not been able to observe this behaviour in my animals although the female does turn her tail passionately when she wants to copulate. On average my animals slough two times a year.

■ VENOM

I have never been bitten by my animals and I intend to keep it that way because I don't possess the polyvalent North-Africa serum that I would have to use in case I do get bitten. Serum generally has a limited tena-

bility (in dried form however it can be kept for a maximum of five years) and in case of an emergency it would have to be ordered. Walter Getreuer of *Serpo* told me that for the control of a bite one would need 4 to 5 ampoules of the serum mentioned above, something that would cost about 500 Dutch guilders.

To me the venom of *Cerastes vipera* seems pretty potent: a mouse that gets bitten rather quickly departs this life.

■ BREEDING

At the end of December I separated both animals and placed them without heating and light at an average temperature of 17°C. At the end of February I took the male out of hibernation; the female was taken out one week later. On March 7, four days later, a successful mating took place that lasted for about 48 hours. This kind of prolonged mating is not unusual for *Cerastes* species.

About two months after mating I noticed that the female was pregnant, by the size of her girth and by the way she behaved. In the period between copulation and birth of the young she ate two "jumpers" and one half-grown mouse.

■ THE JUVENILES

About five months after the copulation, on August 25 at 13.00 hrs, my wife found three newly born snakes in the terrarium. The juveniles were still in their birth-membrane on which a part of the egg yolk was still attached. They hardly moved. At 13.15 hrs a fourth juvenile was born. When I arrived home at 15.40 hrs there were five juveniles in the terrarium, each still in its membrane. I didn't know better than with ovoviviparous snakes, such as *Vipera* species, the juveniles free themselves from their membrane with the help of their egg tooth soon after they are born. When, a couple of hours later this still had not occurred, I decided to open the

membranes myself and take them out. Two of the young were very small and were still connected with the egg yolk that had hardened for about 80%, something which is not normal. They were about 77 mm and 85 mm long. The "largest" of the two had a diameter of 4 mm. They weighed 1 gramme.

The smallest animal died immediately; the "larger" animal lived for three days. The other young varied in length between 9 and 11 cm and turned out to be two females and one male.

Some time later I learned from Jeroen van Amerongen that with this species it is quit normal for the juveniles to stay in their membrane for 48 hours before they free themselves. So the next time I will not touch them. In the meantime I have separated the remaining juveniles and put them on a thin layer of fine sand. For the first two weeks I sprayed the walls of their terrarium every two days. On several occasions the juveniles drank from the walls.

After ten to fourteen days one juvenile sloughed normally. Now, after six weeks, the two other juveniles haven't sloughed yet. I forcefeed all of them once a week with mousetails. I do expect problems with the sloughing and health of the two juveniles that haven't sloughed yet.

■ CONCLUDING REMARKS

With this article I hope to have made a contribution to the knowledge about these unique and interesting desert dwellers. If you have enough patience when they refuse to eat in the beginning, they can be animals that start to eat independently from one day to the next (with one young female this patience had to last for fourteen months). Apart from that these animals are strong and easy to keep.

I would like to invite everybody to contact me with additional or correcting remarks. In case anybody wants

further information about, for example forcefeeding, please do not hesitate to contact me.

Translation by Fons Sleypen

English corrections by Chris Mattison

■ LITERATURE

I could not find much literature, except that which was written in Trutnau. Therefore I would appreciate literature references about these animals.

- Trutnau, L., *Schlangen im Terrarium II. Giftige Schlangen*. Stuttgart, 1982.
- Smetsers, Peet, 1992. *Keeping and breeding Cerastes cerastes karlbartli, the horned viper*. *Litteratura Serpentiium*, vol. 12(4): 93-96