

KEEPING AND BREEDING *CERASTES CERASTES KARLHARTLI*, THE HORNED VIPER

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Contents: Preface - General - Distribution and way of life - Adaptations - Own experiences - Breeding - References.

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PREFACE

Since November 1989 I have a couple of *Cerastes cerastes karlhartli*. Although I had some problems in the beginning these snakes have turned out to be terrific terrarium animals and a decorative addition to my collection. The pleasure apparently is mutual as they have had some offspring. Below I present an account of this.

GENERAL

The Horned viper is a rather plump snake. Adult animals average in length between 60 and 70 cm, sometimes more. These snakes have a large, flat triangular head which is distinct from the neck. The eyes have a vertical split pupil. The scales are keeled. The anal scale is undivided. The main colour can be grey, sandy yellow, reddish or yellow-brown. Often the colour is the colour of the sand in its habitat. On its back are squarish brown or grey-brown blotches, which in some animals is separated by a light-blue spot. The underside is whitish.

The most striking are of course the two horns above the eyes. These are outgrown scales that slough as well. In some animals these horns are badly developed or are even completely missing. This has nothing to do with the subspecies or the habitat. In one litter juveniles with and without horns may be found. The venom of *Cerastes cerastes karlhartli* is very potent. Great care should be taken.

DISTRIBUTION AND WAY OF LIFE

By various authors nowadays four subspecies are recognized, depending on the habitat. The main species *Cerastes cerastes cerastes* is found from southwest Algeria up to the north of the Sinai-desert. *Cerastes cerastes mutila* is found from southwest Algeria north to the Atlantic coast. *Cerastes cerastes gasparetti* is found in the Negev-desert (Israel and Jordan) and Saudi-Arabia. *Cerastes cerastes karlhartli* finally is found in southeast Egypt and the south of the Sinai-desert. These areas consist of sand- and stone plains and deserts. Areas that are lightly covered with shrubs or grass are chosen as habitat.

Depending on the day temperatures they are active either by day or by night. Their burrows consist of abandoned rabbit holes and when these are not available they dig in (see adaptations). Horned vipers feed on small rodents and lizards, for which they wait at the entrance of their

holes. This species has a winterrest for some months. They are oviparous and lay their eggs, usually 10, up to 16, in abandoned holes, where they hatch after 6 to 8 weeks.

ADAPTATIONS

Cerastes cerastes is a typical desert snake and thus as adjusted to life in hot dry areas. The Horned viper moves side-ways over the loose sand, the so-called side-winding. Another noticeable adaptation is that they can dig themselves into the sand. These snakes - lying on the sand - make waving movements with their ribs and disappear into the sand within seconds. Only the eyes and horns are visible thereafter. This method is used to escape attackers, the heat of the sun and to surprise their prey. A third adaptation is the rustling of their scales when irritated. When these snakes are threatened they make winding movements while on the spot. In doing so the scales are rubbed together making a rustling sound, often mistaken for hissing. *Cerastes cerastes* is a snake that does not hiss, for this a powerful intake of breath is needed, which would result in grains of sand getting into the lungs. The same behaviour can be observed in *Echis carinatus*.

OWN EXPERIENCES

In November 1989 I came into the possession of a couple of *Cerastes cerastes karlhartli*. Later I found out they were wild-caught animals from the south of Egypt. The female was some 65 cm and the male some 45 cm in length. Both animals were housed in a terrarium measuring 100x50x40 cm (lxwxh), in which a 7 cm deep layer of dune-sand was laid, and on the right side a hide-out of rocks stacked on top of each other was placed.

On the left side some rocks were placed and a couple of bundles of dry grass complete the decoration. On the back a poster showing a desert-sight has been stuck on. A water trough and a dug in cat skull complete the cage.

The terrarium is heated by a 60 Watt spotlight which is situated on the right side halfway above the hiding place so the snakes can, if desired, position themselves either close (40°C) or otherwise to the heat source. The left side of the tanks stays cooler. At night no heating is used. Normally the lights are on for 11 hours a day. The entering of daylight gives some idea about the changing of seasons.

In the morning both Horned vipers leave their hiding place to warm up under the heating source. Most times the female stays for about one hour on top of the hiding place before joining her mate, who is either dug in or not in front of the hiding place. For the larger part of the day both animals remain on the right side (warm side) of the terrarium.

From the beginning the female ate well, the male refused everything. Because I suspected this could be due to the changing of seasons I gave both animals a winterrest after a short period of cooling off. For this they were housed together in a tank with sand and hide-outs that was placed in a cool spot with temperatures varying between 10 and 15°C.

Hearing from a lot of people who bought animals from the same shipment that most of them had died.

I removed both animals from their winterrest on 20 February 1990. Especially to save the male who already looked miserable. Fortunately after one month he ate two dead mice, of which one had been injected with Ronidazole, Panacure, multi-vitamins and calcium.

BREEDING

The female sloughed her skin at the beginning of April. On 21 April 1990 I noticed some mating behaviour which resulted on 27 April in a mating that lasted for four days. Another mating took place on 18 May, lasting for three days. At the end of May the female stopped accepting food. At the beginning of July the male sloughed his skin and from then on regularly accepted mice offered from pincers. The female, who already had gotten pretty thick, got restless roundabout 8 August. If she was not lying on top of the hiding place under the lamp she was digging. This was done by stretching herself out, moving the head sideways and then pulling the head back at the same time making a scraping movement. In this way she changed the terrarium in looking like the surface of the moon with holes dug out right to the bottom. Most probably she was looking for a good place to lay her eggs although an offered box containing somewhat moistened sand to lay the eggs in was not even looked.

On 15 August 1990 she laid, while lying on top of the hide out, some 20 white-reddish fairly weak eggs that measured some 35 mm in length and 22 mm in width, weighing about 10 g each. On 18 August she again accepted a mouse. While cleaning the terrarium two weeks later I found a dried out egg, bringing the total to 21 which is exceptionally high.

All 20 good eggs were incubated "Au Bain Marie" in slightly moist boiled-out sand at a temperature of 31°C. One egg soon proved to be infertile. Of the 19 remaining eggs every other two days two eggs were measured and weighed. This is always done by me with every clutch of eggs that has been laid. Unfortunately, one died after five weeks. Probably this is due to the handling and cooling off (up to about 17°C). This too has happened to two eggs of *Elaphe guttata guttata* and one of *Spalerosophis diadema cliffordi*. This has made me decide to stop the measuring. Unfortunately for science, hopefully not for me. It is striking however, that the remaining egg I checked, and that cooled off every time, later on hatched first.

Below you will find the measurement of that egg which is representative for the whole clutch.

Date	Length	Width	Weight
150890	3.4 cm	2.4 cm	10 g
after 3 weeks	3.5 cm	2.7 cm	15 g
after 6 weeks	3.7 cm	2.9 cm	17.5 g

On 25 September, after exactly six weeks some eggs showed little tears. After four more days 18 *Cerastes cerastes karlharti* hatched. They weighed about 5 g each and were about 18 cm in length. All the animals had little horns. It proved to be that there were two varieties of them, some with a light background and some with a more darker background colouration. Three plastic tanks with fine dune sand on the bottom were used a terraria.

Many of the juveniles when disturbed started to 'rustle' by winding on the same spot (see Adaptations). Digging like the female was also done rapidly by some of them. Sometimes they crawl over or just lay on top of the sand, other times they are completely dug-in.

Two juveniles started to feed on a pinky mouse even before they sloughed their skins. When these proved to be too big halfway through they stopped. As from 4 October all juveniles sloughed their skins. Thereafter not one juvenile independently ate pinky mice, so all of them had to be force-fed. Most have now found a new home either in Holland or abroad.

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