

THE KEEPING AND HIBERNATING OF *ELAPHE QUATUOR-*  
*LINEATA QUATUORLINEATA.*

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INTRODUCTION

Since 1982 I have been keeping *Elaphe quatuorlineata quatuorlineata*, the south European four-lined snake. It is the largest European snake, measuring up to 2.5 m, though averaging about 1.5 m.

This snake is found in central and south Italy, and from Istria in northwest Yugoslavia through the southeastern parts of Yugoslavia, Albania and west Greece (including Korfu) to the islands of the northern Cyclades.

Adult specimens are light grey or brown grey with two longitudinal lines on each side of the body, which are usually dark brown on the front part of the body, and become black on the posterior part. The upper line on each side is dorsolateral, the lower ones are in the middle of the sides. The skin between the upper lines is usually darker than that between the lower lines and the ventrals. There is a black line at the side of the head, from the eye to the corner of the mouth.

The ventral scales are keeled, which gives the animal a "rough" appearance. Young specimens have a row of darker, usually black edged broad spots and stripes on the back and one or two rows of smaller spots on each side. The head of the juveniles is usually heavily marked, which fades as they grow. The adult markings are completely developed after about three years.

These snakes are quiet and imperturbable, and rarely bite even when first caught. They are good climbers, able to get hold with their ventral scales on even the slightest crevice. They are as well at home in trees and bushes as on the ground. Four-lined snakes like a fairly moist and warm niche, preferring shadowy bushes. They are frequently found along forest borders, in hedges, open woods and rocky wooded slopes, and on the banks of brooks. They are active in the late afternoon and at twilight. They are more likely to be found in warm cloudy weather than in full sunshine.

## FOOD

Food consists of small rodents, birds (especially nestlings), eggs and lizards. Large prey is constricted before swallowing, smaller items are often eaten alive. In captivity they thrive on a diet of mice, small rats and day-old chicks.

## THE TERRARIUM

As they are fairly large climbing snakes, they need a large and high cage with ample opportunity to climb. I keep them in a terrarium measuring 1.10x0.80x1.80 m (lxwxh) with stones and a hollow tree-trunk as a place to hide. In the terrarium I sunk a water basin in the floor, consisting of natural stones with tile glue. The basin can be emptied easily through a tapping system in the double floor, which is convenient as my snakes have the habit of defecating in the water.

In the top of the terrarium there are three spots, one of 100 Watt and two of 60 Watt. As there are several shelves of cork rind at different heights, the snakes can determine how warm they want to be.

At the top temperature varies from 30 to 35°C, whereas at the bottom it varies from 20 to 25°C, depending on the season. A large branch with many side-branches goes diagonally across the cage, giving the animals ample opportunity to climb and to rub when shedding.

The terrarium is connected with a light regulation system according to Getreuer, giving the animals a day-night and seasonal rhythm.

## HIBERNATION

As it is my opinion that hibernation meets the natural life rhythm of snakes and contributes to their well being, I hibernate my snakes from the middle of November until February or March. This is also encouraged by the remarks of C. de Haan (pers. comm., 1982) that *Elaphe quatuorlineata quatuorlineata* will only breed if hibernated. At the end of August or the beginning of September most of my animals stop feeding. If they do not, I stop offering prey. During the next four weeks the snakes are only allowed to drink fresh water. The bulbs in the terrarium are replaced by a lower wattage (1x60 Watt and 2x40 Watt). As a result of the light regulation system the daily light intensity and the light quantity both decrease considerably. In this manner the snakes are gradually 'cooled' and prepared for hibernation. The long period between the last feeding and the real hibernation prevents undigested food remaining in the digestive tract, causing serious complications during hibernation.

At the end of October, beginning of November, the snakes are put up in polystyrene boxes as are used for the transportation of tropical fish. These boxes are three quarters filled with moist beech leaves, so that when the boxes are closed (without ventilation holes) a high degree of moisture is

maintained, which ensures that the animals do not dehydrate during hibernation. A thermometer is put through the lid of each box. Once every three or four weeks I open the boxes for inspection. The boxes are placed in a cold loft for four to five months. The temperature inside the boxes fluctuates between 10 and 0°C.

At the end of February or the beginning of March, depending on the weather outside, the snakes are taken out of hibernation by a 'warming-up process'. From the loft they are placed in the hall (temperature about 15°C), then night and day in the living room (temperature about 19°C), then out of the boxes into the terrarium. They first drink and then crawl around a little. Their weight does not decrease significantly and they have looked healthy and alert each year.

After the hibernation faeces of all animals are inspected for parasites, with negative results until now. Normally, they take food within one or two weeks with extreme eagerness.

After three years of successful hibernation, they should, as I hope, breed. The female was four years old this year, and should be reproductive. Unfortunately no copulations have taken place yet. That is why I decided to do things different this winter and separate the snakes during hibernation. I will 'warm up' the male earlier and separately. By stimulating in a forced way with light (from eight to sixteen hours daily) before placing the animals together, I hope to induce mating and in the end breeding. If I should succeed, I will certainly inform the readers of this magazine.

## CONCLUSION

As a result of this article, I hope to obtain reactions and/or suggestions from people who also, and possibly in different ways, hibernate their

snakes, to come in the end to an optimal care of our animals. This is in our interest, and the interest of our snakes.

I add before ending, that hibernation has an added advantage that during this period I can carry out small or large changes in the terrarium unhurriedly, without disturbing the animals.

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