

***ELAPHE RADIATA* (SCHLEGEL 1837), A BIOLOGICAL EGG-LAYING MACHINE?**

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INTRODUCTION

To me, as to most snake-keepers, it is always a great moment when, after some years of patience, a pair of snakes can be induced to breed, especially if this results in a clutch of eggs and, later on, young snakes. Until recently, it seemed to me inconceivable that the opposite might be true. Now, after three years of keeping *Elaphe radiata*, I have to conclude that breeding this snake is no longer a challenge for me. In this article I will explain why.

ELPAHE RADIATA

When I bought three captive-bred specimens of the species *Elaphe radiata* in August 1990, I had great expectations of the animals. As far as their beauty and their behaviour in the terrarium was concerned, my expectations were completely fulfilled (Langeveld, 1992). Therefore, I was very pleased with the first clutches of eggs of the two females in January 1992. Later on it turned out that things didn't end with two clutches. *Elaphe radiata* is capable of storing sperm for a long time, as was shown in one female (F2). After a single copulation she produced four clutches of which at least two contained fertile eggs.

Below is a survey of matings and the clutches of eggs produced by Female 2 in the course of 1992. The Table 'Survey of Breeding Results' shows the data in systematic order.

BREEDING RESULTS

- 1 The first copulation of F2 and M1 was observed on October 28, 1991. This resulted in a clutch of nine eggs on January 13, 1992. The clutch was incubated at a temperature of 27-29°C. Boiled sphagnum was used as a substrate. After sixty-four days, five young saw the light of day.
- 2 On January 13, 1992, two hours after egg-laying, the second copulation took place. After this the male and female were kept apart. Around February 15, 1992 the female laid nine eggs in a small cardboard box in the absence of a more suitable place. This clutch could not be saved, but the eggs had a nice white colour so they might have been fertile.
- 3 On April 1, 1992, following the copulation of January 13, a third clutch was laid, consisting of eleven eggs, which were incubated in the same way as Clutch 1. After sixty-nine days, five young hatched.
- 4 On May 18, 1992, a fourth clutch, of ten eggs, was produced, without any further introduction of the male. This time the eggs were incubated at a temperature of 29 - 32°C and moist sawdust

- was used as an incubation substrate. After fifty-nine days eight young snakes hatched. One of these showed severe deformities and was killed.
- 5 On July 10, 1992, a fifth clutch (i.e. the fourth clutch from the mating of January 13) was produced. Although there were two locations for egg-laying, the eggs were scattered all over the terrarium. The laying took place while the female was in the middle of a shedding cycle. The eggs were small and soft and the shells were translucent. Given the bad condition of the eggs, no attempt was made to incubate them.
 - 6 Because of my holiday, the male was placed in the female's cage on August 3, 1992. Almost immediately another copulation took place. On September 7, 1992, a clutch of nine eggs was laid by the female. They looked healthy and were incubated at a temperature of 27 - 29°C, again with fine sawdust as a substrate. At the time of writing, the eggs have not hatched.

The boxes with the clutches were incubated, floating in water. The humidity in the incubator was a constant 100% and the temperature did not fall at night. Except for one, all the young snakes accepted both frozen and live pink mice one week after their first shed.

CONCLUSION

I cannot say whether the production of six clutches in one year is normal for *Elaphe radiata*. I think that the female mentioned above may have had some hormonal abnormality.

During her almost continuous gestation she consumed two dead half-grown rats each week. These were accepted until a few days before egg-laying. With respect to the sheddings, I would like to make the following observation. As far as is known, the American and European snakes of the genus *Elaphe* usually shed their skins ten to fifteen days prior to egg-laying. With *Elaphe radiata*, however, I could not detect any regular pattern. Only in one case (clutch 1) was egg-laying preceded by shedding.

After the sixth clutch I sold the breeding pair since these snakes no longer presented a challenge to me.

I hope this article has not raised any aversion in the reader to *Elaphe radiata* because this species certainly doesn't deserve that. In my opinion, *Elaphe radiata* is a beautiful and interesting snake which, except for its reproductive urge, makes a very nice subject for the terrarium.

LITERATURE

Langeveld, C. M., 1992. *Elaphe radiata* by foul means or fair. Litt. Serp. 12 (6), 152-160.

Translation: Paul Schotten.

SURVEY OF BREEDING RESULTS

Cop./Lay	Date	Eggs	Incub. temp. (C)	Incub. time (days)	Jongen Youngs
copul.	281091				
clutch 1	130192	9	27-29	64	5
copul.	130192				
clutch 2	150292	9	-	-	-
clutch 3	010492	11	27-29	69	5
clutch 4	180592	10	20-32	59	8
clutch 5	100792	9	-	-	-
copul.	030892				
clutch 6	070992	9	27-29	?	?

Eggs = number of eggs; Inc.temp = incubation temperature (celcius); Inc.time = incubation time; (days); Youngs = number of youngs; copul. = copulation; clutch = egg-laying