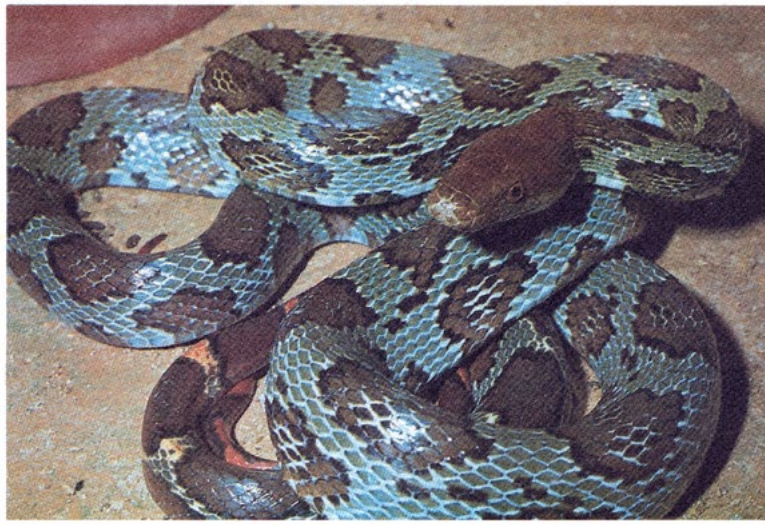


Fig. 1. *Elaphe moellendorffi*. Foto: C.A.P. van Riel.

TROUBLES WITH *ELAPHE MOELLENDORFFI* (BOETTGER, 1886).

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On behalf of the "Studygroup for Diseases and the Optimum Keeping and Breeding of Terrarium-Animals".

Contents: Introduction - Troubles - Purpose of the research - The terrarium - Pneumonia - Conclusion - References.

INTRODUCTION

This snake, which attains a length of more than 2 m, is robust, with a slender body. The head is

long and slender, and red-brown in colour. The eyes have a red-brown iris and a round black pupil. The body is whitish-grey with green saddle-shaped dorsal spots, which are edged with a black line. The tail is bright red. The belly is white with a pattern of black squares.
This snake occurs in northern Vietnam (Tongking), and in the southern provinces of China (Kwangsi, Canton, Wuyung and Kwangtung). Mell (1929) mentions that this snake is often found east of Canton.
The provinces mentioned above are situated on and south of the Tropic of Cancer. In January there is a N.E. monsoon with an average precipitation of less than 50 mm. In July there is a S.W. and S.E. monsoon with an average precipitation of more than 200 mm.
Elaphe moellendorffi lives in open low and hilly terrain (at an altitude of 50 to 300 m), and is often found near rivers, e.g. the Kim river in Tongking. It feeds on warm-blooded prey, such as mice, rats and birds, which are constricted before swallowing.

TROUBLES

In captivity we found that all *Elaphe moellendorffi* which were imported into The Netherlands, died very quickly.
In the hope that we could breed this beautiful snake, we studied the clinical picture over some years (1976-1982) and tried to save them.
Not one animal ate by itself; all had to be force-fed. They behaved abnormally and one could see that they were in bad condition.
We studied 10 specimens from the moment of importation up to their death, 4 males and 6 females.
After dissection of all specimens the expected

cause of death was confirmed, pneumonia. Most of them (7 specimens) also suffered from nephritis with sedimentation of urate in several organs (gout). The results are summarized in Tabel 1.

PURPOSE OF THE RESEARCH

The research became important for two reasons: First it was essential to learn the circumstances under which the snakes are best kept in a terrarium. Second we would try to treat the pneumonia and keep the snakes alive. After that we could try to breed this species and add an interesting snake to the list of breeding results.

THE TERRARIUM

Of all temperatures tested between 15 and 30°C we had the best results between 17 and 22°C. This snake showed most activity at 17°C in the morning between 7 and 9 o'clock. Because of the action of pneumonia we advised temperatures between 20 and 22°C. After treatment with Belcomycin at these low temperatures, the snake started to eat by itself. The relative humidity of the air was between 60 and 80%. We used terraria of the "sterile" type, containing one branch with smooth bark, one flowerpot turned upside down to hide, and a waterdish to drink.
When disturbed, the snakes would sometimes regurgitate their food, so it became advisable to feed the snakes in masked terraria, not disturbing them for a few days after each feed.

PNEUMONIA

The presence of pneumonia was treated in several different ways. In all cases the course of the dis-

Tabel 1. Results of dissection of 10 *Elaphe moellendorffi*.

Date of decease	Sex	helminth infection	pneumonia	enteritis	gout	dissection code
27 Jan. 1976	♂	+	+	-	-	D 76/77
26 June 1977	♀	+	+	-	+	S 9
30 June 1977	♀	+	+	+	+	D 77/802
8 July 1977	♂	+	+	-	+	S 10
16 Jan. 1978	♂	-	+	-	+	D 78/43
21 Jan. 1978	♀	+	+	-	+	S 8
Feb. 1978	♀	-	+	+	-	Wo 1
Feb. 1978	♀	-	+	-	-	Wo 1
23 June 1982	♀	-	+	-	+	D 82/748
20 Nov. 1982	♂	-	?	-	+	--

D= dissection number State University of Utrecht
S= dissection number Studygroup
Wo= dissection number Studygroup

ease was almost the same:

1. The snake seemed to recover, the symptoms of pneumonia disappearing slowly.
2. The behaviour of the snake became more normal e.g. coiling up and eating by itself (in one specimen) were noticeable improvements.
3. Suddenly, after 19-28 days, the pneumonia recurred in a much stronger form than before: the snakes quickly deteriorating and dying within a few days.

Three dead specimens were examined bacteriologically. In the lungs we isolated:

- *Escherischia coli*
- *Proteus rettgeri*
- *Klebsiella oxytoca*
- *Salmonella sp.*

Different types of antibiotic treatment were applied, without any result. Vitamin B-complex was applied simultaneously in every treatment, for support. On arrival of a new animal vitamins A and D_3 were injected.

The following anibiotics were used: Kanamycin, Chloramphenicole, Nifuroxazide, Vibramycin, Belcomycin.

Only the last animal that was kept at low temperatures, started feeding by itself after treatment with Belcomycin. After some time, however, it stopped feeding and died soon after. Normally these antibiotics would have worked against the bacteria. While the intensive treatment (application of antibiotics for 5-10 days) produced no results, we started to believe that there was also a viral infection.

Our expectations were fortified by the discovering of giant cells (cells with many nuclei) in the lung tissues during the last histological examination (D 82/748).

Also the animals showed a behaviour as described in a recent publication on paramyxo virus infection in snakes (Jacobson et al., 1981).

CONCLUSION

We have been unable to keep alive any specimens of *Elaphe moellendorffi* imported into The Netherlands, ten during the last seven years. This is probably because they all suffered from a viral form of pneumonia. We therefore advise snake keepers not to buy or import this species.
When we have obtained better results in the treatment of pneumonia in *Elaphe moellendorffi* we will inform you in this magazine.

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