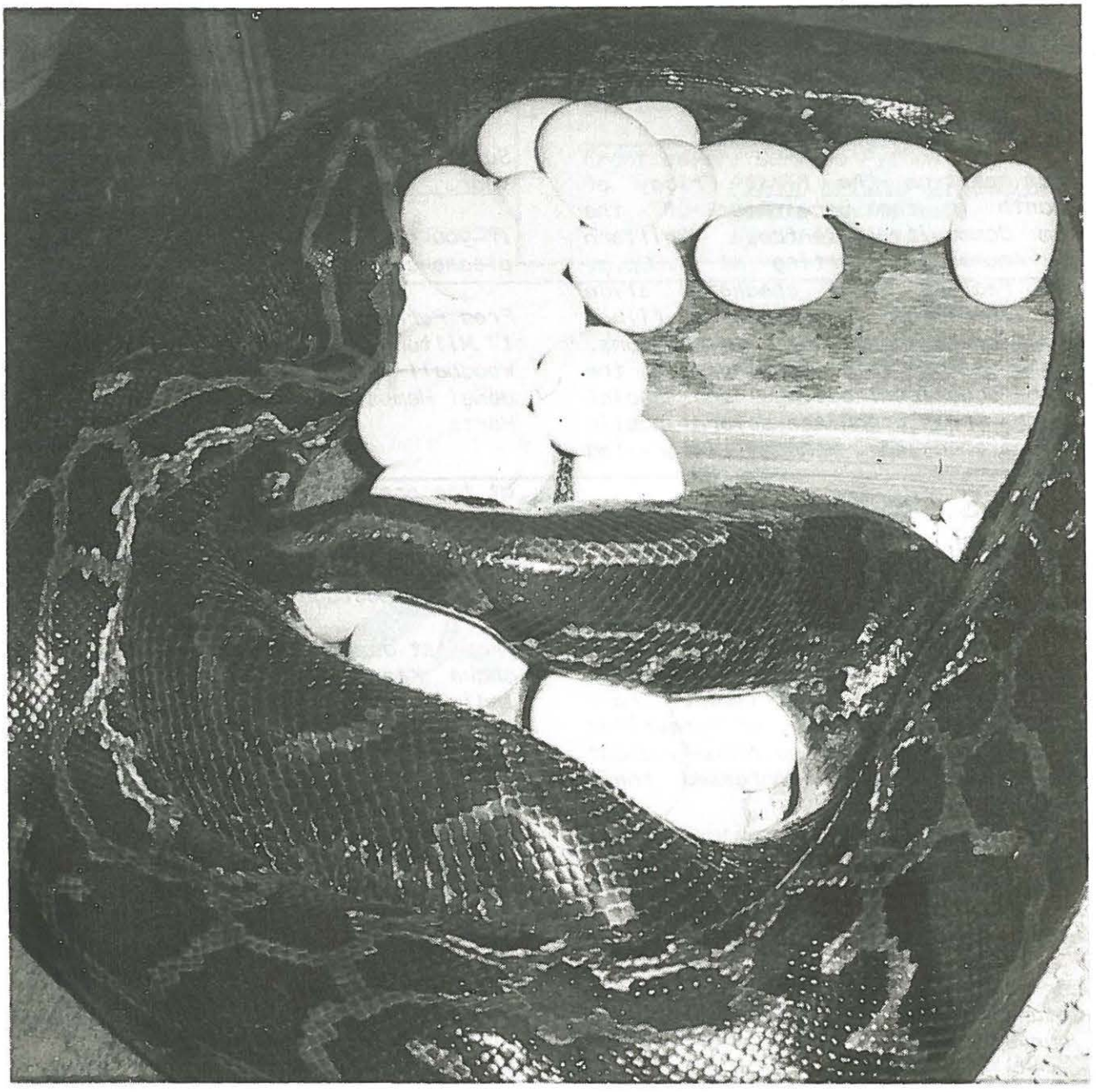
SNAKE KEEPER

VOLUME 1 NUMBER 12 DECEMBER 1987 £1.00p



INFORMATION

THAMES AND CHILTERN HERPETOLOGICAL GROUP

The Thames and Chiltern Herpetological Group was formed in February 1979 to bring together people in the area with a common interest in reptiles and amphibians. The original group of about a dozen members has since grown into a thriving society with over a hundred members. The aims of the group are:

1) *To provide a centre for discussion and the exchange of information.*
2) *To promote the breeding of reptiles and amphibians in captivity.*
3) *To promote the conservation of reptiles and amphibians in the wild.*
4) *To educate the general public and thus encourage a more positive attitude towards reptiles and amphibians.*

The Group meets on the first Friday of each month in the Barn Room of the Amersham Community Centre, Chiltern Avenue, Amersham, starting at 8.00p.m. Meetings feature guest speakers, slide shows, specimen evenings, films, photographic sessions and discussions. There are also field meetings in the summer and occasional outings and social events. The Group organises several public exhibitions each year. Members interested in conservation have restored badly neglected local ponds. A large number of species are bred each year by members.

Members receive a monthly newsletter and can borrow books from the Group's library, which is regularly added to. An up-to-date list of specimens kept by members is available for reference. Sweat-shirts and T-shirts printed with the Group's logo can be purchased.

There are three categories of membership, with varying subscription rates.

Adult	*Junior (under 16)*	*Family*
£5.50p	*£3.00p*	*£7.50p*

Subscriptions fall due on April 1st each year.

If you are interested in joining the Group please contact the Secretary:

Fred Parkyn
17 Milton Dene
Woodhall Farm
Hemel Hempstead
Herts

Snake Keeper

The publication of this issue brings to a close the first volume of Snake Keeper. This is an appropriate time to say thank to everyone who has helped so far.

Without our many contributors we would have floundered at the first issue. Thank you to everyone who put pen, or typewriter ribbon, to paper and told us proudly about their successes or sadly confessed their failures.

Thank you also to our subscribers, advertisers and stockists and to the many readers who have written offering help and encouragement during the past year.

A number of changes are planned for the next volume which will, hopefully, meet with your approval.

Subscriptions for 1988 will remain fixed at the present rates listed on page 3 but all copies sold by post will no longer be sent post free. From 1st January 1988 the cost of unsubscribed copies will be £1.00p plus 20p postage and packing each.

From 1st January classified advertising in Snake Keeper will be free to private individuals. Trade advertising in the classified section will still be charged at 10p per word.

We would be the first to admit that Snake Keeper still has a long way to go but most of the improvements we could make are impossible without increased income. Financially, we chart a very unsteady course but, hopefully, this situation will improve during the coming volume.

A Merry Christmas and a Happy New Year to you all.

Michael & Lesley.

SNAKE KEEPER

Vol 1 No 12 December 1987

Snake Keeper Magazine
159 Stanley Hill
Amersham
Bucks
HP7 9EY

Telephone: Amersham (02403) 22769

Editor *Michael Connolley*
Assistant Editor *Lesley Close*

Subscriptions: One year (12 issues)

U.K. *£12*
Europe *£16 sterling*
U.S.A. *£18 sterling*

Snake Keeper magazine does not hold itself responsible for any opinions expressed by the authors and contributors.

ISSN 0952-5653

Printed by Pyramid Press. Tel: 0272 556539

INDEX

The African Egg-eating Snake, Dasypeltis scabra, Part Four 4

Rosie 9

Photo Page 10

Houdini Garter Snakes 11

The Harassment of Human Owners by Royal Pythons 12

Success and Failure with Grass Snake Eggs 13

Letters 14

Breeding Report of Burmese Pythons 17

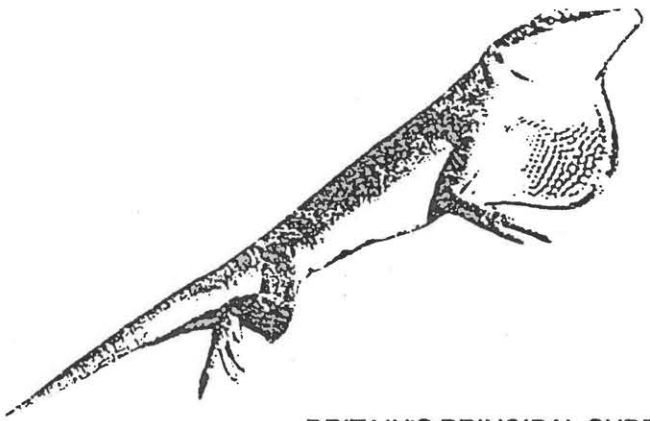
Junior Snake Keeper 19

Front cover: Burmese Python
Python molurus bivittatus
Female laying eggs
by Chris Martin

THE VIVARIUM

55 Boundary Road
Walthamstow
London E17 8NQ

Tel 01 520 2072



BRITAIN'S PRINCIPAL SUPPLIERS OF REPTILES AND AMPHIBIA TO THE SPECIALIST.

WE HAVE THE VERY LATEST IN HEATING & LIGHTING TECHNOLOGY FOR CAPTIVE HERPETOFAUNA, ALONG WITH A UNIQUE RANGE OF FOOD SUPPLEMENTS, TONICS AND HEALTH CARE PRODUCTS, THE USE OF WHICH WILL PROMOTE THE HEALTH AND WELL-BEING OF YOUR STOCK AND STIMULATE NATURAL COLOURING, ACTIVITY AND BREEDING BEHAVIOUR

Part 4

The African Egg-Eating Snake, Dasypeltis scabra

by Dietmar Emmrich

Copulation and Egg Laying

I observed the first copulation of my Egg-eating Snakes in a vivarium in Addis Abbaba on 4.4.1982. The animals crawled over one another in opposing directions to position themselves so that their cloacas were joined during copulation. This was the usual position which I was able to observe during several subsequent matings. The interesting part of this mating was, however, that it took place shortly before the female was due to slough. The mating takes place much more frequently immediately after the female has sloughed because then the male can detect the scents which the female has released much more readily (Trutnau 1981, Petzold 1982). The same animals mated again on 16.6.1982 and on 18.6.1982. If a later, unobserved, copulation had not led to fertilisation then the gestation period was between 72 and 116 days. Later, for female No.2, I was able to determine a static average gestation period of 43 days (Table 3). There are many diverse explanations for unusually long periods of gestation. Petzold (1982) speaks of delayed fertilisation as a result of sperm retention (amphigonia retardata), interrupted embryo development and retention of the fertile eggs in the uterus (see also Sassenburg 1984).

I was able to observe during three matings of two different pairs something which I have not yet seen described in any literature. Each of the males took a firm dorsal grip of the female (neck region, middle of the body or above the cloaca). One got the impression that the male wanted to immobilize the otherwise struggling female. The female tried to free herself by backwards bending motions. This bite is always given before copulation and lasts for up to 40 minutes. It is sometimes accompanied by a periodically intense body twitching, which is part of the male copulation ritual. The duration of the actual copulation varies from around 5 to 22 hours.

I cannot agree with the statements of Fitzsimons V.F.M. (1962), Trutnau (1981) and Backhaus (1980) that D. scabra always lay their eggs singly. Table 4 shows that in my case the method of egg laying varies. 65% of the eggs were laid in clusters and 35% singly. Kulmus's eggs (1984) were always laid in clusters.

Table 3 Gestation Periods for D. scabra

Female		Days
1		72-116
2		44
2		42
2		47
2		63
2		41
2		35
2		34
2		37
2	Average	43

Table 4 Egg Laying Method For Clutches From Dasypeltis scabra

Female	Total no. of eggs	in clusters	singly
1	10	-	10
1	11	7	4
1	14	-	14
1	11	11	-
1	15	14	1
1	6	3	3
1	14	14	-
1	16	14	2
1	13	7	6
1	110(100%)	70(64%)	40(36%)
2	9	-	9
2	9	9	-
2	11	-	11
2	11	5	6
2	10	10	-
2	15	11	4
2	15	12	3
2	17	15	2
2	15	3	12
2	17	4	13
2	14	9	5
2	23	23	-
2	19	19	-
2	12	10	2
2	197(100%)	130(66%)	67(34%)

The eggs are white. Their surface can be smooth or pimply. The eggs are long and oval and after being deposited they measure on average 32mm x 16mm and weigh on average 4.6g. Kulmus (1984) gives significantly greater average values for the dimensions of the eggs, 42.5mm x 16mm which however only has minimal influence on the common hatching size of around 23cm.

Reproduction Cycle

It was extremely interesting to observe that the female was immediately mated again shortly after laying her eggs. I saw several times that the mating took place on the actual day of laying, but more often it occurred one or two days after the eggs had been laid (Table 5). At first I was rather pleased that the second clutch of eggs arrived so soon after the first. However my amazement grew as this pattern continued. I wavered between separating the sexes out of regard for the animals and scientific curiosity about how long this mating pattern would continue. Finally I decided on the second alternative and left the group together (see "Incubation"). In 16 months, female No.2 laid eight clutches of eggs (all fertile) a total of 92 eggs, i.e. a clutch every two months. Such high productivity regarding the total number of eggs - approximately 6 clutches per year - is unknown among squamata species (especially snakes) and has not been described in any literature. Next in the productivity stakes must surely be Eublepharis maculariis. A breeding group of these geckos was examined with regard to their rate of reproduction at Seattle Zoo. The females laid between 2 and 6 clutches per year.

It is known that not only do exogenous factors (climatic, physical and social) play an important part in the reproductive cycle but that they play a part in a complicated interrelationship with the endogenous factors. If a fertile clutch of eggs results then at least the endogenous factors must have prevailed. According to the findings of Table 5, D. scabra must therefore be allied to the polycyclic genus of snakes. "For the species already known to belong to this group (e.g. Naja, Ophiophagus, Crotalus) it is valid to say that the ovulation time is obviously fixed independently of external stimuli". (Petzold, 1982, Page 583).

However, from that no hasty conclusions should be drawn about conditions in the natural habitat. Here other, totally different exogenous factors prevail (availability of food, temperature, sexual partners) than those in the vivarium.

Incubation

From 314 eggs only 13 (4.1%) were sterile: all others were fertile. Either directly after being laid or 2-3 days later, blood vessels could be seen through the shells of the eggs. Eggs which collapsed were opened for examination and embryos in various stages of development were discovered. Thus the ovulation of the female corresponds with the spermatogeneses of the male, which is proven by the circanual reproduction rhythm. During incubation, the circumference of the eggs increased noticeably. After a 90 day incubation period and a few hours before hatching the length had increased by 8.95% and the diameter by 19.05%. According to Petzold (1983, page 617) after a 60 day incubation period the eggs of D. scabra increased by +5.09% in length and the weight immediately before hatching was reduced by -8.09%. The egg thus changes shape during incubation. It becomes more rounded. I have not yet observed a direct "sweating" of the eggs immediately before hatching, and the eggs seldom collapsed. The shells were mostly slit by the hatchlings whilst they were still in a well-rounded condition.

I share the opinions of Langenwerf (1979) that at the present time it is not the incubation method which determines the successful hatching rate, but rather the maintenance and correct feeding of the mother.

I incubated the snakes' eggs in a transparent, three-part plastic container, the so-called refrigerator storage box (see also Schmidt 1979). The lower section contains water and above this in the middle section, which has a number of small holes, the eggs are placed on a layer of damp sterilised sphagnum moss. The eggs are also covered with a shallow layer of moss. The upper part serves as the cover. The incubator was placed on top of a vivarium or other heat source and the cover, which was covered with drops of condensed water, was removed daily for ventilation purposes. The relative atmospheric humidity was 100%. In my opinion the variations in temperature between day and night were of considerable

significance (day 30-32 degrees C, night 24 degrees C). As a result of this the incubation time is indeed longer than it would be with a constantly high temperature, but the hatchlings are invariably stronger and healthier. These temperature variations also correspond more to those which prevail in the natural habitat of these animals. At Dukam, for instance, where the parents were caught, the variations in day/night temperature in July and August were around 10 degrees C. Incubation times from all available literature sources are contained in Table 6 and are compared with the values which I was able to determine. The differences in incubation times are quite considerable and in some cases are doubled. This should however be considered normal and not unusual because, in the case of snakes, external factors such as temperature and humidity play a much more important role than they do in the case of birds.

Rearing

The rearing of the young was achieved without problems. Immediately after the first slough the hatchlings will eat the eggs of Zebra Finches or others of similar size. A captive bred animal of the F2 generation ate a Ribbon Finch egg 4 days after the first slough. However, because I did not have a regular supply of eggs of this size, the hatchlings were force-fed with the yolks of chicken eggs. For this a 2ml injection syringe with a 5cm plastic cannula was used. A piece of bicycle valve tubing fastened on to the syringe serves the same purpose. At first the hatchlings were given 0.5 to 1.0 cc of egg yolk. The amount which is accepted varies from animal to animal. When the yolk starts to come out of the mouth of the animal feeding should be stopped. At the outset, when the hatchlings are some 23cm long, no more than 1cc should be given. When the hatchlings have been force-fed they are held briefly under running lukewarm water. This small shock prevents them regurgitating the food and rinses away any superfluous egg yolk. Frequently, however, the hatchlings hold their heads up and carry out chewing motions which helps the food to penetrate into the digestive tract. I have never had a hatchling which regurgitated all of the food which it had been given.

After 20 force-feeds in 8 months with an average of 1.0cc being given, a male animal, for example, grew from 23cm to 35cm and its weight increased from 3.4g to 15.0g. Female animals eat more and grow more quickly. After the same length of time a female from the same clutch had reached a length of 38cm and a weight of 18g. At 1.2cc, the average amount of food taken by the female was more than 20% more than the male.

As opposed to Kulmus (1984), who wrote after losing a hatchling as a result of force-feeding "without connections to bird breeders, rearing is impossible", I am of the opinion that hatchlings can be reared without problems.

For the first few months the young snakes are kept in plastic containers (11 x 10 x 15cm). The covers and one third of one side are perforated for ventilation. The substrate is sphagnum moss which is sprayed lightly every 2-3 days. The young animals transpire over their whole body surface and this water loss could be dangerous if the surroundings they are kept in are too dry. The furnishing is completed by a small branch and a drinking bowl. The animals drink directly from the water bowl but appear to enjoy licking the drops from their bodies and from the plastic sides after the containers have been sprayed. It is important that the temperature does not drop below 20 degrees C for any length of time. I experienced losses in this way because the egg yolk which had previously been given could not be digested. When the dead animals were examined it was found that undigested food which had been given ten days previously was still present in the form of lumps. The post-mortem was carried out by Prof. Dr. Ippen of Berlin.

F2 Generation

I thought it would be very interesting to breed the Egg-eating Snakes over several generations to see if there was any evidence of possible and eventual regenerations or changes in colour or pattern.

The parent generation (P) and the first generation (F1) were kept apart from one another to prevent any matings between the two generations. In addition each animal of the F1 generation was housed separately so that the time of first sexual contact could be determined exactly. The first copulation resulted at the age of 22 months on 23.4.1985. (see also "Sex determination and maturity"). The male

Table 5 Data concerning the eggs and hatchlings of the F1 generation of Dasypeltis scabra

Copulation	Eggs laid	No. of eggs	Dimensions of eggs mm	Weight of eggs in g ♀	Hatching date	No. of young	Length in cm	Weight in g ♀	Remarks
Female 1									
4.5.82									
16.6.82	29. 8.82	10	36-30x15-14	-	-	-	-	-	Eggs yellowish
18.6.82	-								
?	11. 8.83	11	25x15 ♀	4.45	-	-	-	-	-
?	20.10.83	10	32x14 ♀	4.5	-	-	-	-	-
?	23. 3.84	14	-	-	-	-	-	-	-
?	26. 7.84	11	34-27x15	4.9	18.10.84	10	17.5-21.5	2.9	-
?	9. 9.84	15	32-26x15	4.1	14-15.12.84		16.5;18.5; 19; 20	1.5	Min. weight 1.2g
?	26.11.84	6	36-35x14	4.75	-	-	-	-	-
14.2.85	14-27. 5.85		30-25x16-13	4.2	14. 8.85	5	2x20;2x21;22	3.1	1 example
?	4. 7.85	14	32-30x17-15	4.8	20-27. 9.85	10	22 ♀	3.0	-
?	6.11.85	16	30-27x15	3.9	Not yet hatched				-
Female 2									
6.2.83	22. 3.83	9	37-29x-13	-	14-18. 6.83	8	23 ♀	3.4	Egg shell pimply
?	16. 5.83	9	35x15 ♀	-	20-26. 8.83	8	-	-	-
17.5.83	28. 6.83	11	36-27x19-16	5.45	2.10.83	1	18	3.0	-
29.6.83	15. 8.83	11	30x15 ♀	4.1	-	-	-	-	-
?	27. 9.83	12	28x14 ♀	3.8	-	-	-	-	-
?	6.12.83	10	-	-	15. 2.84	4	23 ♀	3.75	-
26.2.84	29. 4.84	15	34-27x17	5.0	27.7-2. 8.84	15	23-25	4.2	-
29.4.84	9. 6.84	15	36-32x17-15	5.3	30.8-5. 9.84	15	-	4.6	-
14.6.84	14. 7.84	17	32-27x17-15	4.3	5-8.10.84	14	22 ♀	3.8	-
14.7.84	17. 8.84	15	36-28x16-14	4.4	21-26.11.84	6	19-24	4.5	1 vertebral damage
18.8.84	24. 9.84	17	34-26x15	4.7	4-6. 1.85	15	-	3.7	(Male isolated
?	2.11.84	14	33-25x14	3.95	22-27. 1.85	8	19-21	2.8	from 24.9.1984
1.2.85	16. 4.85	14	33-25x15-14	3.8	23.6-1. 7.85	12	21 ♀	3.1	until 1.2.1985)
14.2.85									
?	8. 6.85	23	30-24x17-15	4.3	14. 8.85	8	22 ♀	3.2	3 vertebral damage
10.6.85	16. 7.85	19	30-25x17-15	4.1	Not yet hatched				-
?	22-27. 8.85	17	28x18-16	4.8	" " "				-
?	30.10.85	12	35-30x18-15	5.2	" " "				-

'tongued' the female intensively and then bit her in the middle of the back. The female pulled back sharply and after some 30 minutes the bite was loosened. The subsequent copulation lasted some 20 hours after which the female bled slightly from her cloaca.

After being placed together again, a further copulation resulted on 11.7.1985, this time without the male biting the female to immobilize her.

The clutch of 5 eggs (1 sterile) resulted on 24.8.1985. After an incubation time of 97 days three snakes hatched. Table 7 gives information on further data. The three hatchlings were strongly coloured and had the same markings as the P generation and there was no evidence of regeneration. The first slough resulted after three weeks.

On 3.11.1985 a further clutch of eggs was laid (3 sterile) and after a week mating was again observed. During this mating the so-called "copulation bite" was also observed. The snakes were not in the least bothered by the disturbance caused by my photographic work.

Conclusion

Dasypeltis scabra, which is the most widespread African species of its genus is a highly specialised and obligatory egg eater which is constantly hungry. The wild-caught Ethiopian specimens were bred

to the F2 generation. Sexual maturity occurred at the age of 21 months. An average gestation period of 43 days was determined. The average incubation time at a temperature of 23-32 degrees C was 86 days. The reproductive rythym is polycyclic. During mating the male indulges in the "copulation bite".

The Egg-eating Snake is an animal which can easily be kept in a vivarium and one which is easy to maintain and to breed.

Dietmar's interest in reptiles started around the age of 10-12 years. He kept local lizards and snakes like Anguis fragilis, Natrix natrix, and Lacerta agilis. Later he moved on to Vipera berus and Boa constrictor. During this time he became a member of 'Iguana', a Berlin herpetological society. Although his primary interest is in reptiles he has found time to observe and record information about birds and mammals whilst working in Africa. He has published an article about the rare Abyssinian Wolf, Simenia simensis, a checklist on the Snakes of Ethiopia and, of course, this article on Dasypeltis scabra. Dietmar is presently working in Tanzania.

+++++++

Table 6
Incubation Times for the eggs of Dasypeltis scabra

Incubation time in days	Incubation temp in degrees C	Author
83 - 87	24-30	Emmrich
96 -102	24-30	Emmrich
96	24-30	Emmrich
70 - 72	24-30	Emmrich
89 - 95	23-32	Emmrich
82 - 88	23-32	Emmrich
83 - 86	23-32	Emmrich
84	23-32	Emmrich
96 -101	23-32	Emmrich
96 - 97	32-32	Emmrich
102 -104	23-32	Emmrich
81 - 86	23-32	Emmrich
68 - 76	23-32	Emmrich
82 - 85	32-32	Emmrich
67	24-34	Emmrich
77 - 84	23-32	Emmrich
Ø 86	Ø 27.4	Emmrich
107-108	-	Gans, Laurent Pandit (1965)
ca. 98	-	Anonymous (1965)
56	24-32	Pawler (1962)
54-57	26.7	Almandarz (1969)
58-65	28-30	Kulmus (1984)

Table 7 Comparison of measurements and weights up to the F2 generation of Dasypeltis scabra

	P generation	F1 generation	F2 generation
Date of birth	Wild caught Spring 1982	July 1983	November 1985
Egg dimensions in mm.	-	37-28x14-13	40x15 Ø
Incubation time (days)	-	83-87	96-98
at 24-30 °C in days		83-87	96-98
Hatchlings Length in cm		23 Ø	18,22,22
Weight in g		3.4 Ø	2.5;3;4

This article was originally published in the magazine 'Aquarien-Terrarien' in the German Democratic Republic. It was produced in five parts between June and October 1986 and is reprinted by kind permission of the author.

The article was translated from the original German by John Hackworth.

Due to space limitations it has not been possible to include the bibliography that accompanied the original article. A copy can be obtained on request by sending an s.a.e. to our address.

Rosie

by J. Woodgate

I have always been interested in reptiles so when my husband, David, mentioned that there was a shop that sold reptiles a few miles away, I asked him to take me to see them. The shop owner let me hold a 2.6 metre Python and from then on I made frequent visits to the shop to look at the snakes.

At the beginning of December we put a deposit down on our first snake, a wild-caught female Mexican Boa approximately 53cm in length. We went home and set about constructing a vivarium for her. This was made from melamine covered chipboard and measured 1mx60cmx60cm. The doors were adapted from secondary glazing and can be locked into place. A Tru-lite tube was fixed to the back of the vivarium and a ceramic heater in the centre; this would have been better placed at one end. Bark chips were used as a substrate; this was later changed to newspaper because it is more hygenic and less liable to harbour mites or diseases. Finally we added a water bowl, a piece of bark for a hide, a branch and a large stone to help her when shedding her skin. We set the thermostat for a daytime temperature of 28 degrees C and this was adjusted at night to 22 degrees C.

I brought my Boa home a week later after giving the vivarium time to warm up and making sure everything was working properly. I called my new pet 'Rosie'. She wasn't feeding at the time of purchase but the shop owner said this was usual. He said that we should give her a few days before offering food as it takes reptiles a while to settle down.

I left Rosie alone for three days and then offered her a defrosted pinkie in which she showed no interest. Six weeks passed and the snake still refused all food.

I contacted the shop and was told to try offering a live mouse. I did this with reluctance as I had been told that this snake ate dead food, one reason for choosing her. I put a live mouse in with the snake and left them alone. The result was no different: she retreated from the mouse and hid.

Two weeks later I bought a second Boa. I thought that Rosie was lonely and perhaps needed company. The new purchase was female, captive bred and a little bigger than Rosie. I called the second Boa 'Candie'. Rosie followed Candie around the vivarium all afternoon and then curled up with her at night. The next day they each ate a mouse. Problem solved - or so I thought. Rosie refused food again for a month then took another mouse. It was during this time that I noticed that Rosie's faeces were of a different consistency to Candie's. I phoned a veterinary surgeon and explained the problem. The vet thought that it was unlikely that she had an infection because she had lived so long. He said she would have died by now if she was infected. The vet suggested I try force-feeding. The shop owner from whom I bought Rosie said he had force-fed snakes lots of times. I left Rosie with him for a week. During this time she was given three pinkies.

When I collected Rosie I could not manage to give her pinkies so I put pieces of meat into her mouth. She refused these more often than she took them. I telephoned the vet after a week and made an appointment, although he said that there was very little that he could do. Rosie died that night.

I still have Candie who eats very well. I have bought another Boa; this one is a male and he will eat anything that is offered, at any time, even when sloughing his skin. I hope to breed these snakes in the future.

David R. Durham B.A. (Hon's)
FREE - LANCE
ILLUSTRATOR

Tel: (0274) 590973

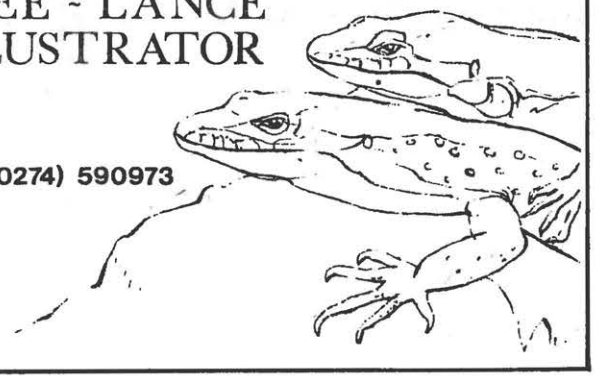
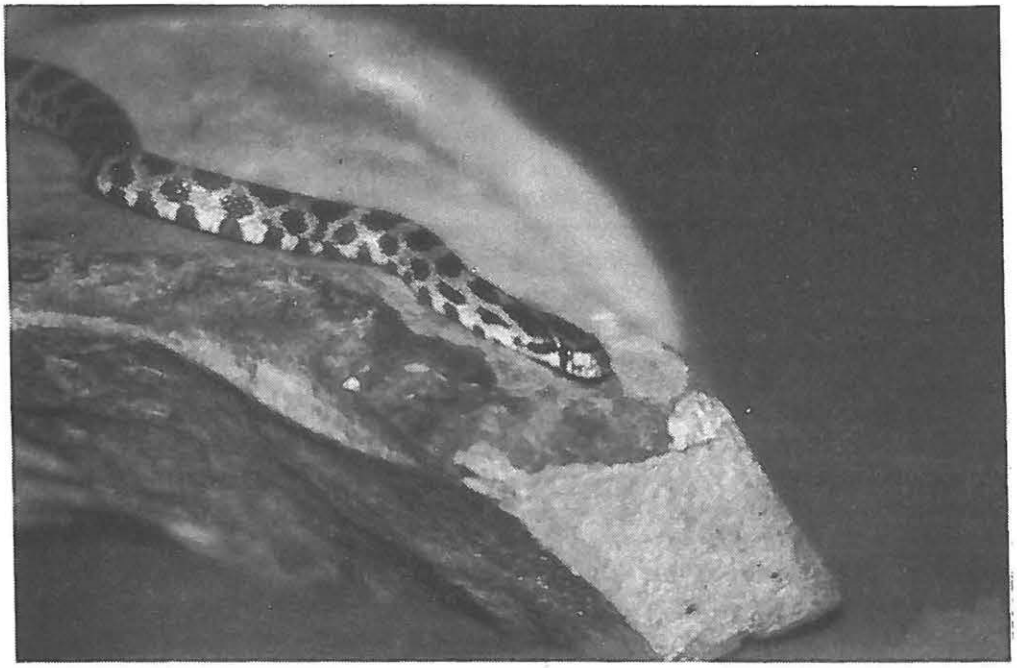
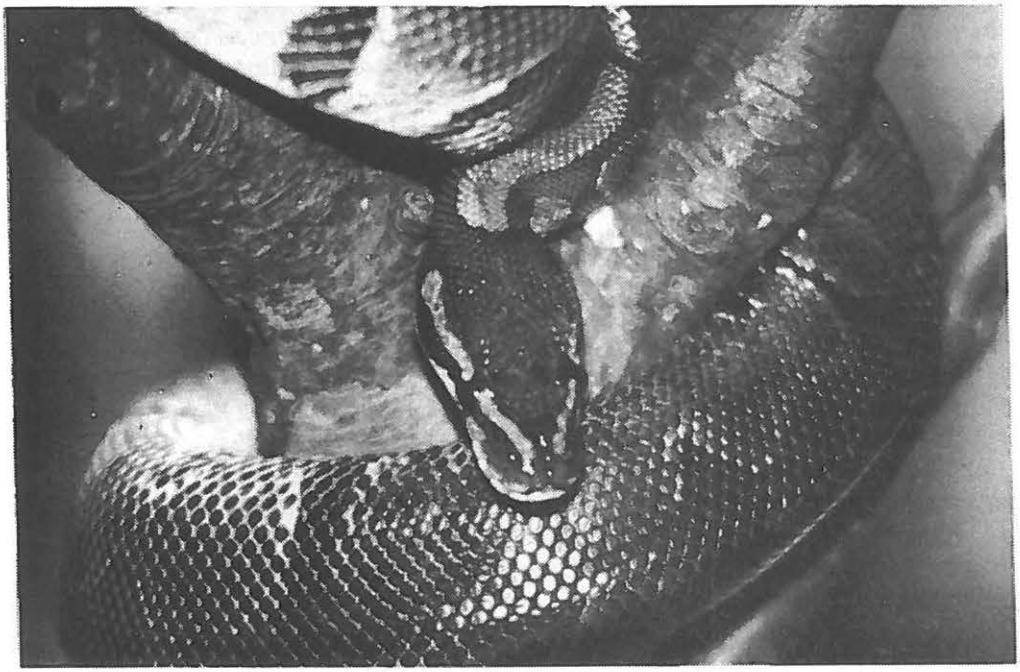


PHOTO PAGE

Photographs
by
Kevin J. Hingley

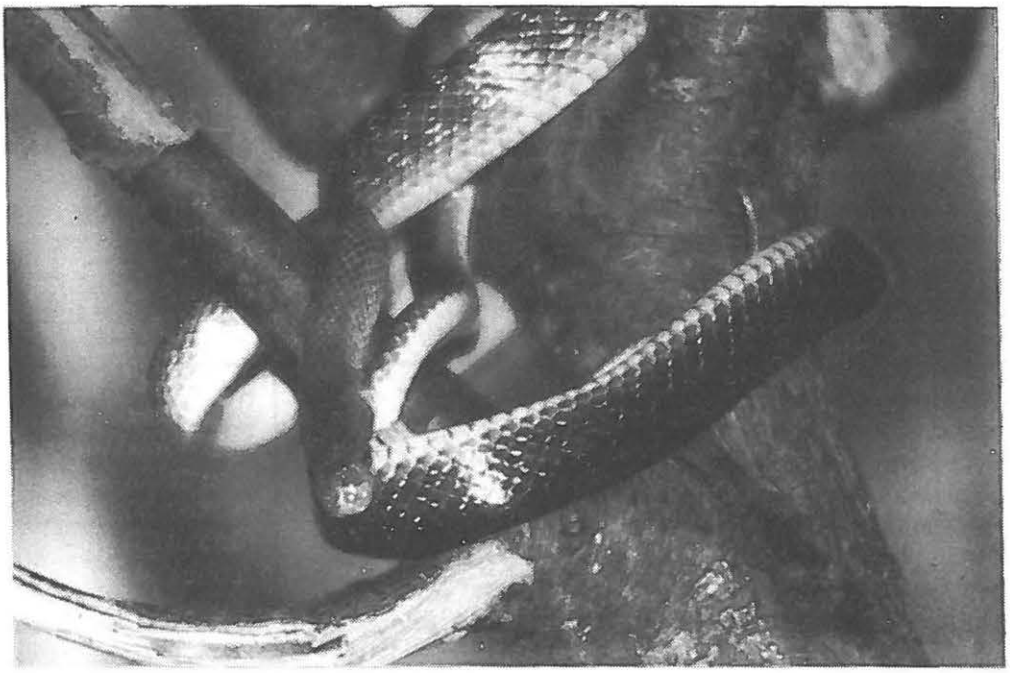


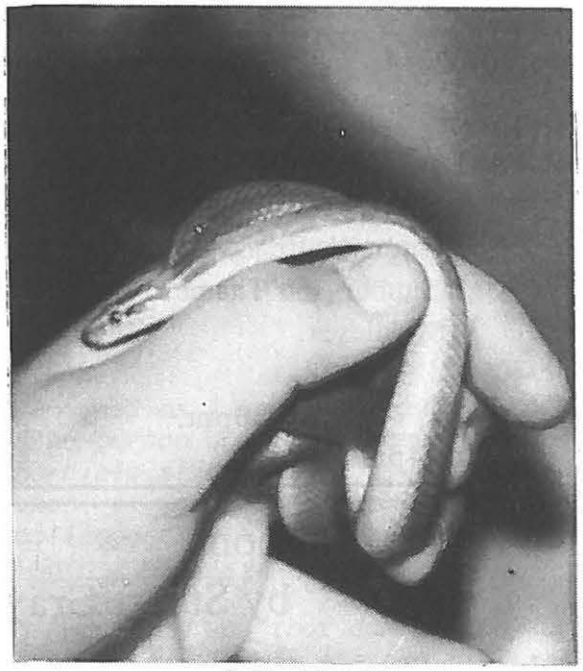
Right
Fox Snake
Elaphe v. vulpina
Hatched 6.8.1987



Left
Royal Python
Python regius
The Grand Old Man of Kevin's collection - purchased in 1978.

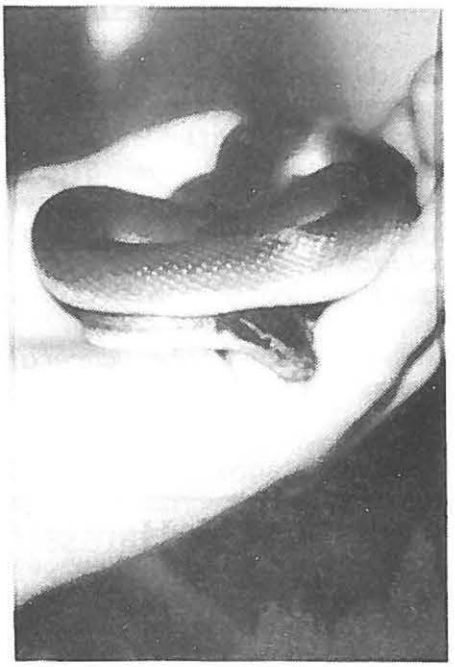
Right
Male
Aesculapian Snake
Elaphe longissima





Left
African House Snake, Lamprophis fuliginosus. Light phase male.

Right
African House Snake, Lamprophis fuliginosus. Normal phase female.





Left
Coluber gemonensis eggs hatching.

Houdini Garter Snakes

by Steven Baker

During the past three years I have kept three Red-sided Garter Snakes (Thamnophis sirtalis parietalis) and all have escaped during the time that I have had them.

I bought my first Garter Snake, a female called Spook, from a local pet shop in July 1984. She was soon joined by a Ribbon Snake (Thamnophis sauritis) called Reba which my brother bought.

The first time Spook escaped was one morning not long after I bought her. I was lying in bed, about to get up, when my dad came in from the bathroom holding a black, writhing reptile in his hand. Spook had been found lying on the bathroom floor tucked up against the wall.

Unfortunately Spook disappeared for good at the beginning of 1985. I had placed her in the airing cupboard, in what I thought was a secure box, whilst I cleaned out her vivarium.

I bought the other two Garter Snakes in January 1986 and they were installed in Spook's old vivarium. It wasn't long before one of these two escaped from the airing cupboard - this time from a knotted pillowcase. The missing snake turned up a few days later when my mum was putting

some clothes in the airing cupboard.

In June 1986 the other Garter Snake mysteriously disappeared and was found about a week later after having taken up residence with the Slow-worms (Anguis fragilis) on the shelf above! Sadly this snake died in July 1987 and as I was on holiday at the time I do not know the cause of death.

I am now much more careful when moving snakes around and tying up pillowcases!

Fishtique

for all types of Reptiles and Amphibians.
Large selection of books and equipment.
Vivariums made to your order.
See us at 4, Windmill Road,
Sunbury on Thames,
Middlesex.
Or phone 0932 782928
Open weekdays 10am-5.30pm.
Sundays 10am-4pm.

The Harassment of Human Owners by Royal Pythons

by Stuart Gray

In previous articles I have dwelt on some of the human characteristics that can be acquired by Royal Pythons (Python regius). Now I would like to point out the consequences of allowing the animal's rights, self-expression and mind of his or her own to go too far.

When I first brought Ken home to live on my boat, my view was that he must exercise his will and, as far as possible, control his life. He soon realised that I loved him and he began to use his iron will on me. This began after I had handled him for two or three hours: he would sit on my lap, or walk around the cabin, or sleep as he pleased. I would put him in his case for the night, after which I would sit on the step of the companion way. With my head through the hatch, I could smoke cigars, drink brandy and watch television, the smoke being blown into the night air and not towards Ken.

As soon as I had settled down, poured the brandy and lit my cigar, Ken would nose up his case and demand to be picked up. The brandy would be poured back in bottle, the cigar thrown overboard and the television turned off.

"What's a matter Ken?", I asked. I sensed he was going to play up. He turned his face away from me, so I asked "Would you like to go back in your case?" He refused to uncoil from my arm and go back into his case. I knew that snakes do not have much stamina and that Ken would soon settle down: he had been out for over three hours. At about midnight I asked "Don't you want to go to bed? I am tired!" After he had worn me down he would at last go to bed. I could easily have used force to send him to bed but he knew that I could not do that.

I received this treatment for three days, first being affectionate then turning me off. I asked Ron Lilley, Senior Reptile Keeper at Robin Hill Zoo about this tiring behaviour. He said, "You must show that snake who is boss." "He knows who is the boss", I replied. The wife of my friend said "He is king of your castle." I didn't own my boat, Ken did!

Ken seemed very pleased when we came ashore to live in a house, but then he started on me again. If I left the house for an hour in the pub without stroking him first, I was in for another midnight session when I got back.

One night while we were watching television he got down from my lap and disappeared in an instant. I could not believe that he could vanish so quickly. I searched everywhere, even taking up the floorboards. I phoned Ron at about 10p.m. and told him what had happened. Ron told me to calm down and search again. The place was now in chaos, but I noticed a tail sticking out of an upturned chair; I had to cut the back out of the chair to retrieve Ken. He looked at me as though butter wouldn't melt in his mouth. I phoned Ron and told him the good news. I was in a shaken state but Ken had made his point - he had won!

All three of my snakes are excellent eaters. I do not breed my own rodents but instead I buy them from a local breeder. This costs about eight pounds a month. A

lot of people say that I am very lucky to have all my snakes feeding. This is not the case; it is a plot led by Taquin, another of my Royal Pythons, to eat me into bankruptcy.

I woke up in the night screaming, "There are human rights, you know!" I could have sworn I heard a chorus of giggles. I intended to write an article about how to control your Royal Python but, as it only has two words, I shall write it now - GIVE IN!

Success and Failure with Grass Snake Eggs

by Peter Kirk

Renowned as I am throughout my office as "the person who keeps creepy-crawlies and horrible slimy things", I was surprised when I was approached by one of my colleagues asking about Grass Snakes (Natrix natrix).

Her problem was that during the warm spell at the end of July she had been separating her one big compost heap into two smaller ones, and she disturbed a clutch of Grass Snake eggs. I did not ask how many eggs there were in all, but I advised my colleague to try to replace them as they were found, and to disturb them as little as possible. I also asked if she would separate five of the eggs from the main batch and bring them in for me to attempt to hatch them. I asked her to put them in a well-ventilated container on some moist tissue, and leave it in the airing cupboard overnight.

The five eggs were brought in on the following day (August 3rd) but, as the container was not very well-ventilated, I did not know how closely my instructions had been followed. That day the eggs were kept close to a heater, well-ventilated and humid. The temperature was controlled by moving the box closer to or further from the heater, the eggs being kept between 24 and 27 degrees C, with the office thermometer being commandeered specifically for this purpose.

When I got home I prepared an ice-cream tub by putting in a layer of damp sand covered with damp tissue. I checked each egg carefully before putting it into the tub. I also tried to place them the right way up (with the air sac at the top of the egg) by holding them up to a strong light, but in the end this proved impossible. On checking the eggs I noticed that a couple of them looked stained and even scratched, so I was not very optimistic of their chances of survival. I was less optimistic still when the following day two of the eggs had sunk slightly. The next day both eggs had filled out again.

As I had no idea when the eggs had been laid, I was unable to estimate when they should hatch. They were kept at a fairly constant 27 degrees C, humid but well-ventilated to prevent the growth of mould. These conditions were maintained by putting the ice-cream tub into the tank in which I keep my Indian Python (Python molurus).

During incubation two of the eggs increased very noticeably in size. As this was my first experience in this field, I had no idea whether this meant that these two were alive, and the increase in size was due to the snakes developing inside (and, logically indicating that the others may be dead), or whether it meant that these two were dead and the increase in size was due to the build-up of gas within the egg as it rotted. Anyway, I decided not to remove any of the eggs. In fact, they were not disturbed throughout their incubation period, except that they were sprayed with water every couple of days to keep the humidity level up. The eggs were checked twice a day, once in the morning and once in the evening, for any signs of activity.

On August 28th I was due to go to York to visit relations, and I decided to check the eggs one last time before I left. To my amazement, one of the eggs had a small slit on the upper surface, out of which a reddish, jelly-like liquid was exuding. Unfortunately, at that point I had to leave and, at such short notice, I had no way of contacting friends with a view to babysitting the hatchlings.

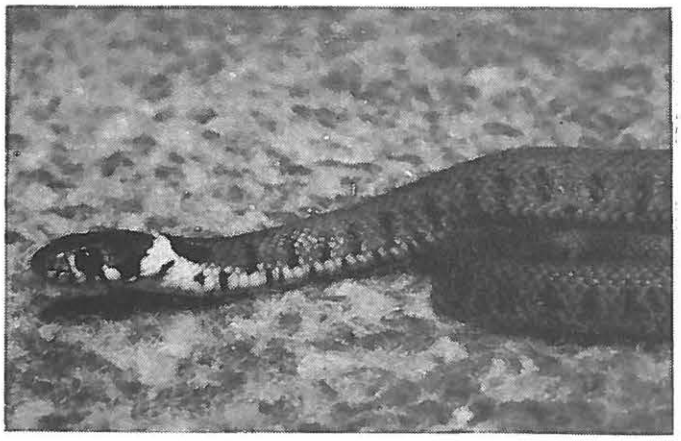
On my return a couple of days later, I immediately checked the box. I could see three snakes in the box but it looked as though four of the eggs had hatched. I checked each egg in turn to try to ascertain which of the four was still in the process of hatching. As it turned out,

all four had hatched, and further searching revealed the fourth hatchling curled up among the bark-chippings in the Python's tank, apparently none the worse for its ordeal. (The escape was due to the ventilation holes being a little too large.)

The fifth egg had not hatched and there were no signs to indicate that it would do so. I therefore decided, somewhat reluctantly, to open the egg in an attempt to discover why it had not hatched. On opening the egg there was an extremely unpleasant smell and the dissection revealed a fully formed, but dead, snake. It was still attached to a small yolk sac by its umbilical cord. I can offer no explanation as to why this individual did not hatch as it was kept under identical conditions to the others. On studying the snake, however, I was unable to locate the egg-tooth; perhaps it was unable to escape from the egg for that reason.

The remaining snakes were placed in a small vivarium containing clumps of grass, a couple of pieces of bark and a water dish. This was kept in the Python's tank.

After four days I noticed that the hatchling's eyes had gone cloudy; by the time another four days had passed all four snakes had undergone their first slough. They were offered both worms and strips of whitebait, but the whitebait was not touched.



Natrix natrix hatchling after first moult. (Photograph - Peter Kirk)

I have given one of the snakes to my brother to look after and it is my intention to release the remaining three back into the wild as soon as it is practical. Although I realise that Grass Snake eggs are not the most difficult to hatch, I still feel a sense of achievement at managing my four out of five.

Peter lives in Thamesmead, London, with his wife, Dawn, and their pets, which include a Hamster, two Canaries, two Mexican Red-Knee Tarantulas, an extremely handsome Green Iguana and a Reticulated Python (*Python reticulatus*). Next month's issue will include another article by Peter entitled "My Experiences with British Snakes".

LETTERS

Dear Sir,
Thank you for the brilliant magazine. We have been looking for something like this for a long time! Could your readers help me with a problem? My snake, an Indian Python, shed his skin recently. Now, just two weeks later his eyes have gone milky and dull. He is ready to shed again. I have never seen or heard of this situation before. Can anyone help? Are there any keepers who help their snakes shed their skin? Mine loves it. He arches his back, waiting for me to assist him in the process and has let me do it since I purchased him.

Mr K Waltho,
132, Mollison Rd, Meir, Stoke on Trent, Staffs, ST3 7AJ.

Dear Sir,
I wonder if any of your readers could help solve a mystery? On many occasions I have found an eyelash-like "thing" in the waterbowls of various wild-caught snake species (King snakes, Garter Snakes and various Water Snakes). The objects are translucent, flattened at one end and pointed at the other. The size is approximately 5 to 10mm. Veterinary surgeons have so far drawn a blank, other than saying they are a sort of parasite. I have seen these things in the mouths of some specimens. Identification of and treatment for these parasites would be much appreciated.

I would like to establish contact with anyone breeding or attempting to breed

Northern, Southern or Green Water Snakes (American) and Garter Snakes of any species.

Hugh Clayden,
Llyg-Y-Fynydd, Clocaenog, Ruthin, Clwyd, LL15 2BB.

Dear Michael,
I have found your magazine, from its inception, most interesting, by-and-large informative and, I am sure in the long-term, a valuable contribution towards the care, understanding and preservation of a particularly misunderstood and little appreciated group of our worldwide wildlife species and their ecological role in the all-important chain and interwoven 'balance' within our planet - which includes, and should concern, mankind.

Bearing in mind the sterling efforts of Gerald Durrell in Jersey, and several others in recent years, I am bound to agree almost 'in toto' with the item "Conservation and the Snake Keeper" by D. Manning. Yes, the media has played an important part in 'broadening our horizons' and 'bringing home' to us the increasingly urgent need to preserve, protect and appreciate all the remaining species which share our earth, whilst the dwindling variety of species are still with us! There is, now, no longer any room for narrow-mindedness, superstition, antipathy, ignorance or petty, human arrogant evaluation of the relative value or importance of those creatures which are an integral part of what remains of the Environment they need when we have finished decimating and desecrating it!

I feel there is a greater need than ever before to involve our children (the rising generation) in the near-desperate task of saving those creatures whose very lives, habitats and futures lie in the almost callous and materialistic hands of so many of the human species, whose priorities would appear to have gone tragically wrong. Experienced members of our Herpetological Societies must play a bigger part in the responsible education and guidance of those who may yet 'save' the Earth and all therein that is of real basic worth, and ensure their survival and well-being.

To this end, my feelings are that, maybe, we should 'steer away' from the idea of whatever 'charges' we take into our care, being thought of, or described as, Pets. The emphasis, perhaps, should be on the fullest understanding and provision of the needs of each individual reptile, snake, amphibian etc. with which anyone is entrusted so that never ever can a 'finger be pointed' inferring incompetance, ignorance, indifference and, above all, irresponsibility! We all have a serious duty to know what we are doing, and how to do it to the very best of our ability - a task never to be undertaken lightly or as a temporary whim. Worst of all, to boast of reptiles as a status or up-market symbol just as certain pedigree dogs and, more recently, rare birds of prey have been treated and demeaned.

All strength to your arm and an increasing panel of counsellors and saviours dedicated to the true herpetological concept of conservation in every vital aspect.

Yours sincerely,
Tony Kerr, Paignton, South Devon.

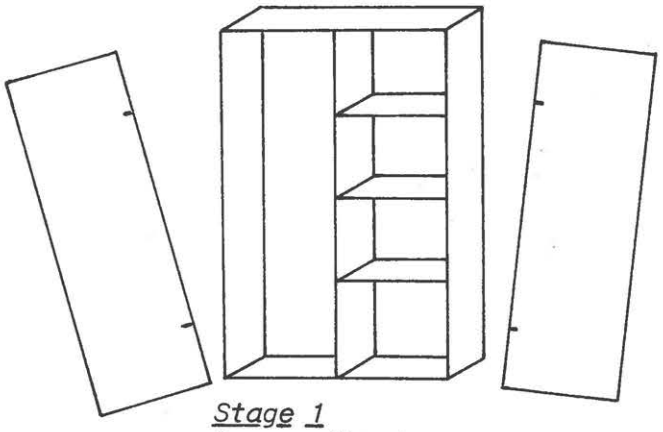
Dear Snake Keeper Magazine,
Up to this moment in time I have only kept small lizards, tree frogs, Garter Snakes, a Bosc Monitor, lizards and numerous fish.

I have come across an idea that may well come in useful for housing larger snakes. I acquired an old MFI wardrobe (imitation oak veneer) that measured 2.10m x 1.20m x 60cm. It had an internal partition and three shelves. The backing of the wardrobe was 2-piece veneer plywood.

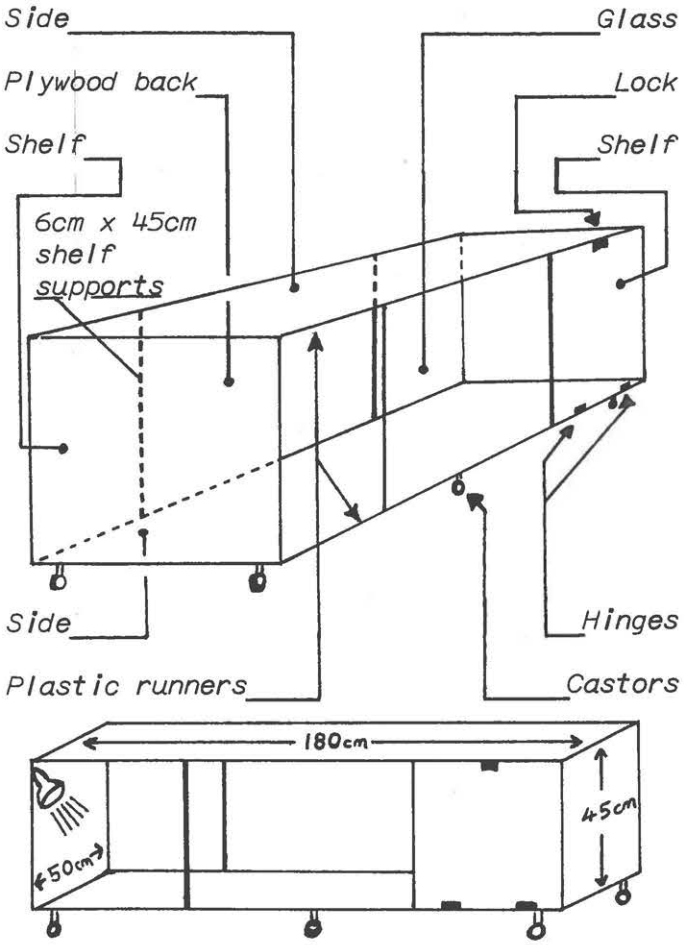
To convert the above to a vivarium I first took off the doors. I then dismantled the sides, shelves and back, saving the plastic shelf clips and four 45cm x 6cm supports.

On measuring up one can see that a perfect 180cm x 50cm x 45cm rectangular box can be made. The sides make up the floor and roof. The backing veneer serves as a back wall. The two ends are two shelves 50cm x 45 supported top and bottom by plastic shelf holders. The end front door is provided by the third shelf and two hinges and a doorstop. Four 45cm x 6cm supports, fitted at regular intervals, provide adequate support along the front and back of the housing. These are very stable and hard plastic, with covers to hide the screws.

continued



Stage 1
Remove the doors



Two pieces of tracking, top and bottom, act as runners for a piece of glass 1.27m x 45cm acting as facing front. Six castor legs underneath can make this easily made cabinet an attractive vivarium with good access and allowing easy cleaning.

I have found that nearly all MFI wardrobes can be adapted to this design with only the purchase of glass and castors required. Heating can easily be provided and, if required, a sunken bath may be provided by cutting an adequate hole in the floor.

Yours faithfully,
S. Sansom, 10 Albion St, Otley, W. Yorks.

Dear Sir,

This letter is really aimed at all those wives and mothers horrified at the thought of a snake becoming part of the household.

When my husband first told me he would like to keep snakes, I was aghast at the thought of having a slimy reptile in my home! But, as usual, my husband started to work on trying to coax me around to the idea. Eventually I weakened to the point of saying I would only consider snakes as a hobby if my husband would read up and learn as much as he possibly could from the literature available. One evening I picked up one of the books my husband had bought and started to read it. I soon discovered that there is more to snakes than just reptiles in tanks to stare at in zoos.

The first snake I weakened to was a small Garter Snake. That was nearly three years ago and my husband now has a collection that includes two Indian Pythons, three Corn Snakes, one Carpet Python, one Royal Python and, of course, the Garter Snake that won me round. I am still very dubious about handling the snakes but the fear that I used to have about snakes is slowly subsiding. I think that reading books and, of course, your splendid snake keepers' magazine has helped me enormously.

So my advice to all those wives and mothers is to get a book, read about the subject and speak to people who keep snakes. If possible visit a reptile dealer where you could just touch a snake, not necessarily holding it by yourself, so that you can see for yourself that they are not slimy and wet. Knowledge very definitely takes away some of the fear and prejudice against snakes.

Sue Webb

Risborough Aquaria

Specialists in reptiles and amphibians
Helpful and friendly service from experienced herpetologists.
Risborough Aquaria, 9 Duke Street
Princes Risborough, Bucks HP17 0AJ
Tel: 08444 4279
Tues - Sat 10 am - 5.30 pm Sun 1pm - 5 pm

Breeding Report of Burmese Pythons

by Chris and Marcia Martin

Our female Burmese Python (Python molurus bivittatus) was born on July 1st 1976 at the Cotswold Wildlife Park. She started to breed in 1981 and has bred for the last five years. She was 3.65m (12ft) long in 1981 and now measures 4.57m (15ft) in length and weighs 29.5kg (65lbs).

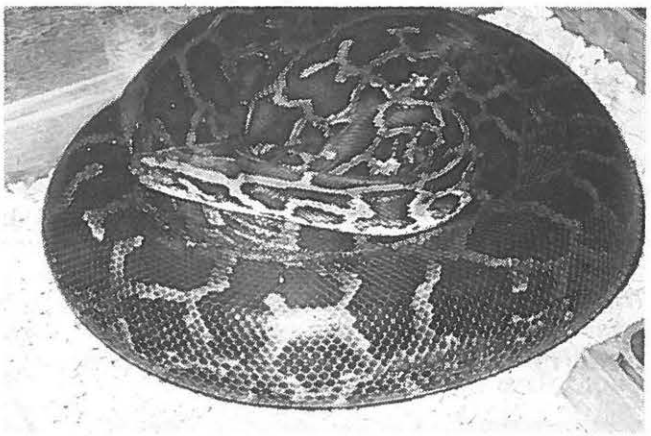


Photo 1

Housing

The female is housed in a 2.4m x 1.2m x 90cm vivarium with two males; they are a year younger than her.

Mating

As the snakes normally lie curled up together it is very difficult to see them mating. We haven't seen them coupled for the last three years but they must do so. From February onwards the female snake's shape starts to alter. She will spend most of the day basking under the heat source. The vivarium temperature is set to 26 or 27 degrees C. The photoperiod is adjusted weekly, as is the temperature. The temperature is increased to 29 degrèes C in anticipation of her egg laying. During this time she flattens herself to allow the heat to penetrate her body to warm the eggs. Sometimes we find she has turned upside down. Again this allows the maximum heat on the eggs.

Egg-laying

Over the next few weeks she will grow larger until it is almost time to lay her eggs. This usually occurs in the first week of April. A week or so prior to the laying we usually place her nest box in the vivarium. The box measures 90cm x 90cm x 30cm and is half-filled with stones. There are two reasons for supplying the nest box. Firstly, she will need to be sprayed twice a day while she is incubating the eggs and the box will keep her and the eggs off the wet vivarium floor. Secondly, the stones retain heat which will assist the incubation of the eggs (Photo 1).

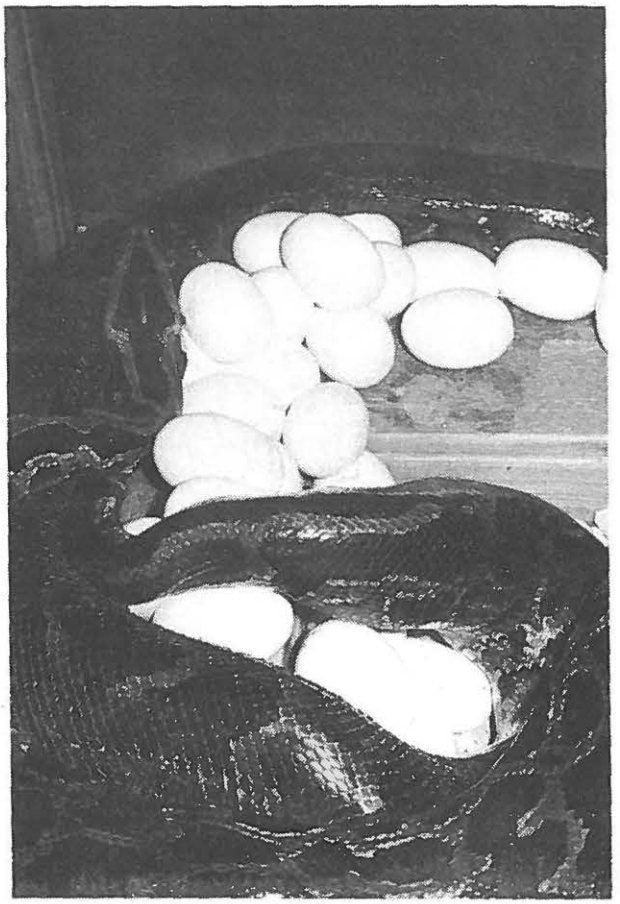


Photo 2

Our Python normally takes 10 to 12 hours to lay her eggs; she usually lays 40 to 44 eggs (Photo 2). When she has finished

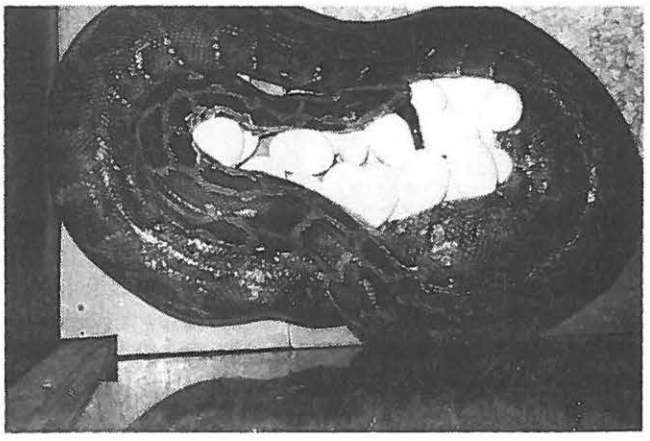


Photo 3

laying she will take up to 24 hours to curl up into the classic 'pyramid' shape (Photos 3 & 4). During the next 60 days



Photo 4

the vivarium will be sprayed twice daily to maintain a humidity of 90%.

After 50 days we normally notice that she is not fully curled around the eggs and after 60 days she is content to just guard them (Photo 5).

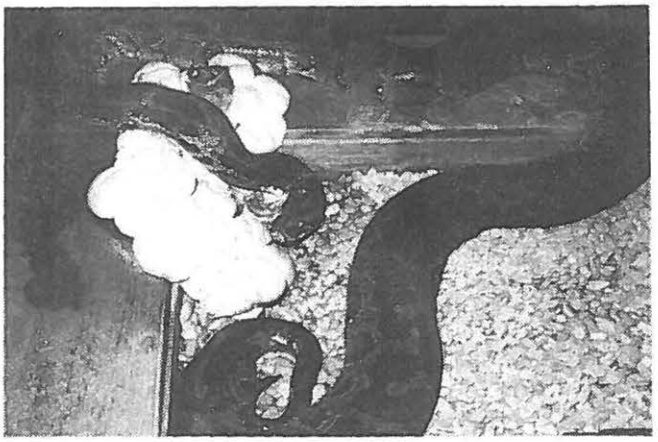


Photo 5

Hatching
At this point I remove the snake and put the eggs into a fish tank to hatch. The first sign of this hatching is small slits which appear in the eggs (Photo 6); after

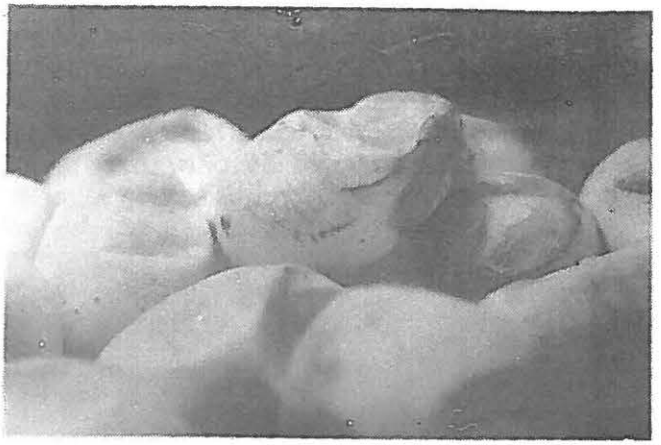


Photo 6

this a small snout emerges (Photo 7). The eggs are still sprayed to keep the humidity at 85-90%. The young snakes can

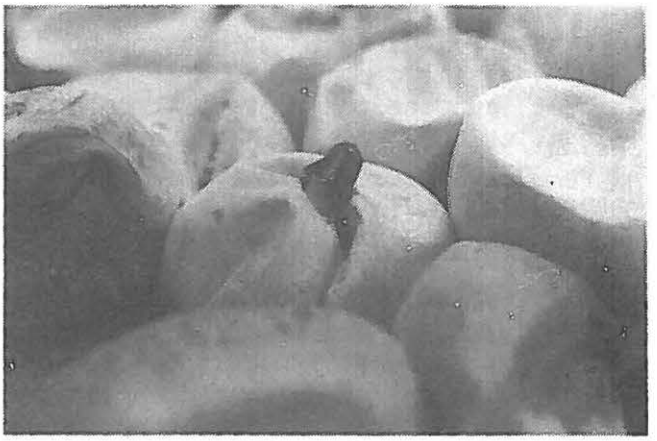


Photo 7

take from a few hours to a few days to emerge completely from the eggs (Photo 8).

Chris and Marcia welcome enquiries about any aspect of snake-keeping (except veterinary problems), providing an sae is enclosed. Their address is 18, Ballinode Close, Cheltenham, Gloucestershire GL50 4SQ. Telephone Cheltenham 573477.

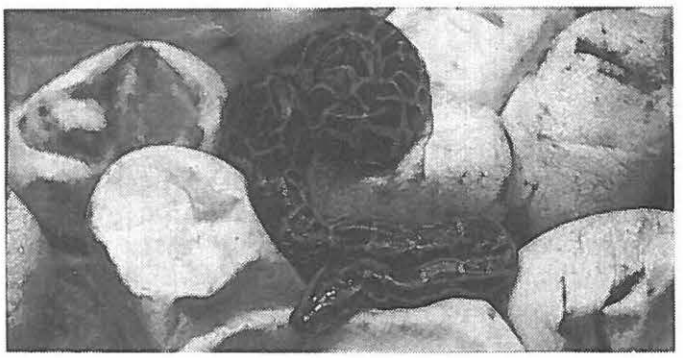


Photo 8 (Photographs - C&M Martin)

Book Review

by Simon McDermott

'Snakes' by Mervin F. Roberts
ISBN 0-86622-230-8 T.F.H. Publishing Inc.

I have recently read this book and I can totally recommend it. It is very well illustrated and well worth reading. In one section the author explains the value of worms as a food and describes the technique of force-feeding worms to snakes. The following is a summary of that section.

Many of the smaller snakes will eat earthworms and will do nicely on them. There are several advantages to be gained from using earthworms as food. As it is a complete organism all the vitamins, minerals, proteins, fats and roughage (except bone) are contained within its body. Strips of raw steak, for instance, represent only a part of the beef and lack any important substances found within the other organs of the animal.

The earthworm is easy to feed and is available in all sizes up to 12.5cm (5"). Although earthworms have been described as man's best friend, hardly anybody objects, on humane grounds, to their use as pet food. Another benefit is that worms are odourless and disease free.

If your snake refuses to accept an earthworm there is a trick worth remembering to get the worm into the snake's stomach. The equipment consists of a sturdy 15cm (6") plastic straw. The technique is to hold your snake firmly with one hand just behind the head and support the rest of its body on a table or in your other hand. Pry the jaws apart with the straw and leave it in the snake's mouth. It should be at right angles to the line of the teeth with approximately 7.5cm (3") extending either side. With the mouth pried open and the straw holding it so, lay a worm on the straw. Close the mouth over the worm and the straw, slowly reducing the pressure. Withdraw the straw and the worm should be well back in the snake's mouth with the mouth closed.

Develop your technique, but do not upset your animal. When the worm is first placed in the mouth the snake may try to spit it out, but the chances are that it will continue to eat its food. Of course you must be certain that your snake eats worms before you decide to feed it using the above method.

Junior Snake Keeper

KEEPING RED-SIDED GARTER SNAKES

by Dominic Betmead

Garter Snakes (Thamnophis) have been the most commonly kept snakes in Britain (and probably the U.S.A.) for a long time. You will see them in pet shops sold as 'ideal pets' for the beginner and, of course, this is true to a certain extent. They are easy to keep, breed, feed and they do not cost much to maintain. A small heating pad or spotlight is usually all they need for heating. I think the former is probably the most efficient especially if used with a True-lite and a thermostat. In my view a light bulb should never be used with a thermostat as a light blinking on and off all day is going to disturb the poor animal.

Maintenance

Red-sided Garter Snakes, Thamnophis sirtalis parietalis, are the most commonly seen species in home collections and it is these snakes which I keep. The ambient temperature in their cage is 22-28 degrees C in summer and 18-23 degrees C in autumn. I hibernate my snakes in a refrigerator where the temperature remains at a constant 7.7 degrees C. This may sound like a very drastic measure but more and more herpetologists are using this method each year.

Feeding

Many Garter Snakes exist on diets that lack certain necessary vitamins and minerals. I find that the best diet is whitebait and earthworms fed alternately. I feed my snakes every 4-5 days and, to balance the two different foods, I give them two earthworms each and then 4 days later I provide one whitebait each and so on. To enrich the calcium in their diet I use cuttlefish. Before feeding the whitebait to the snakes I carefully slice off a 5mm square of cuttlefish and push it under the gill opening of the fish. I do this every other time that I feed whitebait as I believe that too much calcium may be equally bad for the snakes.

Recommended reading

'The Care of Reptiles and Amphibians' by Chris Mattison (Revised 2nd Edition).
'Snakes' by Klaus Griehl.
'A Beginners Guide to Snakes' published by Paradise Press.

CLASSIFIED ADVERTISEMENTS

FOR SALE

Captive bred hatchlings; Black Rat Snakes (Elaphe o. obsoleta) £12, Californian King Snakes (Lampropeltis getulus californiae) and Bull Snakes (Pituophis melanoleucas sayi) £25. Leopard Geckos (Eublepharis maculatis) adult breeding females £20, hatchlings £7. Telephone Bob King (0705) 752086 (Portsmouth) evenings.

7' Female Boa Constrictor £150 or will exchange for captive bred Corn Snakes. Telephone (0226) 245436 (Barnsley).

Northern Pine sub-adult males, Florida Kings male hatchlings (two), Carolina Corns hatchlings, Potosi Kings hatchlings, Queretaro Kings male hatchlings, Mexican Black Kings hatchling and yearlings, Leopard Geckos all ages, Blue-tongued Skink adult male, Pink-tongued Skinks new born. All specimens captive bred. Telephone 01-555-3548.

Pair of Royal Pythons for sale £70. 3' cage and electronic heating system £30. Telephone (0604) 52853 (Northampton).

Burmese Pythons: one pair captive bred June 1986, also one 2.5m specimen. All immaculate, offers invited. Telephone Lancing (0903) 767646 (Sussex).

Second generation British-bred dark phase Indian Pythons £42.50p. Boa constrictors £68.00p. Chris Martin, Cheltenham 573477.

WANTED

Female Trans-Pecos Rat Snake wanted, will consider pair. Telephone 01-555-3548.

Female adult Corn Snake. Female Indigo Snake, Drymarchon corais couperi. Male Florida Blue Garter Snake. Preferably captive bred specimens. Telephone Mr. Davies (0792) 813253 (Swansea).

****

Back Numbers

Issues 1 -11 are available

£1 a copy including postage and packing. Free postage offer ends 31st December
(See page 2)

****

Design shows front cover of issue six printed red and black on white. Sizes: Small, Medium, Large and Extra Large.

SNAKE KEEPER T-SHIRT OFFER



£5 including postage and packing.

Send your name, address, size and a cheque or postal order for £5 to:
Snake Keeper T-Shirt Offer
159 Stanley Hill, Amersham, Bucks HP7 9EY
Please allow up to 28 days for delivery.

Next issue includes:
Demanding Beauty: The requirements of Elaphe situla both in its natural habitat and in the vivarium, by Harry Sigg.
Bolton Snake Keepers - G & K Waddilove
My experiences with British snakes: P Kirk
The Red-tailed Tree Racer, Gonyosoma oxycephala, by John Bennett

---

SURVEY

Cassandra Oakes is conducting a survey on attitudes to feeding certain foods to snakes. If you would like to take part, please telephone her on Loughborough (0509) 215619. The questions should take less than three minutes and your help would be appreciated. The result of the survey will be published in a future issue of Snake Keeper.

---

xotic

THE U.K.'S LEADING SUPPLIER OF
REPTILES, ASSOCIATED SUNDRIES
AND LIVE FOODS.
FREE ILLUSTRATED BROCHURE
ON REQUEST.
TEL: 0773 831831 TELEX: 377974 XOTIC G